



Ollscoil Chathair
Bhaile Átha Cliath
Dublin City University

Literature Review to Support the Updating of *Aistear*, the Early Childhood Curriculum Framework

Submitted by:

Geraldine French and Grainne McKenna

Scoil na Teanga, na Litearthachta agus an Oideachais Luath-Óige | Institiúid Oideachais | Ollscoil Chathair Bhaile Átha Cliath | Campas Phádraig | BÁC 9 | D09DY00

School of Language, Literacy and Early Childhood Education | Institute of Education | Dublin City University | St Patrick's Campus | Dublin 9 | D09DY00

Literature review to support the updating of *Aistear*, the Early Childhood Curriculum Framework

Commissioned by the National Council for Curriculum and Assessment

December 2022

Principal Investigators:

Dr Geraldine French

Grainne McKenna

Research Associates:

Fiona Giblin

Dr Tara Concannon-Gibney

Dr Thérèse Farrell

Cora Gillic

Clare Halligan

Dr Gillian Lake

Dr Aisling Ní Dhíorbháin

Máire Ní Láimhín

Sandra O'Neill

Research Assistant:

Conor M. Maguire

Expert Review Panel:

Professor Maria Evangelou, International Hellenic University, School of Social Sciences
Dr Sinéad McNally, Dublin City University, Institute of Education

Dr. Ioanna Palaiologou CPsychol AFBPsS, University of Bristol, School of Education (Psychology in Education)

Dr Sue Robson, Roehampton University, Department of Education Professor

Elizabeth Wood, the University of Sheffield, School of Education

Table of Contents

Executive Summary	5
Introduction.....	13
Chapter One: Setting the Context	16
The Changing Early Childhood Education and Care Policy Landscape in Ireland.	16
The Changing Profile of Children under Six Years in Ireland	22
Children's Early Life Contexts: Growing Up in Ireland Study (Infant Cohort)	25
Conclusion	33
Chapter Two: Methodology and Search Outputs.....	35
Chapter Three: Addressing the Invisibility of Babies and Toddlers in the Literature.....	41
Abstract	41
Introduction.....	41
Theme: Well-being	45
Theme: Identity and Belonging	51
Theme: Communicating.....	56
Theme: Exploring and Thinking.....	60
Concluding comments	66
References.....	67
Chapter Four: Well-Being	77
Abstract.....	77
Introduction.....	77
Aim 1: Children Will Be Strong Psychologically and Socially.....	78
Aim 2: Children Will Be As Healthy and Fit As They Can Be.....	90
Aim 3: Children Will Be Creative and Spiritual.....	96
Aim 4: Children Will Have Positive Outlooks on Learning and On Life	103

Concluding Comments.....	108
References.....	111
Chapter Five: Identity and Belonging.....	128
Abstract.....	128
Introduction.....	128
Aim 1: Children Will Have Strong Self-identities and Will Feel Respected and Affirmed as Unique Individuals with Their Own Life Stories	129
Aim 2: Children Will Have a Sense of Group Identity Where Links with Their Family and Community are Acknowledged and Extended	134
Aim 3: Children Will Be Able to Express Their Rights and Show an Understanding and Regard for the Identity, Rights, and Views of Others.....	144
Aim 4: Children Will See Themselves as Capable Learners.....	151
Concluding Comments.....	156
References.....	158
Chapter Six: Communicating	173
Abstract.....	173
Introduction.....	173
Aim 1: Children will use Non-verbal Communication Skills.....	175
Aim 2: Children will use Language	181
Aim 3: Children will broaden their understanding of the world by making sense of experiences through language.....	188
Aim 4: Children will express themselves creatively and imaginatively.....	193
Concluding Comments.....	199
References.....	202
Chapter Seven: Exploring and Thinking.....	218
Abstract.....	218
Introduction.....	218

Aim 1: Children Will Learn About and Make Sense of the World Around Them	219
Aim 2: Children Will Develop and Use Skills and Strategies for Observing, Questioning, Investigating, Understanding, Negotiating, and Problem-solving, and Come to See Themselves as Explorers and Thinkers.	228
Aim 3: Children Will Explore Ways to Represent Ideas, Feelings, Thoughts, Objects, and Actions Through Symbols.	235
Aim 4: Children Will Have Positive Attitudes Toward Learning and Develop Dispositions Like Curiosity, Playfulness, Perseverance, Confidence, Resourcefulness, and Risk-taking	237
Concluding Comment	240
References.....	243
References Introduction & Chapters 1-2.....	259
Appendix 1 Word Clouds.....	272
Appendix 2 Search Terms	274
Appendix 3 PRISMA Chart.....	280
Appendix 4 Mapping Tables.....	284

Executive Summary

Aistear, the Early Childhood Curriculum Framework (National Council for Curriculum and Assessment [NCCA], 2009) has played a critical role in enhancing quality in Early Childhood Education and Care (ECEC) settings in Ireland since its introduction in 2009 (Government of Ireland [GoI], 2019). *Aistear*, the Irish word for journey, marks early childhood as the beginning of children's lifelong learning journeys. It is the first curriculum framework in Ireland to support children's learning experiences from birth to six years. Given the important role that curriculum frameworks play in guiding and enhancing practice (Organisation for Economic Co-operation and Development [OECD], 2021), curricula should be informed by recent and relevant research. As a result, this Literature Review forms one part of the process that contributes to updating *Aistear* (NCCA, 2009). Consultations with the sector, stakeholders, and, critically, children from birth to six years form the other parts of the updating of *Aistear*.

This Literature Review aims to:

- consider the context of birth to six-year-old children's lives aligned with *Aistear's* Themes, Aims and Learning Goals
- provide a comprehensive review and summary of literature (2010-2021), with a focus on updating the research base that informs the Aims and Learning Goals of *Aistear* within each Theme
- highlight and map the strengths of the existing Themes, Aims and Learning Goals of *Aistear* and identify any possible areas that require further development or refinement
- identify, explore and map relevant research, empirical studies and evidence-based approaches that inform the development of high-quality early childhood curricula

Chapter One contextualises *Aistear* within the changing early childhood education and care policy landscape. It provides insight into the context of children's lives in 21st Century Ireland, a society greatly enriched by socio-cultural diversity of ethnicity and languages.

Within this linguistic diversity, there is particular recognition of Gaeilge as Ireland's national and first official language. The Chapter provides key insights from Growing Up in Ireland through the lens of *Aistear's* Themes. The national longitudinal study of children and youth

and the Children's School Lives study provides rich data that describes the lives of children to inform policy formation and service provision to ensure the best possible start in life. There has been considerable progress in the development of ECEC in Ireland, in particular, the development of a universal, funded programme for two years of education and care before formal schooling. There have been accompanying initiatives and online resources to support the use of *Aistear* in practice and the increased expansion, validation and further development of qualifications in the ECEC sector. Ireland's second workforce development plan, Nurturing Skills, was launched in 2022 (Department of Children Equality Disability Inclusion and Youth). 'First 5', which involves a Whole-of-Government Strategy, for babies, young children and their families, aims to strengthen the infrastructure that supports the early childhood system up to 2028. Despite these developments, many "early years services are still challenged to deliver curricular programmes and to use the principles and goals of *Aistear* ... to inform planning and review processes" (Department of Education and Skills, 2018, p. 17). It is, therefore, welcome to see the commitment in 'First 5' for a national plan to develop and implement *Aistear* in all ECEC settings for babies and young children, "including making the application of these frameworks a contractual requirement of ... funding schemes and give consideration to, over time, making adherence to the frameworks a statutory requirement" (GoI, 2019, p.157). *Aistear* has the potential to support the delivery of a child-led, emergent and meaningful play-based curriculum that puts children's rights and interests at the heart of the curriculum.

Chapter Two presents the methodological approach to this Literature Review detailing the research scope and search strategy as well as the processes of appraisal, synthesis, and critical analysis of the literature. The Literature Review employed a systematic approach, adopting a scoping review methodology to identify, explore and map contemporary national and international research on high-quality early childhood curricula that supports children's development and learning aligned with each of *Aistear's* four Themes. The search strategy used key terms and concepts from the Aims and Learning Goals of the four Themes of *Aistear* to search four databases (Education Research Complete, ERIC International, Web of Science, and PsycINFO). This Literature Review identifies key themes and emerging trends that can inform and guide the review and enhancement of the curriculum framework across the Themes of Well-being, Identity and Belonging, Communicating and Exploring and Thinking.

Chapter Three focuses on children from birth to three years of age within the four Themes of Well-being, Identity and Belonging, Communicating and Exploring and Thinking. The Literature Review highlights a dearth of evidence-based literature on children's learning from birth to three years. Literature and studies of infants and babies require particular attention, given the importance of this stage for children's development and learning. The absence of such studies in the Literature Review reflects the parameters of the scoping review methodology and a paucity of studies focusing on curricula and the early learning and care experiences of infants and toddlers within international literature. Therefore, Chapter Three provides insights into the contemporary conceptualisation and understanding of the early experiences of babies and toddlers, responding to the gaps identified in the scoping review without undermining the systematic approach. In the context of updating *Aistear* (NCCA, 2009), this Chapter explores the importance of children from birth to three years and the requirement to build relationships with them for children to flourish, which encompasses all the Themes of *Aistear*. In relation to the Theme of Well-being, enabling attachments through a key person approach and the importance of physical activity are discussed. The Theme of Identity and Belonging focuses on a sense of self and the rights of babies and toddlers. Studies relevant to the Theme of Communicating centre on oral language development and emergent literacy. Finally, the Theme of Exploring and Thinking highlights babies and toddlers as agentic active citizens and play as a means to support their explorations and thoughts. The skills required to work with babies and toddlers are not intuitive. Babies and toddlers require a slow relational pedagogy from their key person with sensitive, responsive caregiving from educators who are 'in tune with' and on the same wavelength as them, are affectionate and available, and who use all aspects of the daily routine to enhance children's learning and development (French, 2021). Quality in an ECEC setting is linked to the qualifications of the staff, and poor quality settings can do long-term harm to very young children (Melhuish et al., 2015). Children will flourish to their full potential with greater attention to strengthening the resources and capabilities of those who nurture babies' and toddlers' learning and development. Continued professional learning and development (PL/D) is required to give early childhood educators the skills to support babies' and toddlers' learning. The characteristics of successful PL/D include being tailored to the audience, embedded in the curriculum, multiple components of content, coaching, in-practice feedback and communities of practice, and long duration. The importance of investment in PL/D is highlighted (Brunsek et al., 2020; Ciesielski & Creaghead, 2020). Not only do ECEC staff "require comprehensive initial education programmes, ongoing professional learning and

development during employment", but they also need "supportive working conditions to effectively engage in high-quality interactions" (OECD, 2021, p.16). As advocated in *Aistear*, nurturing carers and educators build loving, warm, sensitive, reciprocal, and responsive relationships with babies and toddlers to build a sense of well-being, identity, and belonging, and the ability to communicate, explore, and think (NCCA, 2009). While much of the literature emerging from the scoping review focuses on children from three to six years of age, many key concepts, approaches and practices are equally relevant to babies and toddlers as seen in the following four Chapters.

Chapter Four presents a detailed review of the literature on children's learning and the influence of high-quality early childhood curricula, learning frameworks and pedagogy, and practice within the context of *Aistear's* Theme of Well-being. Thirty-three studies that met the criterion were selected for analysis and synthesis and were considered alongside seminal works, grey literature, and recommendations from consultation with internationally recognised experts in early childhood. In brief, the key trends that emerged from the Literature Review include nurturing relationships, compassion, empathy, risky play, participation, sustainability, and children's agency through social justice. The literature reflects international trends and policy commitments concerning the multi-dimensional nature of children's well-being. The Literature Review's findings affirm the relevance of *Aistear's* existing Aims and Learning Goals for the Theme of Well-being and highlight the importance of supporting children's psychological and physical well-being from early infancy and throughout childhood. Almost all of the studies reviewed for the Theme of Well-being refer to the importance of rights-based approaches to children's meaningful and authentic participation. Children's awareness of themselves as agentic beings is pivotal to their overall well-being. It is suggested that *Aistear* could be further enhanced by making the concept of children's rights, influence, and agency more explicit in the Aims and Learning Goals. The Literature Review also highlighted the importance of nurturing relationships that respond to children in their unique contexts to offer security, support, and comfort. Concepts of compassion and empathy for self and others emerged as significant to children's social and emotional development. Early childhood educators play an important role in encouraging children's perspective-taking, compassionate responses, and resilience through modelling, encouraging, and stretching children's innate capacity for kindness. One area that may require attention in enhancing *Aistear* is consideration and acknowledgement of children's physical and psychological vulnerability and their need for comfort and affection while

acknowledging their confidence and competence. The literature highlighted the importance of enriching and enabling (indoor and) outdoor learning environments in supporting children's physical activity and risky play. Children benefit from opportunities to experience the thrill, joy, and excitement of risk and adventure that promotes well-being, self-determination, problem-solving, and physical development. Finally, as with the other Themes of *Aistear*, sustainability emerged as topical and highly relevant. Early childhood experiences offer significant potential to foster compassion for the planet and the plants, animals, and people living on it, support collective well-being and promote a more just and healthy world.

Chapter Five centres on the Theme of Identity and Belonging. Thirty-eight articles were selected for analysis and synthesis and were considered alongside seminal works, grey literature, and recommendations from consultation with internationally recognised experts in early childhood. The findings of the Literature Review highlight the importance of ensuring and endorsing children's right to feel respected and valued; these principles are embedded across *Aistear*, particularly within the Theme of Identity and Belonging. Key trends from the literature include identity formation, social justice, citizenship, participation, and sustainability. The Literature Review offers contemporary understandings of how children's identities and sense of belonging are conceptualised in increasingly diverse social and cultural worlds. Curriculum frameworks reflect particular economic, cultural, political, and social epochs and therefore capture a mere moment in time. Literature and evidence-based studies of children's lives have the potential to guide and develop responsive pedagogies and practices to support children's early education and care experiences. The findings of this review affirm *Aistear's* Aims and Learning Goals for the Theme of Identity and Belonging and the importance of children's sense of self, group identity, and belonging. The literature highlights the relevance and significance of culturally responsive practices and approaches for Ireland's multi-cultural, multi-lingual society. The studies highlight the value of responding to children's unique contexts and lived experiences, acknowledging their rich funds of knowledge, working theories, and interests in the co-construction of knowledge and understanding. These rights-based approaches recognise and respond to children as active citizens and rights-holders, encouraging children's sense of self, others and wider society.

Chapter Six attends to the Theme of Communicating. Fifty-five studies met the criterion. The topics and trends within contemporary literature on Communicating broadly affirm the relevance of *Aistear's* existing Aims and Learning Goals. Children's agency and interest in being communicators, social interactions, language use and language development, arts-based

and playful experiences as communicative contexts are highlighted. The selected studies reflect international research interests, policy implementation and funding commitments. Key trends include; the socio-cultural communicative experiences of children (three to six years), children that speak English as an Additional Language (EAL), and the influence of digital technology on children's communicative practices and literacies. *Aistear* recognises that children communicate in multiple and many ways, not just through traditional 'linguistic outputs' speaking and listening, but through a wide range of communicative modes, including; movement, utterance, signalling, expression, gestures, imitation, sound, images and music (Deklerk, 2020; Kress, 2010). Multimodality thus expands our conceptualisation of communication beyond the limits of verbal and non-verbal communication to include all modes humans use when representing, interpreting and making meaning (Jewitt, 2013). Modes of human communication are interwoven, and when humans engage in social interaction, the modes rarely occur in isolation. Understanding that communication is multimodal is a requisite for educators when considering the influence of children's diverse 'funds of knowledge' (Moll et al., 1992) on early learning and development experiences and in valuing the communicative abilities of culturally and linguistically diverse children. The United Nations Convention on the Rights of the Child (UNCRC) (1990) guaranteed children's rights to be heard (Article 12) which requires a related UNCRC right to have freedom of expression. Multimodality underpins UNCRC's (Article 12) description of freedom of expression, which they have defined as children having the right to communicate "either orally, in writing or in print, in the form of art, or through any other media of the children's choice" (Article 13). This gives way to an inclusive and responsive approach to early childhood education which places ethical and equity relations at the centre; and promotes children's rights, choice and agency in pedagogical contexts to support multimodal communication (Heydon et al., 2017; Haggerty & Mitchell, 2010). A key point that emerged from this review includes the understanding that young children communicate in different contexts. This diversity highlights the importance of multimodal communication skills at all ages and across languages and emphasises the role of the adult in modelling and responding to multimodal communication to ensure understanding and language development (including the Irish language). Adults play an essential role in scaffolding language learning and providing an emotionally safe environment where communication can flourish. The Theme of Communicating is about empowering young children to use their agency to give, receive and make sense of information through multimodal channels that incorporate their cultural capital and serve their social needs. The adult's role is to create an environment where

communication can thrive, translanguaging (connecting the home language to the language of vocabulary development) is encouraged and where young children are comfortable expressing themselves in various ways. Communication should be viewed as an important social tool for children, enabling the sharing of cultural funds of knowledge. This may take the form of writing with peers or engaging in dialogic interaction through sharing a book. Lastly, child agency in communication should be considered essential for babies to older children. Children should have opportunities to illustrate this agency to communicate through linguistic, visual, gestural, aural and spatial modes. This review has considered the literature concerning young children as multimodal communicators and meaning-makers. It points to the importance of valuing ‘the hundred languages of children’ (Edwards et al., 2012) from a plurilingual (switching between languages) and multimodal perspective.

Chapter Seven presents key trends in the literature concerning the Theme of Exploring and Thinking. Similar to the other Themes, the topics and trends within contemporary literature broadly affirm the relevance of *Aistear*’s existing Aims and Learning Goals, highlighting children’s innate curiosity, creativity, and cognitive competence. Twenty-three studies and articles met the criterion. Six key areas emerged that reflect trends, interests, and discourse concerning the Theme of Exploring and Thinking: sustainability, science, technology, engineering and mathematics (STEM), funds of knowledge, dispositions, working theories, purposeful pedagogies, digital childhoods, and risky play. The literature reflects greater research interest in children’s digital lives and virtual worlds, indicative of international interest and policy commitments to STEM in educational research in the last decade. The Theme of Exploring and Thinking focuses on how children make sense and meaning of the things, places, and people in their world. Across the four Aims, the value and importance of participatory pedagogies emerge. It is recommended that concepts of funds of knowledge, dispositions, and working theories be strengthened and made more explicit in the Learning Goals. The available literature highlights the potential of intentional and guided pedagogies as powerful strategies for learning, suggesting that adult support can increase engagement and lead to higher-order thinking and conceptual understanding. The evidence emerging from the literature presents an opportunity to give further consideration to guided and intentional interactions within the broader context of a play-based holistic curriculum. The literature also revealed key trends concerning STEM education, environmental education, and global sustainable development goals. *Aistear* highlights the value and importance of active exploration and encourages skills of hypothesising, analysing,

questioning, and problem-solving (NCCA, 2009), all of which are supported and enhanced by STEM experiences. Greater emphasis could be placed on pedagogical strategies that promote children's STEM experiences, and greater attention paid to children's digital lives and wider sustainability concepts. Finally, in keeping with the key Principles, Aims, and Learning Goals of *Aistear*, contemporary literature highlights the important role of children's access to and agency in enabling environments (both indoors and outdoors). Children's play, movement, agency, and engagement are influenced by their ability to choose and influence the spaces they use; this requires access to well-resourced indoor and outdoor environments that enable discovery learning, risk-taking and information seeking.

This Literature Review summarises recent national and international literature through the lenses of the four interconnected Themes, focused primarily on early childhood learning and development in the context of curricular frameworks. The Literature Review's findings broadly affirm the relevance of *Aistear's* existing Aims and Learning Goals for the four Themes. Crosscutting issues that emerged through the literature include greater focus on sustainability, children's agency, social justice and citizenship, rights-based participation, children's digital lives, play and risky play, intentional and guided pedagogies. Curriculum content and guidance must be responsive to the context of children's lives and grounded in empirical evidence, international discourse, and meaningful policy frameworks that support curriculum, pedagogy and assessment for early learning and development (Wood & Hedges, 2016). This Literature Review will ensure *Aistear's* continued relevance and impact and supplement the wider stakeholder engagement and consultation with educators and children.

Introduction

Aistear, the Early Childhood Curriculum Framework (National Council for Curriculum and Assessment [NCCA], 2009) has played a critical role in enhancing quality in Early Childhood Education and Care (ECEC) settings in Ireland since its introduction in 2009 (Government of Ireland, 2019). *Aistear*, the Irish word for journey, marks early childhood as the beginning of children's lifelong learning journeys. It is the first curriculum framework in Ireland to support children's learning experiences from birth to six years. *Aistear* focuses on providing enriching, challenging, and enjoyable learning experiences for children in the range of English and Irish-medium settings, including homes, a variety of ECEC settings, and infants in primary schools (NCCA, 2009). The curriculum framework aims to enable children to grow and develop as confident and competent learners. The development of *Aistear* was underpinned by consultation with the early childhood sector, commissioned research papers (Dunphy, 2008; Hayes, 2007; French, 2007; Kernan, 2007) and portraiture studies of young children; these are available on the NCCA's website www.ncca.ie. The expertise of the Early Childhood Committee and Technical Working Group also shaped *Aistear* (Daly & Forster, 2009). This rigorous and inclusive approach has led to a framework for early learning based on research and draws from the contributions of a diverse early childhood sector.

Children's learning and development are considered through four interconnected Themes: Well-being, Identity and Belonging, Communicating, and Exploring and Thinking; each Theme has different Aims and Learning Goals. Together these Themes describe important types of learning such as dispositions, skills, attitudes and values, knowledge, and understandings. The Theme of Well-being is about helping children to be confident, happy, and healthy. The Theme of Identity and Belonging is about helping children build a positive sense of who they are and feel that their family and community are valued and respected. Communicating is about helping children share their experiences, thoughts and feelings in various ways and for various purposes. Exploring and Thinking is about helping children to make sense of the things, places, and people in their world by interacting with others, playing, investigating, questioning, forming, testing, and refining ideas. The thematic approach bridges the developmental domains and moves towards a more integrated way of thinking about how children learn and develop. This holistic and cohesive conceptualisation of the curriculum is authentic, meaningful, and enjoyable for children. It supports children's growth and development emotionally, socially, linguistically, physically, cognitively, and

creatively. Children's interests and needs are at the centre of what and how they learn, providing for more connected and coherent learning experiences across early childhood (French, 2007). Each Theme also offers ideas and suggestions for the experiences the adult might provide to children, to help them learn and develop in the form of sample learning opportunities.

Aistear is based on 12 early childhood Principles that are presented in three groups. The first group concerns children and their lives in early childhood and includes children's uniqueness, equality and diversity, and citizenship. The second group concerns children's connections with adults and other children and centres on relationships, the role of the adult, parents, and families. The final group concerns how children learn and develop through holistic learning and development, active learning, play, and hands-on experiences, which are relevant and meaningful, communication and language and the learning environment (NCCA, 2009). In addition, four sets of guidelines that describe professional practice focus on developing partnerships with parents and families, interacting with children, learning through play, and using assessment to support early learning and development (NCCA, 2009).

Given the important role that curriculum frameworks play in guiding and enhancing practice (Organisation for Economic Co-operation and Development, [OECD], 2021), curricula should be informed by recent and relevant research. As a result, this Literature Review forms one part of the process which contributes to updating *Aistear* (NCCA, 2009). Consultations with the sector, other stakeholders, and, critically, children from birth to six years also form part of the updating of *Aistear*. The Literature Review summarises recent national and international literature through the lenses of the four interconnected Themes, focused primarily on early childhood learning and development in the context of curricular frameworks. The Literature Review will ensure *Aistear's* continued relevance and impact and supplement the wider stakeholder engagement and consultation with educators and children. As such, content and guidance must be responsive to the context of children's lives and grounded in empirical evidence, international discourse, and meaningful policy frameworks that support curriculum, pedagogy and assessment for early learning and development (Wood & Hedges, 2016).

This Literature Review aims to

- consider the context of birth to six-year-old children's lives aligned with *Aistear's* Themes, Aims and Learning Goals

- provide a comprehensive review and summary of literature (2010-2021), with a focus on updating the research base that informs the Aims and Learning Goals of *Aistear* within each Theme
- highlight and map the strengths of the existing Themes, Aims and Learning Goals of *Aistear* and identify any possible areas that require further development or refinement
- identify, explore and map relevant research, empirical studies and evidence-based approaches that inform the development of high-quality early childhood curricula

Chapter One contextualises *Aistear* within the changing early childhood education and care policy landscape. It will describe the context of children's lives within the 21st Century, informed by available findings from the Growing Up in Ireland Study and the Children's School Lives study. Chapter Two will present the methodological approach to the Literature Review detailing the research scope and search strategy as well as the processes of appraisal, synthesis, and critical analysis of the literature. In addition, a mapping table is produced for each Theme. Chapter Three focuses on children from birth to three within the four Themes of Well-being, Identity and Belonging, Communicating and Exploring and Thinking. The learning of children from birth to three years was originally not evidenced in this Literature Review and requires particular attention. In part, the absence of such studies reflects the scoping review methodology, which was underpinned by a focus on curriculum and learning. Furthermore, there are methodological challenges and limitations in interpreting the experiences of babies across contemporary literature more broadly. While much of the available literature focuses on children from three to six years, key concepts, approaches and practices are equally relevant to babies and toddlers. Chapters Four to Seven will present a detailed review of the literature on children's learning and the influence of high-quality early childhood curricula, learning frameworks, pedagogy, and practice. Within each Chapter, the literature is presented as it aligns the *Aistear's* Aims.

Chapter One: Setting the Context

This Chapter begins by contextualising *Aistear* within Ireland's changing early childhood education and care (ECEC) policy landscape. Consideration is then given to the changed profile of the Irish population of children, reflecting the significant socio-cultural change in ethnicity and diversity of languages, with particular recognition of Gaelige, as Ireland's national and first official language. The Chapter concludes with a discussion on children's life experiences informed by available findings from the Growing Up in Ireland Study.

The Changing Early Childhood Education and Care Policy Landscape in Ireland

ECEC in Ireland has developed significantly since the Child Care Act in 1991 (Government of Ireland [GoI], 1991). The Act led to the Childcare (Pre-school) Regulations (GoI, 1996, revised in 2006). Initially, ECEC was seen as an enabler for women entering the workforce, with subsequent European funding available to develop 'childcare' services. Simultaneously, Ireland ratified the United Nations Convention on the Rights of the Child (United Nations, 1989) in 1992, which placed children's rights at the centre of social and political agendas. The view that early childhood is a critical time of rapid learning and development appeared to gain ground (UNICEF, 2019). The White Paper, *Ready to Learn* (GoI, 1999), foregrounded the Government's intent to progress the development of high-quality education before formal schooling for young children, with a special emphasis on those experiencing educational inequality. Arising from the White Paper, *Aistear* (NCCA, 2009) and *Síolta, the National Quality Framework* (Centre for Early Childhood Development & Education, [CECDE], 2006) emerged, both of which guided early childhood educators in supporting very young children's learning. This was significant progress as it is clear that children's early learning and development is a function of the everyday experiences and the people they encounter in the range of settings that children occupy, from birth to six years of age.

A key milestone event was the development of a universal, funded Early Childhood Care and Education (ECCE) programme for one year before formal schooling; this became available in 2010. The programme was extended to fund two years in 2018. Tusla, the Child and Family Agency, was established on the 1st January 2014 and is the dedicated State agency responsible for improving wellbeing and outcomes for children. It represents a comprehensive reform of Ireland's child protection, early intervention and family support

services. Better Start, the National Early Years Quality Development Service, was launched in May 2015. This initiative seeks to promote and enhance inclusive, high-quality ECEC for children from birth to six. Better Start is managed by the Department of Children, Equality, Disability, Integration and Youth (DCEDIY) and hosted by Pobal. Education-focused inspections (EYEI) were introduced in 2016 with the potential to develop the professional practice "of those participating in the ECCE Programme, to use the *Aistear* and *Síolta* frameworks to support self-evaluation and review processes" (Department of Education and Skills [DES], 2018a, p. 8). Better Start works in close cooperation with the National Early Years Inspectorate at Tusla and with the Early Years Inspectorate at the Department of Education (DE) to ensure consistency of approach and a shared understanding of early years' quality. The development of an online resource - the *Aistear Síolta* Practice Guide, supports the implementation of both frameworks and replaces the previous *Aistear* Toolkit (NCCA, 2016). Other milestone events include the establishment of the Access and Inclusion Model (AIM) to create a more inclusive environment in ECEC settings (Department of Children and Youth Affairs [DCYA], 2016). AIM provides educators with mentoring support with different levels of universal and targeted early intervention assistance for children with additional needs and has proved effective (Frontier Economics, 2020). These supports are available for children availing of the ECCE scheme. The Diversity, Equality and Inclusion Charter and Guidelines published in 2016 by the DCYA, accompanying the AIM programme, apply to all practices in ECEC. The Charter and Guidelines are intended to support educators in guiding all children's learning and development in ECEC to promote diversity and inclusion (DCYA, 2016).

Perhaps the greatest progress since *Aistear* was published in 2009 has been enhancing the quality of children's experiences through increased qualifications in the ECEC sector. In 2010, at the introduction of the ECCE programme, there was no minimum qualification for staff; the ECCE contract specified that 'room leaders' should have a National Framework for Qualifications (NFQ) Level 5 qualification. The mandatory minimum qualifications for those working in an ECEC commenced in 2016. The ECCE programme contractual requirement was raised to Level 6 (NFQ). There is also a requirement in the ECCE contract that services must provide "an appropriate educational programme" that "adheres to the principles of" *Síolta* and *Aistear* (DCEDIY, 2022).

There was an expansion, validation and further development of relevant education and training programmes from levels five to nine on the NFQ and through the introduction of professional award-type descriptors at NFQ levels five to eight by Quality and Qualifications

Ireland (QQI, 2019). This development continued with the introduction of new courses by further and higher education providers and the publication in 2019 of Professional Award Criteria and Guidelines for initial professional education (level seven and level eight) degree programmes in ECEC (DES, 2019). A Qualifications Advisory Board was established in 2020 to assess degree programmes against these Criteria and Guidelines. *Aistear* is embedded in both developments (Frontier Economics, 2020). According to the annual ECEC sector profile report 2020-2021, the majority of staff working directly with children in ECEC settings have qualifications at NFQ Level 5 or higher at 97%, and 72% have qualifications at NFQ Level 6 or higher; this represents an increase of 1% for both qualification levels compared to 2019/20 (Pobal, 2021). Comprehensive research reviews conclude that training and qualifications positively impact educators' ability to provide responsive, nurturing, sensitive care and education to enhance young children's development and learning (Melhuish et al., 2015).

The First 5, the Whole-of-Government Strategy for Babies, Young Children and their Families, 2019-2028, published in 2019, provides a range of commitments to strengthen the infrastructure that supports the early childhood system, in particular, a "skilled and sustainable professional workforce". The Strategy sets a goal of at least 50% of staff working directly with children in centre-based settings holding an appropriate degree-level qualification by 2028 (GoI, 2019, p.110). Other significant commitments in First 5 include the development of Ireland's second workforce development plan. *Nurturing Skills: The Workforce Plan for Early Learning and Care and School Age Childcare, 2022 – 2028*, was published in 2022 (DCEDIY). The commitments made in Nurturing Skills are important in the context of updating *Aistear*, in particular, the full rollout of the National *Síolta Aistear* Initiative (NSAI) by 2028 (see further explanation of the NSAI on p.22). The rollout of the NSAI will include “the redevelopment of CPD resources into a new blended format”, combining online and face-to-face delivery (DCEDIY, 2022, p.10). *Síolta* will be redeveloped into a national self-evaluation framework building on the *Aistear Síolta* Practice Guide. A commitment to the development of a national policy to embed the key person approach across all ECEC settings is also specified in the document. Furthermore the *National Action Plan for Childminding 2021 – 2028* (DCEDIY, 2021) sets out an incremental and supportive pathway to bring paid, non-relative childminders currently eligible to register with Tusla into the scope of regulation and support, enabling more childminders to access Government subsidies. First 5 commits to funding support to help all regulated childminders achieve a minimum qualification by 2028 (GoI, 2019, p.110).

Other significant policy developments where *Aistear* is currently embedded are the *National Strategy for Literacy and Numeracy for Learning and Life 2011-2020* (DES, 2011, 2017) and the *Science, Technology, Engineering and Mathematics (STEM) policy* (DES, 2017). The Literacy and Numeracy Strategy sets a clear vision for raising standards in literacy and numeracy from the early years on (DES, 2017). The focus is on the curriculum in ECEC settings. The actions include comprehensively implementing *Aistear*, using the *Aistear Síolta* Practice Guide, and building reflective practice and self-review "with an emphasis on literacy and numeracy development based on the *Aistear* framework" reinvigorate literacy and numeracy in day-to-day experiences of children (DES, 2017, p.32). It references the Primary Language Curriculum/ Curaclam Teanga na Bunscoile, introduced in 2016 to children in junior infants to second Class in primary schools. "The new curriculum offers an exciting opportunity not just for language learning but also for literacy development. It will also allow for the revisiting of *Aistear* to strengthen the messaging around literacy and numeracy" (DES, 2017, p.35). The Strategy was under revision in 2022. The STEM education policy statement (2017-2026) acknowledges that there is the need for "a national focus on STEM education in our early years settings and schools to ensure we have an engaged society and a highly-skilled workforce in place" (DES, 2017, p.5). The need for children from early childhood to have multiple and varied opportunities in STEM exploration and discovery learning is stated (DES, 2017). *Aistear's* Themes of exploring and thinking, communicating, well-being and identity and belonging are referenced as Level one for children "to develop their STEM knowledge and skills in an integrated and engaging way" (DES, 2017, p.6).

Current Status and Brief History of Governance of ECEC in Ireland

The responsibility at government level for ECEC in Ireland is currently shared between the Department of Education (DE) and the Department of Children, Equality, Disability, Integration and Youth (DCEDIY). ECEC in Ireland has been described as being developed in a "piecemeal fashion" and the ECEC system as "fragmented" (OECD, 2021, p.39). When *Aistear* was launched in 2009, policy responsibility for ECEC was held with the first Office for the Minister for Children and Youth Affairs (OMCYA) under the then Department of Health and Children. For the first time, staff working on education for early childhood in the then Department of Education and Science were co-located in the OMCYA to provide a joined-up government approach to developing policy and delivering services for children. This was a crucial development as, up to that point, the policies which emerged from those Departments were implemented separately despite the fact they related to the

same population of children and strengthened the artificial divide between care and education (Hayes, 2005). As identified in the OECD's first review of ECEC policy and practice in Ireland, "for early childhood specialists, this division is arbitrary and unsatisfactory: education and care are inextricably intertwined"(2004, p. 15). In a welcome development, the OMC transferred to the Department of Children and Youth Affairs (DCYA) when it was established in 2011 (Frontier Economics, 2020).

The DCYA held responsibility for the governance, oversight, policy development, funding and implementation of ECEC in most settings other than primary schools (Frontier Economics, 2020). In line with the Programme for Government (Department of the Taoiseach, in 2020), DCYA became known as the Department of Children, Equality, Disability, Integration and Youth (DCEDIY). The Department of Education (DE, previously known as the Department of Education and Skills, works in coordination with DCEDIY through its Early Years Policy Unit. The DE oversees the education-focused inspections, curriculum development, the criteria and guidelines for further and higher education programmes for early childhood educators, operates 40 Early Start pre-schools (located in primary schools in areas designated as disadvantaged) and provides funding for provision to some children with disabilities (Frontier Economics, 2020). Children in junior and senior infant classes in the primary school system (aged from four to six years) are the responsibility of the DE. Children are required by law to start formal schooling at six years. While approximately 58% attend ECEC settings, 40% of four-year-olds and almost all five-year-olds attend primary school (O'Sullivan & Ring, 2018).

ECEC is delivered through private, community, commercial and the state sector (Neylon, 2014, p.99). Teachers in infant classrooms must implement the Primary School Curriculum (PSC, NCCA, 1999) while recognising the principles of *Aistear* (Mannion, 2019). The NCCA is reviewing and redeveloping the primary curriculum. The draft Primary Curriculum Framework connects with *Aistear* and the Framework for Junior Cycle to promote continuity and progression in children's learning. The principles of teaching and learning build on the Principles in *Aistear* and connect with the principles of the Junior Cycle Framework. The key competencies and broad curriculum areas in stages 1 and 2 (children in junior infants to second class classrooms) extend and build on children's prior learning shaped through *Aistear's* Themes. This commitment to ensuring that the redeveloped Primary School Curriculum reflects more fully the Principles underpinning *Aistear* is acknowledged in First 5 (GoI, 2019), ensuring continuity between the provision of ECEC and the early years of primary school.

Ireland is currently pursuing a policy agenda for improving ECEC, manifested by its invitation to the Organisation for Economic Co-operation and Development to conduct a second review of the ECEC sector (OECD, 2021). The policy commitments are to improve access to and affordability, and quality of ECEC provision. Ongoing reforms are centred on the ECEC workforce, the funding system, home-based ECEC provision and governance of the sector. The review focuses on policies in the area of workforce development and quality assurance, and improvement (OECD, 2021). It is reported that the review of *Aistear* "provides a welcomed opportunity to create new momentum for improving the ability of providers to self-evaluate if accompanied by a well-resourced programme of advice, training and support" (OECD, 2021, p.19).

Amongst the many opportunities outlined above, it is acknowledged that significant "challenges remain ... in ensuring the workforce is appropriately qualified, skilled and supported for its important role in children's learning" (DCEDIY, 2022, p.30). Low status and poor remuneration persist for those working in ECEC settings (O'Sullivan & Ring, 2018). There is an urgency to address these issues, given their potential to impede children's learning and development. Other challenges have been outlined to include that a play-based pedagogy may not be practised consistently in ECEC settings. Some staff use more formal pedagogical approaches alongside play, for example, flashcards, join-the-dots activities, direct instruction and, in some cases, homework (Ring et al., 2016). Others use programmes employed in primary classrooms to prepare children for school, contrary to *Aistear* guidelines and professional practice with this age group (Frontier Economics, 2020). The review of the first year of the education-focused inspections revealed that educators performed well in understanding children's needs and undertaking observations, in line with *Aistear's* guidelines. However, the balance between child-directed and adult-directed experiences was challenged, as was adhering to the principles of *Aistear* (DES Inspectorate, 2018).

Implementation of Aistear

There have been successful continued professional learning and development initiatives that can be built on to support the sector in its practice. From 2011 to 2013, the NCCA, in collaboration with Early Childhood Ireland, conducted the *Aistear in Action* initiative (AiA) to pilot support for providers to enhance practice and share examples of the ECCE programme in action supported by *Aistear*. The AiA featured a multi-strand mentoring approach to include monthly on-site visits to each setting, action research where the participants evaluated their practice and identified actions/areas for development, continued

professional learning and development cluster groups, and large seminars. The mentors operated "as co-researchers, critical friends, change agents and practice specialists, providing motivation, feedback, expertise, support and training" (Daly et al., 2014, p. 175). The use of technology was encouraged, video cameras and laptops were utilized to enable capture of the dynamic and interactive nature of children's learning and development. The mentors observed, modelled and video-recorded the sessions, and gave immediate feedback. The impact of the AiA on children was profound; "the children experienced a more child-led and holistic curriculum that respected and built upon their interests and connected with their communities" (Daly et al., 2014, pp. 180-181). The role of the adult changed from a directive, adult-led pre-planned curriculum to a child-led curriculum, which emerged building on children's interests with the adult as a facilitator (Daly et al., 2014). The National *Síolta Aistear* Initiative (NSAI) was established in 2016 to support the coordinated roll-out of *Síolta* and *Aistear*. The Initiative arose in response to findings from a survey in 2015, which identified a gap in knowledge and skills among ECEC educators to support the educational development of children in ECEC (DES, 2018). The DE is leading the initiative in collaboration with the DCEDIY (who fund the Initiative), Better Start and the NCCA. The Initiative brings together all State supports for *Aistear* and *Síolta* and includes mentoring and continued professional development and learning. Practical supports were developed and provided in the *Aistear* Toolkit and the *Aistear Síolta* Practice Guide. The further rollout of the NSAI is a welcome development as proposed in First 5 (GoI, 2019).

The Changing Profile of Children under Six Years in Ireland

Ireland has experienced profound economic, demographic, cultural and social change since the 1980s. Ireland was a homogeneous society and culture; the vast majority of people were white, English-speaking and Catholic (Inglis, 2016). Ireland is an increasingly multicultural society, as reflected in the first results of the Census 2022 released by the Central Statistics Office (CSO). It established that Ireland's population is 5,123,536, a 7.6% increase on the Census 2016 due partly to net inward migration of 190,333 people. The Irish population exceeds five million in the first Census since 1851 (CSO, 2022).

Aistear is grounded in the construction of childhood in which children are seen as competent, active learners who are unique individuals capable of making decisions. Young children participate in the socio-cultural contexts of the family, the community and society with their unique ethnic identity (French, 2007). The annual survey compiled by Pobal on

ECEC and school-aged childcare revealed that 65% of services reported having at least one child for whom neither English nor Irish was a first language, 17% of respondents reported Traveller children attending their service, and 7% of respondents reported having at least one Roma child attending their service. Services reported that 75% had at least one child with a disability. Despite children's increased access to early childhood settings, a recent Irish study suggests that educators do not have sufficient knowledge to offer a truly inclusive environment in the context of additional needs (Roberts & Callaghan, 2021). The increasingly diverse population of children presents pedagogical practice opportunities and challenges. Accessible information is required to support understandable communication with a diverse set of parents, families and communities. The Diversity, Equality and Inclusion Charter and Guidelines provide information for educators to support children with diverse cultural backgrounds and those from Traveller and Roma communities (DCYA, 2016). In 2018, at the request of DES, the NCCA undertook an audit of Traveller culture and history in the curriculum, which included opportunities to integrate aspects of Traveller culture into *Aistear*. Further research was recommended to ascertain how Traveller children's sense of identity and belonging is supported in ECEC settings and how inclusive settings are (NCCA, 2018). The Guidelines also outline inclusive provisions concerning gender, LGBT, and religious and non-religious beliefs (DCYA, 2016). Implementing the Diversity, Equality and Inclusion Guidelines for all children in Ireland, in the context of an increasingly diverse and multicultural society and a broad range of needs, is essential.

Information for educators to support children whose home language is not English or Irish is provided (DCYA, 2016). This includes guidelines on how children typically progress with a second language and methods of working with the child and the family. Information for educators working with and for the parents of children whose home language is not English or Irish is also available through the *Aistear Síolta Practice Guide*.

Irish is the oldest spoken literary language in Europe and is a unique part of Ireland's culture and heritage (GoI, 2010). Irish is the first official language of the Republic of Ireland, and English is recognised as the second official language. Census figures show that Irish is spoken as a daily language outside of the education system by 1.7% of the population (CS0, 2017). It is a unique minority language, meaning it is not a majority language in any other jurisdiction (van Dongera et al., 2017). Similar to other Celtic languages such as Scottish Gaelic and Welsh, Irish is an endangered minority language depending on a small pool of speakers for its survival (Ó Giollagáin & Charlton, 2015; Ó Giollagáin et al., 2007; Ó Murchadha & Migge, 2017). *Gaeltacht* areas, where 2% of the population live and Irish was

traditionally spoken as a community language, witnessed an 11% drop in daily Irish speakers between 2011 and 2016 (CSO, 2017). Intergenerational transmission of a language is at the crux of its survival (Fishman, 1991). Yet, the number of children with Irish as a home language is seriously declining and no longer sufficient to ensure the language's viability (Ó Giollagáin & Charlton, 2015). A recent analysis shows that only 23% of families in official *Gaeltacht* regions are raising their children through Irish (Ní Chuaig et al., 2021). This is despite additional emphasis being "placed on gaining improvements in literacy for and through the Irish language" (DES, 2017, p.8). The education system is central to government goals of Irish language enrichment, maintenance, and revival of Irish as a national language (GoI, 2010; 2018).

Irish is taught as a compulsory subject in all schools in the Republic of Ireland, and 8% of primary schools are Irish-medium (Gaeloideachas, 2022). Pobal (2022) reported that 7% of respondents in 2020/2021 provided services through the Irish medium and that these settings were more prevalent in urban areas. Irish is the language of communication in Irish-medium schools; all subjects except English are taught through the medium Irish. Irish language preschools *Naíonraí* also use Irish as the communicative language of the setting and instruction language. ECEC is of critical importance to support children's early acquisition of Irish, children's socialisation through Irish, the use of Irish as a home language, and Irish as a community language in *Gaeltacht* areas (DES, 2016; 2021; GoI, 2018; Péterváry et al., 2014). A strong foundation in literacy skills in Irish in the early years is important to support children's language acquisition (Péterváry et al., 2014). Irish-medium education at preschool is also important to support children's transition to Irish-medium primary education (DES, 2016).

Language use in the home is the most influential factor in children's language competency in minority languages over and above that which can be achieved through education (De Houwer, 2009; Gathercole et al., 2009; O'Toole & Hickey, 2016). Strong links between Irish-medium early childhood settings and home are vital to support the use of Irish as a home language and, in turn, the viability of the language (DES, 2016; DE, 2021; Hickey, 2021). Families need support in developing a family language policy (Curdt-Christiansen, 2018) that supports the use of Irish in the home (Hickey, 2021). A first language (L1) is the native language or mother tongue that a person has been exposed to from birth. L2 is the second language. L1 speakers of Irish face similar challenges of early childhood bilingualism and fostering home language acquisition as other L1 speakers of national heritage languages (Hickey, 2021). The decline in intergenerational transmission, along with high contact with

the majority language and L2 learners, impacts L1 language acquisition, leading to incomplete acquisition of the minority language and unbalanced bilingualism (Montrul, 2016; Péterváry et al., 2014). Péterváry et al. (2014) showed that L1 speakers of Irish had greater competency in English than Irish and that L1 speakers' language development in Irish begins to plateau at around three years of age as children begin socialising more outside of the home with more speakers of the dominant language. The *Policy on Gaeltacht Education 2017-2022* (DES, 2016) seeks to promote Irish-medium education in *Gaeltacht* areas and recognises the need for differentiated support for L1 speakers and L2 learners of Irish, as well as the need for establishing strong links between the use of Irish in education, in the home and the community. The Primary Language Curriculum/Curaclam Teanga na Bunscoile (DES, 2019) presents differentiated language learning outcomes for L1 speakers of Irish, L2 learners of Irish, and children learning through Irish in Irish-medium schools. A differentiated approach toward children's communication in Irish is needed in the early years to support the diversity of learners and the contexts in which Irish is learned.

Learning Irish is beneficial to all children. Most children will learn Irish as a second language, and many will learn Irish as a third or fourth language. All children learning Irish as an additional language can transfer linguistic skills and strategies from other languages to support their learning of Irish. In turn, their learning of Irish will support language development in other languages (Cummins, 2021; Ó Duibhir & Cummins, 2012). Conceptual knowledge, specific linguistic elements, phonological awareness, metacognitive and metalinguistic strategies are transferable across languages (Cummins, 2021; Ó Duibhir & Cummins, 2012). Many cognitive, emotional, social, educational and economic benefits are associated with bilingualism and multilingualism (Baker & Wright, 2021). Learning additional languages from a young age can inspire an interest in language learning for life. As young children understand that they can communicate in different languages, the flexibility of thought can be enhanced, and children can appreciate the diversity of languages and the diversity of speakers of languages. As all children in Ireland can learn Irish as it is their right, ECEC has an important role in children's initial learning experiences of Irish.

Children's Early Life Contexts: Growing Up in Ireland Study (Infant Cohort)

Children's development is influenced by their early life contexts. Curriculum and learning frameworks must consider children's unique characteristics within the ever-changing complexities of their unique socio-cultural contexts and wider political systems (Alexander,

2009; Brogaard-Clausen et al., 2022; Bronfenbrenner & Ceci, 1994; Buttaro et al., 2021; Yang, Tesar & Li, 2022; Yang & Li, 2018). Recent studies, grounded in Bronfenbrenner's bioecological model (Bronfenbrenner & Ceci, 1994), highlight the complex and continuous processes that influence the experience of childhood and also question the conceptualisation of 'what is childhood and who is a child' (Yang et al., 2022, p. 2) within international curricula and pedagogical frameworks (Archard & Archard, 2016; Eek-Karlsson & Emilson, 2021; Johansson & Puroila, 2021; Yang & Li, 2018). These studies reiterate the need to critically evaluate the influence of culture, values and social change on children's lives in an increasingly globalised and digitised world (Bohnert et al., 2021; Chan, 2020; Edwards, 2013; Hancock, 2017; Sadownik, 2020).

Since the publication of *Aistear* in 2009, Ireland has witnessed significant economic, social and cultural change that influences and affects experiences of childhood and ECEC. In considering the development and enhancement of the curriculum framework, national longitudinal data, such as that from the Growing up in Ireland (GUI) study and the Children's School Lives study, helps consider trends and factors that potentially influence, mediate and moderate children's experiences within and across their unique bio-ecological context. The findings and publications from GUI not only describe the lives of children in Ireland but also present insights into the wider systems and proximal processes that influence children's development. This includes opportunities to monitor the impact of key policy changes, such as free GP care, access to early childhood education and care and economic recovery (Nixon et al., 2019; Smyth, 2017). Children in the Infant Cohort (Cohort' 08) were born in 2008/2009 and were the first to avail of the ECCE programme, the initial implementation of *Aistear* in ECEC settings and other key policy developments in early childhood education and care. Findings from the Child Cohort were not considered as these children grew up in a different socio-cultural and economic context to those in the Infant Cohort. Understanding children's experiences and lives at the age of nine enables us to develop policies for much younger children, which are the focus of this Literature Review. The reported findings from the GUI Infant Cohort provide particularly helpful insights into lifespan trends in health and well-being, children's digital lives and the impact of the economic recession that can support the development of policy and practice and contribute to the development of the early childhood curriculum framework. The following presents a summary of key data across these three areas from the Official Publications from Cohort '08 (Infant Cohort), Wave 5 at nine years (McNamara et al., 2021; Growing Up in Ireland Study Team, 2018a; 2018b; 2018c; 2018d; Williams et al., 2010).

Physical and Mental Health

Children's physical health and socio-emotional well-being directly affect their development, participation and engagement within their families, communities and early childhood settings. Internationally, early childhood curriculum policies and frameworks promote the development of children's physical health and emotional well-being. *Aistear* (NCCA, 2009) dedicates significant attention to children's psychological and physical well-being, highlighting the importance of children's relationships, activities and environments in supporting children's confidence, health and happiness (NCCA, 2009). Promoting child health and well-being are also key objectives in First 5 (GoI, 2019). The Strategy outlines commitments to supporting and enhancing the health behaviours of babies and young children with guidelines on healthy eating, physical activity and oral health (GoI, 2019). First 5's objectives align with an established body of research that recognises that early life experiences critically influence children's physical health trajectories (Bartik, 2014; Pope, 2017; Stevens, 2013).

Physical Health and Childhood Obesity

The health of infants and young children (from birth to six years) is influenced by their immediate environments, experiences and relationships. Families and early childhood educators can positively influence children's nutrition, movement and activity levels and sleep, but this depends on the knowledge, materials, and opportunities available in communities and early childhood settings. The Growing up in Ireland Study provides insight and information on children's health and physical development. The study includes key health indicators such as children's weight status, general health and well-being, medical conditions and diet, and self-reported physical activity (McNamara, 2021). GUI also considers contextual factors that may influence children's health status, including family characteristics, socio-economic background and the physical environment.

Children's first unsupported steps were typically between 12 and 13 months, and how they spent their free time was important for motor skills at age three. Most three-year-old children could use a pencil and play with small objects such as jigsaw pieces. Children in Ireland are doing well in infancy in terms of health (Williams et al., 2010). Findings from the GUI Infant Cohort ('08 Cohort) (McNamara et al., 2021) at nine years suggest that the majority of children (79%) are reported by their Primary Caregivers (PCGs) to be 'very healthy' at nine years old. Children's 'general health' for the cohort appears to have 'improved'

over time, with PCGs reporting more children to be 'very healthy, with no problems' 79% of the time as 9-year-olds, comparable to 74% at three years, and 76% at five years. Within the study, 24% of children were reported to have a long-standing illness, condition or disease in the overall cohort, with asthma (9%), eczema (3%), Autism Spectrum Disorder (3%) and respiratory allergy (3%) the most common conditions reported. The most common illnesses are skin allergies (eczema) and respiratory illnesses. Findings from GUI suggest that boys are more likely to be negatively impacted or 'hampered' by a longstanding health condition, illness or disability, with this pattern continuing in preschool and later years (Williams et al., 2013).

Despite relatively good levels of overall health, across the Infant Cohort, almost 1 in 4 children are described as 'overweight' (18%) or 'obese' (5%). These findings are aligned with national data from the Childhood Obesity Surveillance Initiative (COSI) survey (2020) that indicates 1 in 5 primary school children are 'overweight' or 'obese'. Both studies note that children from lower socio-economic contexts are more likely to have higher rates of obesity and that prevalence is higher for females, particularly in later primary school years (McNamara et al., 2021; WHO, 2022). Childhood obesity is a significant public health concern associated with poor physical and mental well-being across the lifespan (Millar et al., 2017; Pope, 2017; Ray et al., 2019; Skouteris et al., 2017).

Early childhood education and care settings are well-positioned to promote physical activity, varied and nutritious diets and build relationships with healthcare professionals and families. In an Irish context, existing practices such as the Healthy Ireland Smart Start training programme can offer insight into practices that promote children's physical health, positive lifestyle behaviours and emotional well-being within early childhood settings (see National Children's Network, <https://www.ncn.ie>).

Mental Health and Socio-Emotional Well-being

The Innocenti Report Card on Child Well-Being (2020) found Ireland's 'ranking' for child mental health to be poor, rated 26th out of the 38 countries studied. Findings from GUI (2021) suggest that in 2008/2009, most 3-year-olds and in 2017/2018, most 9-year-olds (Cohort '08) had relatively low levels of difficulty (i.e. conduct or peer problems) and high levels of pro-social behaviours (i.e. kind and helpful) as measured by the Strengths and Difficulties Questionnaire (SDQ) (McNamara et al., 2021). Three-year-old boys were more likely to be reported as having behaviour problems than girls, as were children in groups that experienced material and social inequality (Williams et al., 2010). Nine-year-old boys were

more likely to be described by their PCG as experiencing socio-emotional and behavioural issues, with 14% of boys being in the 'top' 10% of the 'total difficulties' compared to 9% of girls. Furthermore, children living in the lowest-income families, and those from one-parent families, were more likely to be in the group with the most socio-emotional and behavioural difficulties.

Positive self-worth and life satisfaction support children's mental health and well-being (Dwivedi & Harper, 2004; Street, 2021). The Innocenti Report Card on Child Well-Being (2020) indicated that children in Ireland have the lowest rates of life satisfaction in the OECD/EU, with only 72% of children reporting high life satisfaction. More than 1 in 5 children (28%) reported lower life satisfaction levels, with issues such as poor body image, bullying and school pressures attributing to these low scores (UNICEF, 2020). These figures, which report on the lives of 15-year-olds, are slightly poorer than those from the GUI, which suggest that 17% of 9-year-olds from the infant cohort reported their self-concept (Piers-Harris II Scale) to be in the 'low' or 'very low' range, with boys (19%) 'marginally' over-represented compared to girls (16%)'. (McNamara et al., 2021, p. 88). Nurturing relationships in ECEC settings are, therefore, pivotal to supporting young children's mental health and well-being.

In Ireland, there is an increasing interest and commitment to developing trauma-informed care and approaches in early childhood settings to respond to the needs of children that have experienced stressful or traumatic life events (Lotty, 2020). These approaches are grounded in three core pillars; a sense of safety, healing relationships and coping skills (Bath, 2008; 2015). There are recognised determinants that place children at risk of early childhood trauma; these conditions and experiences include poverty, lone-parenthood, exposure to drug or alcohol dependency, domestic violence, homelessness and parental mental health difficulties (Finkelhor et al., 2015; Herbers et al., 2014; Miller et al., 1999). GUI does not monitor 'adverse childhood experiences' as defined in trauma-informed literature; the study gathers information concerning 14 'stressful' life events, including moving house, parental separation, bereavement, serious illness and addiction (drugs/alcohol) within the family. The majority of 9-year-olds (59%) had experienced at least one 'stressful' life event, the most common being the death of a close family member (not parent, 37%), moving home (15%) and serious illness of a family member (14%). The study indicates that children that experienced three or more 'stressful' life events were much more likely to be in the top 10% of those experiencing emotional and behavioural difficulties.

While GUI indicates that most children experience good mental health, it is important to recognise that a significant percentage experience low self-worth and multiple 'stressful events' that place them at greater risk of poor mental health and emotional and behavioural difficulties. The study suggests that children from disadvantaged social backgrounds are more likely to experience physical and mental health difficulties. The available literature consistently recognises the importance and value of high-quality early childhood education and care experiences in supporting children's well-being and positive mental health. This includes the value of warm, connected, and responsive relationships (Acar et al., 2019; Barandiaran et al., 2015; Becker et al., 2017; Edwards et al., 2016), safe and predictable routines (Brusaferro, 2020; Conroy et al., 2013; Herbers et al., 2014; Rossen & Hull, 2013) and support for the development of 'coping' strategies, such as; co-regulation, communication, self-expression, therapeutic play, conflict resolution (Bath, 2015; Camodeca & Coppola, 2019; Florez, 2011; Jenkins et al., 2017; Schaefer & Kaduson, 2006).

Economic Vulnerability and Child Poverty

Aistear was launched in 2009 during the economic crisis and financial crash that plunged Ireland into a serious economic recession. The percentage of families experiencing financial difficulties between the interviews at nine months and those at three years increased since 2008 (Williams et al., 2013). The 'Programme of Support' offered by the European Commission, the European Central Bank and the International Monetary Fund saw the implementation of austerity measures that resulted in ubiquitous cuts across health, education, social services, and public housing (FitzGerald, 2012; Robbins & Lapsley, 2014; Ruane, 2016). Ireland has been portrayed as the 'poster child' for austerity in the intervening decade, with a seemingly rapid return to economic growth (Roche et al., 2016). However, the impact of austerity continues to pervade public spending. There has been little recovery for Ireland's most vulnerable citizens, including those who are unemployed, experiencing disability and single-parent families (Watson et al., 2018). Throughout the recession, children fared worse than all other age groups on poverty measures, with children's 'material deprivation' increasing from 16 to 32 per cent from 2007-2012 (Regan & Maître, 2020). While at-risk of poverty and basic deprivation rates decreased from 2014-2018, children in Ireland are more likely to experience poverty and material deprivation than other age groups (Maître, Russell and Smyth, 2021).

The Survey on Income and Living Conditions (SILC) 2020 (Central Statistics Office, 2021) found that almost one in ten children (8%) experienced material deprivation, with the

rate significantly higher (22%) for children living in one-parent families. The deleterious impact of material deprivation on children's development, health, participation and socio-emotional well-being is well-established (Kalil et al., 2016; Lesner, 2018; Schickedanz et al., 2015). The GUI reports show patterns of 'financial stress', with families reporting their level of ease or difficulty in making ends meet (Burke, 2020; Mc Namara et al., 2021; Nixon et al., 2019). Between 2008 and 2016, there was a significant increase in families reporting 'difficulty' or 'great difficulty' in 'making ends meet', from 13% in 2007/2008 to 25% in 2016. While this figure fell to 13% in 2017/2018, it still suggests that more than 1 in 8 children experiences material deprivation. This experience of poverty and financial stress negatively impacts parental well-being, parenting, quality of life and children's engagement and participation (Kalil et al., 2016; Nixon et al., 2019). GUI has consistently identified children's socio-economic status and deprivation as determinants of health behaviours, mental health and well-being (Maître et al., 2021; Namara et al., 2021; Nixon et al., 2019; Regan & Maître, 2020). High-quality curricular provision in early childhood can help mediate poverty's negative impact on children's lives and support children's cognitive and social-emotional development (Saitadze & Lalayants, 2021; Sylva, 2014; Sylva et al., 2007; Taggart et al., 2015).

Children's Digital Lives

The term 'Digitods' has been used to describe children born in a time of ready access to touch-screen technology such as smartphones and tablets (Holloway et al., 2015). Research demonstrates children from six months of age have increased access to, and use of, smart devices and can choose from multiple platforms to play games, stream videos, access the internet and document their everyday experiences anywhere (Bohnert et al., 2021; Cunningham et al., 2016; Green, 2019; Holloway et al., 2015). The mobility of smart technology and availability of internet access means that children can access screen-based activities and diverse digital and online content in multiple places, including home, ECEC settings and outdoor play spaces.

Findings from GUI Wave 5 at 9 Years (McNamara et al., 2021) suggest that young children in Ireland spend prolonged periods on screen-based and digital activities (Murray et al., 2019; McNamara et al., 2021). Across the Infant Cohort, 92% of children had access to the internet, with over half (53%) reporting that they were allowed to use the internet without an adult checking their online activity. While many parents use remote parent control tools and remote monitoring programmes, GUI findings suggest that many children spend at least

some time online unsupervised. The most popular screen-time activities were playing games (on their own) (81%), video streaming (78%) and 'searching' for information (55%). Based on the parental estimates, the GUI data suggests that 80% of children spend at least 30 minutes watching television on weekdays, with over half (56%) spending 30 minutes on other screen-based activities (i.e. smart devices, video games) during the week. On weekend days, half of the children in the study watched more than two hours of television and over 80% of children spent at least 30 minutes per day on other screen-based activities.

Bohnert and Gracia (2020) used data from GUI to examine patterns and effects of digital use on children's socioemotional well-being, reporting that high levels (3+ hours) of screen time (television and digital devices) were associated with significant declines in socio-emotional well-being. However, the analysis reflects that the risks and benefits of digital technology are highly nuanced, and the effects of digital technologies on children's development, learning and well-being are contingent on both the quality and quantity of use (Bohnert et al., 2021; Cunningham et al., 2016; Edwards, 2016; Marsh et al., 2019). Children from the Infant Cohort 08' are described as 'digitods' in that touch screen smart devices have been available throughout their lifespan. These children bring important funds of knowledge about their digital lives into ECEC settings. These early experiences influence longer-term trajectories for their use of digital technologies and virtual lives.

Given children's access to and engagement in digital technologies, early childhood curricula should seek to consider the possibilities and potential of technology to deliver high-quality experiences that support children's digital citizenship through play, recording, exploration, and multi-modal literacies (Cunningham et al., 2016; Enochsson & Ribaeus, 2021; Friedman, 2016). This will require support for developing educator knowledge, confidence and skills in using digital technologies (Barblett et al., 2021; Segal-Drori & Shabat, 2021; Vogt & Hollenstein, 2021).

Children's School Lives

Children's School Lives (CSL) is a mixed method, longitudinal study of primary schooling in Ireland, following two cohorts of children in representative samples of schools from 2019 to 2024 (Sloan et al., 2021). Within one sample, Cohort A, the focus is on children who began Junior Infants in September 2019 and will be followed through to 2nd Class. The data collection captures rich information about how primary education in Ireland is experienced from the perspectives of children, their families, teachers and school principals. The data collected covers six overarching thematic areas: school and teaching cultures

(leadership, curriculum, pedagogy and assessment); equality, voice and inclusion; well-being; engagement; learning outcomes; school transitions. Each year, questionnaires are administered to each of the participant groups in 189 schools. Thirteen of these schools are also case study schools, in which CSL researchers spend extended time exploring in-depth everyday practices in these schools.

In relation to the findings from Cohort A (Junior infants), children were excited (46%) and happy (25%) to begin primary school and had positive experiences of their transition to school. Just a quarter of the children (25%) felt nervous. The family background reflects our increasingly diverse society. Parents identified as Irish (82%) some British (2%), and a total of 33 other nationalities were reported, the most common being Polish (3% of parents responding to the survey). The proportion of children in the sample reported by parents as having a long-standing illness, condition or disability was 9%. Three-fifths of parents (61%) were educated to degree level or higher compared to a national average of 39% in the Census 2016 (possibly reflecting greater motivation and ability to complete the questionnaire). The number of parents who consented and provided an email address was 29% (477 out of 1,619 parents). Parents rated their child's social and emotional development favourably. Over two-thirds of parents reported over 30 children's books in the home. Teachers focused on making children's experiences fun and enjoyable to enable them to settle in well and build relationships with them and their families. Despite the challenges of limited opportunities to undertake professional learning and development concerning play-based approaches, access to resources and time, teachers are engaging in playful teaching and learning for this age group. Children's families deeply appreciate the efforts made by the teachers to create a positive environment and help the children settle into school. Overall, this research paints a positive picture of children's lives in Junior Infant classrooms.

Conclusion

The policy landscape of the ECEC sector has changed since the introduction of *Aistear* in 2009. We now enjoy a rich diversity within Irish society and longitudinal studies that will enable us to make appropriate policy choices. There has been considerable progress in several areas concerning the development of ECEC in Ireland. A few highlights include the development of a universal, funded programme for two years before formal schooling with accompanying initiatives and online resources to support the use of *Aistear* in practice and the increased expansion, validation and further development of qualifications of the

ECEC sector. First 5, which involves a Whole-of-Government Strategy, for babies, young children and their families, aims to strengthen the infrastructure that supports the early childhood system up to 2028. Many "early years services are still challenged to deliver curricular programmes and to use the principles and goals of *Aistear* ... to inform planning and review processes" (DES, 2018, p. 17). It is, therefore, welcome to see a commitment in First 5 for a national plan to develop and implement *Aistear* in all ECEC settings for babies and young children, "including making the application of these frameworks a contractual requirement of ... funding schemes and give consideration to, over time, making adherence to the frameworks a statutory requirement" (GoI, 2019, p.157). *Aistear* has the potential to support the delivery of a child-led, emergent and meaningful play-based curriculum that puts children's rights and interests at the heart of the curriculum.

Chapter Two: Methodology and Search Outputs

This chapter presents the methodological approach to the Literature Review detailing the research scope and search strategy as well as the processes of appraisal, synthesis and critical analysis of the literature. In addition, PRISMA charts and mapping tables are produced for each Theme.

Approach to the Review

The Literature Review took a systematic approach, adopting a scoping review methodology (Arksey & O'Malley, 2005) to identify, explore and map contemporary national and international research on high-quality early childhood curricula that supports children's development and learning aligned with each of *Aistear's* four Themes.

The scoping review methodology considers the extent of existing literature within the field of interest to explore characteristics, commonalities, and shared issues and identify potential research gaps (Arksey & O'Malley, 2005; Armstrong et al., 2011; Levac et al., 2010). Scoping reviews offer a rigorous methodology that considers heterogeneous literature and studies within a broad Theme. While the selected studies and papers may differ in design and methodology, the scoping review allows for a descriptive overview of important themes and concepts rather than a critical appraisal or comparison of studies (Arksey & O'Malley, 2005; Booth, 2016; Levac et al., 2010; O'Brien et al., 2016).

This review applied the steps of the scoping methodology and framework developed by Arksey and O'Malley (2005), including a 'Consultation Exercise' (Arksey & O'Malley, 2005, p. 23) that provided an opportunity for contribution and feedback from the NCCA and a peer review panel to inform and validate the key findings. The steps are as follows:

1. Identify and refine the research aims
2. Develop a search strategy to identify relevant studies
3. Select studies that represent 'best-fit' with the research aims
4. Map the selected studies
5. Appraise, summarise and provide a narrative report
6. Consultation Exercise (NCCA and Peer Review Panel)

While the scoping methodology allows for exploring and mapping contemporary studies and literature relevant to *Aistear's* Themes, Aims and Learning Goals, the findings do

not purport to be conclusive. Rather, this Literature Review identifies key issues and emerging trends that can inform and guide the review and enhancement of the curriculum framework across the Themes of; Well-being, Identity and Belonging, Communicating and Exploring and Thinking (Grant & Booth, 2009; Levac et al., 2010; O'Brien et al., 2016).

Research Aims

Aistear plays a central role in children's experience and participation in early childhood education and care, and curriculum frameworks and guidance play an important part in enhancing quality experiences (Edwards, 2021). As such, content and guidance must be responsive to the context of children's lives and grounded in empirical evidence, international discourse and meaningful policy frameworks that support curriculum, pedagogy and assessment for early learning and development (Wood & Hedges, 2016). This Literature Review aims to contribute to updating the Aims and Learning Goals across the four Themes of *Aistear: the Early Childhood Curriculum Framework*, ensuring its continued relevance and impact and supplementing wider stakeholder engagement and consultation with educators and children. The aims of the Literature Review are to:

- provide a comprehensive review and summary of literature (2010-2021), with a focus on updating the research base that informs the Aims and Learning Goals of *Aistear* across the four Themes (Well-being, Identity and Belonging, Communicating and Exploring and Thinking)
- highlight the relevance of the existing Themes, Aims and Learning Goals of *Aistear* and identify any areas that require further development or refinement
- identify, explore and map relevant research, empirical studies and evidence-based approaches that inform the development of high-quality early childhood curricula

Search Strategy

The Literature Review considered scholarly research findings and relevant literature on early childhood education and care, specifically curriculum approaches and early learning frameworks that support and enhance children's learning and development from birth to six

years. The scope was restricted to peer-reviewed journal articles, book chapters and scholarly reviews published in English in the last eleven years (2010-2021). Education Research Complete, ERIC International, Web of Science, and PsycINFO were the preferred databases, given the breadth and depth of international scholarly literature and educational research and the functionality of search features. Searches of Google Scholar and ancestry and citation searching of references from prominent authors were also used to identify relevant 'grey literature' such as early childhood curriculum policy documents, handbooks, reports and commentary.

Key search terms were derived for each Theme using *Aistear's* existing Aims and Learning Goals (NCCA, 2009). Word Cloud software encodes word frequency information via font size (Viegas et al., 2009) was used to visualise key terminology for each Theme (Appendix 1). The more frequently a word occurred in the text of *Aistear's* Aims and Learning Goals for each Theme, the larger it is in the cloud. The word clouds indicate the frequency and focus within the Aims and Learning Goals to contribute to wider discussion and development of search keywords and terms. The Research Team considered the word clouds alongside *Aistear's* existing Aims and Goals (NCCA, 2009, p16-52) to ensure that the searches were grounded in the key principles and priorities of the framework. The research team then reviewed and redefined these terms as part of a wider consideration of key trends in policy, research and discourse in early childhood education and care. The terms and keywords were then considered across each Theme to ensure adequate coverage, avoid duplication and ensure continuity in searches across the four Themes.

The agreed search terms were then prepared with appropriate Boolean connectors and expanders adapted to the specification of each database (Booth et al., 2016). The database searches use a 'thesaurus' function to the list of terms to apply consistent labels, and searches are completed for words that describe the same concept or variants of the same term, for example; 'well-being, wellbeing and well being' or 'early childhood, early years, kindergarten, preschool'.

A Research Assistant applied the finalised search terms (Appendix 2) to the four databases (Education Research Complete, ERIC International, Web of Science, and PsycINFO) to ensure consistency. Searches were completed between November 2021 and January 2022. Duplicates, commentary and book reviews were removed, and the remaining articles were exported to Zotero, a reference management programme. The references were then exported from Zotero to Covidence, a workflow tool that assists systematic data screening, extraction and appraisal.

Selection of Studies

The search strategy yielded a significant number of searches, as detailed in Table 2.1. The Research Assistant and one of the Principal Investigators completed the initial screening of titles and abstracts to determine whether the studies related to *Aistear's* Themes and early childhood settings and curricula. The research teams for each of *Aistear's* four Themes completed a detailed eligibility screening of the remaining papers, reviewing titles, abstracts, and full text, applying the inclusion and exclusion criteria. Studies were selected for full-text review and appraisal based on relevance to the Theme, early childhood education and care and curriculum design and development.

Table 1 Summary of Screening and Selection

Theme	Initial Screening	Eligibility Screening	Full-Text Review
Well-being	852	180	33
Identity and Belonging	334	170	38
Communicating	653	190	55
Exploring and Thinking	348	157	23

Eligibility criteria (Table 2) were developed and refined for each Theme based on increasing familiarity with the literature during the initial screening. The review sought to identify studies, with no fixed research design, with a target population of children aged birth- to 6 years attending mainstream early childhood education and care. The purpose of the review was to consider studies that would identify areas of strength and potential areas for to enhancement of *Aistear* and the focus was on studies that considered early childhood curricula and learning frameworks to support children's early learning and development, pedagogical practices, and learning environment.

Studies that focused on specialist approaches, provision or highly individualised interventions for children with special additional needs and or disabilities were not included. Studies were excluded if the focus did not relate to early childhood education and care (i.e. parenting programmes), and if the study focused on experiences delivered by specialist professionals, i.e. play therapists, psychologists or research teams or outside the naturalistic context of the early childhood setting. The rationale for this exclusion was that the context,

pedagogical approaches and findings cannot be easily generalised or applied to a national curriculum framework.

Table 2 Eligibility Criteria

Studies	Participants	Focus of the Paper
Inclusion Criteria		
<ul style="list-style-type: none"> - Peer-reviewed publication - English only - Published 2010-2022 	<ul style="list-style-type: none"> - Children attending preschool settings (mainstream provision) - Early childhood educators/teachers - Age range of children: birth -6 years 	<ul style="list-style-type: none"> - ECEC curriculum or early learning frameworks - Aligned with <i>Aistear's</i> four Themes
Exclusion Criteria		
<ul style="list-style-type: none"> - Unpublished articles, conference proceedings, dissertations, abstracts, working papers or technical reports. 	<ul style="list-style-type: none"> - Parents - Teacher in Education/Training Programmes - Teacher CPD/ Teacher Attitudes/Teacher Attributes - Primary, Secondary or Higher Education Teachers 	<ul style="list-style-type: none"> - Parent-child interventions - Interventions delivered by non-school staff (psychologists, play therapists, research teams) - Interventions/ECE delivered outside the ECE setting - Focus on special educational provision (i.e. residential care for children with profound difficulties, specialised early childhood provision, i.e. ASD classes/ABA settings)

The PRISMA flowcharts (Appendix 3) illustrate the number of articles considered as part of each Theme's initial screening and quality appraisal. The PRISMA flowcharts also include any additional exclusion criterion based on the knowledge and insight of the research teams relevant to the Theme. The remaining studies were subject to mapping, full-text review, and appraisal following screening and selection.

Mapping of Studies

The selected studies are reported in Tables 2.3-2.6 that map; Author (s), Year of Publication, Title, Key Themes, Publication and Location for each Theme.

Appraisal, Summary and Narrative Report

The selected studies were subject to full-text review by the research teams. The process of full-text review required careful consideration of how the screened papers and studies aligned with the aims and objectives of the review. In particular, the studies were considered within the lens of the Theme, and with reference to *Aistear's* Principles, Aims and Learning Goals within the broader context of international early childhood curricula and frameworks, and contemporary approaches to curriculum in ECEC. Given the significant variation in study design, sample and context, complexity and measures, it was inappropriate to compare the studies directly. Key findings and recommendations for each Theme are discussed in Chapters Four to Seven. Given a dearth of studies focused on the experiences of infants and babies (birth to three years) in the context of early childhood curricula separate searches and scoping was completed and Chapter Three presents contemporary literature on children from birth to three across the four Themes of Well-being, Identity and Belonging, Communicating, and Exploring and Thinking.

Consultation Exercise

The research team sought feedback and commentary from NCCA and a panel of internationally recognised experts in early childhood. As part of the consultation exercise, the feedback was sought concerning:

- Relevance of the content to the Theme of *Aistear* (i.e. Well-being) and early childhood curriculum frameworks
- Clarity of theoretical and conceptual foundations
- Depth of reporting, including reference to relevant practice examples
- Application to broader ECEC policy and practice
- Specific suggestions for further refinement

Feedback from the NCCA and expert review panel was considered, and adjustments were made to the final report to reflect additional sources of information, perspectives, meaning and applicability. This included a significant review of the reporting structure to align with the Themes of *Aistear*.

Chapter Three: Addressing the Invisibility of Babies and Toddlers in the Literature

Author: Geraldine French

Abstract

There was a dearth of specific literature emerging on the Themes of *Aistear* in relation to curriculum and learning for children from birth to three years of age. In this Literature Review, the searches across the four Themes resulted in the identification of 149 studies, of which only 16 centred on curriculum and learning of children from birth to three years. Given the National Council for Curriculum and Assessment's (NCCA) commitment to highlighting the importance of learning experiences for babies, toddlers and young children, this Chapter responds to the gaps that emerged. This Chapter is written so as not to undermine the methodology adopted in this Review of Literature.

Please note that while much of the available literature focuses on children from three to six years of age, key concepts, approaches and practices outlined in Chapters Four to Seven are relevant to babies and toddlers. In the context of the updating of *Aistear* (NCCA, 2009), this Chapter explores the importance of children from birth to three years, and the requirement to build relationships through a slow relational pedagogy in order to flourish, which encompasses all the Themes of *Aistear*. In relation to the Theme of Well-being, enabling attachments through a key person approach and the importance of physical activity are discussed. The Theme of Identity and Belonging focuses on a sense of self and the rights of babies and toddlers. The Theme of Communicating centres on oral language development and emergent literacy. Finally, the Theme of Exploring and Thinking highlights babies and toddlers as agentic active citizens and play as a means to support their explorations and thoughts.

Introduction

The learning of children from birth to three years was not evidenced in this Literature Review, and requires particular attention. Other reviews concerning early childhood curricula highlight the invisibility of babies and toddlers (Barblett et al., 2021); therefore, educators' ability to plan for this age group is restricted (Davis et al., 2015). In part, the absence of such studies reflects the scoping review methodology, which was underpinned by a focus on curriculum and learning. Furthermore, there are methodological challenges and limitations in

interpreting the experiences of babies. In this Literature Review, 16 studies out of 149 centred on the learning and development of children from birth to three years. In one study, the findings were explicit in highlighting the invisibility of infants, specifically concerning research and policy on nutrition and feeding practices in early childhood settings (McGuire et al., 2018).

The literature searches discovered 33 documents on the Theme of Well-being. Of those 33, nine focused on children from birth or toddlers. Two studies stipulate that their sample/participants are aged from birth, but these studies do not make any specific reference to babies or toddlers; the content is related to older children (Baker et al., 2021; Engdahl, 2015). Others (Clarke et al., 2021; Kangas et al., 2016; McGuire et al., 2018; Nekitsing et al., 2018; Svinth, 2018; Tonge et al., 2020; van Krieken Robson, 2019) broadly focussed on this age range. The 38 empirical research articles featuring the Theme of Identity and Belonging focus mainly on policy development for children from birth to eight years of age. Only one study (Shaik et al., 2021) is conducted with two to five-year-olds. Otherwise, there is no specific research on curriculum and learning for children from birth to three years of age. Of the 55 documents relating to Communicating, just 11 related to babies and toddlers, with the majority of those for children aged more than one year; these were all considered small-scale studies, with one Irish exception (McNally & Quigley, 2014). The 23 studies on the Theme of Exploring and Thinking contained six studies about children from birth (Cohrssen et al., 2013; Edwards & Cutter-Mackenzie, 2013; Engdahl, 2015). Hedges and Cooper (2014) focussed on children from six months; Franzén (2015) studied 13 one to three-year-olds in preschool settings, while Flear (2011) included nine children from one year-and-a-quarter to four-and-a-third year in her research.

Given the NCCA's commitment to highlighting the importance of children from birth to three years and the need not to undermine the systematic approach taken in adopting a Scoping Review methodology, this Chapter has been drafted to respond to the gaps in the literature that emerged. In the context of *Aistear*, this Chapter explores the importance of children from birth to three years and the requirement for them to build relationships through a slow relational pedagogy to flourish. Relationships are specifically encompassed in the Themes of Well-being and Identity and Belonging and, and it could be argued, Communicating and Exploring and Thinking. Topics are then addressed within each of the four Themes. Enabling attachments through a key person approach and the importance of physical activity are discussed under the Theme of Well-being. The Theme of Identity and Belonging focuses on a sense of self and the rights of babies and toddlers. The Theme of

Communicating centres on oral language development and emergent literacy. Finally, the Theme of Exploring and Thinking highlights babies and toddlers as agentic active citizens and play as a means to support their explorations and thoughts.

The Importance of Children from Birth to Three

Early childhood is a time of rapid learning and development. Neuroscience highlights that from birth to six years of age a child's brain has reached about 90% of its adult volume (Shuey & Kankaras, 2018). Synapses (brain connections from one neuron to another) multiply 20-fold in the first 1000 days, producing more than a million neural connections each second (Gerhardt, 2005). What is going on in a baby's brains is "nothing short of rocket science" (Kuhl, 2010). There is recognition that experience, not simple maturation, changes the brain and that all learning happens in the context of relationships. In other words, the brain is an organ that changes, in interactive and complex ways, through relational experiences with others (Lebedeva, 2018). This growth depends, in part, on the kind of experiences the baby and toddler receive as they learn and develop from the first day of birth in every context in which they find themselves.

Repetition of positive and negative emotional experiences affects the brain's architecture and creates mental working models that ultimately lead to how children construct responses to habitual events. Prolonged negative experiences in the form of 'toxic stress' (stress where babies and toddlers have no control over their situation) are a risk factor for babies' and toddlers' mental health, immune system, brain development, cognitive functioning, and emotional well-being (Dalli et al., 2011). The complexity of children's development at this age requires particularly nurturing and responsive support from the adults around them.

Arguments as to why we should pay attention to children from birth in relation to supporting their learning and development are outlined elsewhere (see French, 2018; French, 2019; French, 2021; Shuey & Kankaras, 2018). The arguments include: the under-estimated capacities of babies, the acceleration of brain development at this time, the research and public policies that focus on the impact of quality ECEC and young children's right to optimal experiences, the impact of poor quality ECEC, and finally how this particular time of life builds the foundation for all later learning and development. Strong early learning experiences "positively predict well-being across a range of indicators in adulthood, including general well-being, physical and mental health, educational attainment and employment" (Shuey & Kankaras, 2018, p.4). Indeed, it has been hypothesised that

substantially better outcomes for vulnerable young children who face adversity and educational inequality “could be achieved by greater attention to strengthening the resources and capabilities of the adults who care for them rather ... than ... the provision of child-focused enrichment, parenting education, and informal support” (Shonkoff & Fisher, 2013, p. 1635). This speaks to what educators do within relationships, environments and experiences in their daily care of young children (Benson McMullen et al., 2016). The approach to curriculum and pedagogy and the design of programmes appear to be vital (Leseman, 2009).

Building Relationships through a Slow Relational Pedagogy

Within *Aistear*, the importance of loving relationships is foregrounded. “Children learn through loving, trusting and respectful relationships” (NCCA, 2009, p. 6). Relationships form part of the underpinning principles of learning and development about children’s connections with others and are central to the Themes of Well-being and Exploring and Thinking (NCCA, 2009). The literature on babies and toddlers confirms the centrality of relationships emphasised within *Aistear* and promotes a slow relational pedagogy throughout all aspects of the daily routine, including care routines.

It can be difficult for educators and policymakers to define pedagogy for children aged from birth to three-year-old. To do so requires a shift in thinking from the idea of pedagogy as "teaching and learning" to that of "learning and emotional nurturance" (French, 2019, p. 6). Combining the research evidence on 'relational pedagogy' with babies and toddlers in group-based settings (Dalli et al., 2011) with Clark's promotion of the need for time for listening, slow pedagogy, and slow knowledge, the concept of slow relational pedagogy emerges. Clark (2021, pp. 142-143) refers to "lingering, revisiting, rethinking... listening again or differently" or "dwelling"; this requires attention to tempo, pace, place, materials, the adult's role, and the discomfort of uncertainty. Very young children require sensitive, responsive caregiving from educators who are attuned to them, affectionate, and available, and who use all aspects of the daily routine to enhance their learning and development (French, 2021). In early childhood settings, "the routines of caring for children under age 3 (e.g., feeding, nappy changing) are equally important aspects of education and care" (OECD, 2020, p. 84).

Babies and toddlers experience many transitions within their daily routines, which demand individualised support (OECD, 2020). A transition is a process of moving from one situation to another and taking time to adjust (NCCA, 2015, p. 297). Routines that are consistent and expected help to alleviate the potential stress that exists for babies and toddlers

when faced with changes. Young children benefit from the security of knowing what comes next but also that the routine builds on babies' natural rhythms and can bend when required to suit individual needs (French, 2018).

Endorsing *Aistear's* emphasis on engaging with babies and toddlers, slow relational pedagogy involves meeting these care, play, and emotional needs of babies in a "consistent, calm, caring and respectful manner" (NCCA, 2009, p.18). Babies and toddlers need those around them to follow their lead and focus on them as people (not just the caring task). Bodily care routines are proactively seen by adults as opportunities for learning and managed in a calm, unhurried, interactive way, with the young child given time and space to eat at their own pace, to be held and physically moved with respect. As children develop, they are afforded increasing independence and opportunities to master skills, e.g., feeding themselves, climbing the steps to lie down on the nappy changing table. Clark (2021) asks the question, how can we be with very young children in a slow way?

To apply this to the experiences of young children in ECEC settings, we can consider: How can we be together with a baby and toddler in a slow way when arriving and leaving the setting; when changing a nappy; when feeding; when sharing books; when playing; when outside? The specific features of engaging in a slow relational pedagogy include the importance of attunement, responsiveness, supporting intentions, emotional and physical presence, being an interesting companion, and self-regulation (see also French 2018 and French 2019).

Aistear affords the opportunity to strengthen the capabilities of those supporting babies' and toddlers' early learning experiences and development. All domains of their development are interdependent and the interconnected Themes of Well-being, Identity and Belonging, Communicating, and Exploring and Thinking support that understanding.

Theme: Well-being

In *Aistear* the Theme of Well-being focuses on developing as a person with two main elements: psychological well-being (including feeling and thinking) and physical well-being (NCCA, 2009). This is important as studies focusing on well-being and health demonstrate the link between what happens in early childhood and later outcomes (Shuey & Kankaras, 2018).

Enabling Attachment through the Key Person Approach

For babies and toddlers to become strong psychologically and socially, as recommended in *Aistear*, early childhood educators, parents, and carers must build attachment with babies and reciprocal (give and take), nurturing relationships (NCCA, 2009). Relational pedagogy for this age group is underpinned by attachment theory (Bowlby, 1997). Most babies form a strong attachment to their primary caregivers, who are usually, but not always, parents. The quality of the attachment between the baby and this primary caregiver needs to be mirrored in the early childhood setting between babies and educators (French, 2018). Whilst *Aistear* endorses attachment, the mechanism through which attachment is built could be strengthened. Babies need the stability of an enduring and personal relationship with a person who will recognise that they have special interests. They can only begin to develop preferences in close, personal, daily interactions with someone who knows them well (Jackson & Forbes, 2015). “We can never remind ourselves too often that a [particularly young] child ... is the only person in the nursery who cannot understand why he is there. He can only explain it as abandonment, and unless he is helped in a positive and affectionate way, this will mean levels of anxiety greater than he can tolerate” (Goldschmied & Jackson, 1994, p.37). The relationship between the child and the educator is strengthened by using the key person approach.

Goldschmied and Jackson created the concept of the "key person" in 1994 to offset the negative and disruptive impacts of abrupt changes in personnel for babies and toddlers related to high educator turnover (Jackson & Forbes, 2015). In Ireland, the annual staff turnover rate in the twelve months up to June 2019 was 23.4% (Pobal, 2019). Similar turnover rates exist in the UK (Jackson & Forbes, 2015) and internationally (OECD, 2020). This is detrimental to babies and toddlers as repeated 'detaching' and 're-attaching' to people who matter is emotionally distressing and can lead to enduring problems. Being "handled by many different people—each with their different way of holding, soothing, talking to and changing the child's nappy...impedes babies' sense-making" (Fleer & Linke, 2016, p. 9). A key person is assigned to, and has special responsibility for, a small number of children and helps each child build a special bond of belonging in the ECEC setting. Ideally, children up to three years of age should have the same key person who engages with parents in all transitions and intimate bodily care routines, benefiting from a secondary key person throughout the day (French, 2019). These practices contribute to the babies' and toddlers' positive outlook on learning and life and their sense of well-being.

Researchers from Harvard University report that "a vital and productive society with a prosperous and sustainable future is built on a foundation of healthy child development" (Center on the Developing Child [CDC], 2010, p. 2). A range of factors such as socio-economic status, education, the mental health of parents, and the number of parents involved in a child's life are of great importance for babies' emotional and social well-being (Russell et al., 2016). High-quality care in a centre offsets the potential negative impacts of social, economic, and educational inequality and family factors. A key factor is the quality of children's experience (Russell et al., 2016). However, we know that the quality of babies' and toddlers' experiences depends on the quality of relationships between the child and the educator. Emotional well-being is supported by close, warm, supportive relationships that enable a person to express emotions of joy, sadness, fear and frustration, leading to the development of strategies to cope with challenging, new, or stressful situations (David et al., 2003). In addition to the key person approach, creating a climate of trust; being an interesting companion with babies; supporting babies' intentions; self-regulation through interactions; and, ultimately, responsive communication with babies are all strategies to support the development of attachment and positive infant mental health (see French, 2018). It is important to focus on babies' and toddlers' mental health, to support their well-being, mitigate against adverse childhood experiences, and prevent emotional trauma through predictable, consistent nurturing.

Aistear advocates for many strategies that enhance relationships between children and caregivers (NCCA, 2009). A relatively new concept, Infant Mental Health, has emerged and could be considered part of strategies to enhance the learning of all children, particularly those living in adverse circumstances. Infant mental health (IMH) is the state of emotional and social competence of young children (Morrison, 2014). Selma Fraiberg and her colleagues in Michigan, USA, originally pioneered the area of infant mental health in the 1970s. IMH is an interdisciplinary field of theory, research, practice, and policy concerned with supporting the development of a young child's mental health by supporting the relationships between babies and toddlers and their primary caregivers (Simpson et al., 2016).

A detailed exploration of the impact of parental mental illness, problem drinking, drug misuse, or domestic violence on children's health and well-being at different stages of life (risk factors) showed that the short and long-term consequences for children would depend on the combination of resilience and protective factors (Cleaver et al., 2011). Protective factors include: the parent's social connections (friends and family), practical support in times of need, knowledge of child development, ability to bounce back when challenged, and

children's ability to interact well with others and regulate themselves (Center for the Study of Social Policy, n.d.). Children experiencing risk factors do not necessarily display behavioural or emotional problems; many thrive and do very well. However, when more than one problem exists or risk factors combine the likelihood of problems for children increases.

In relation to babies and toddlers, the younger the child, the more vulnerable they are to the impact of adversity and inconsistent and ineffective parenting (Cleaver et al., 2011). There is an increasing focus in Ireland on IMH. The Department of Children, Disability, Equality, Integration and Youth (DCDEIY) funds the Area Based Childhood (ABC) Programme, which is delivered through the Prevention Partnership and Family Support Programme (PPFS) within Tusla. Led by Youngballymun and Let's Grow Together, ABCs are placing infant and early childhood mental health needs at the forefront of their work and have published a Framework for Infant and Early Childhood Mental Health to address fidelity and consistency across Programmes (see Brocklesby & Scales, 2022).

In addition to the risk factors mentioned earlier, poverty, homelessness, abuse, rejection by parents, absence of loving relationships, violence, and poor child-rearing practices are all potential risks. Chronic malnutrition in this period can affect cognitive performance, emotional well-being, infant mental health, social interactions, and physical agility. Children who are neglected or in a permanent or semi-permanent state of fear or stress demonstrate more language issues, "attention problems... academic difficulties, withdrawn behaviour, and problems with peer interaction as they get older" (CDC, 2016, p.15). In *Aistear*, infant mental health is about relationships between babies, parents, ECEC settings, and other services in the community. In ECEC settings, the following will support infant mental health (Morrison, 2014): stability and continuity of care; within that, responsive care manifested through individualised attention, sharing the baby's strengths with parents; noticing babies' subtle cues for attention; responsive care without over-stimulation; and cultural sensitivity to family values and parenting practices. The importance of the dynamic interaction of babies, toddlers, and their physical environment and the significance of play (see Exploring and Thinking below) in supporting babies' and toddlers' mental health is acknowledged (Weissman & Hendrick, 2014).

Physical health is also crucial to well-being. "Physical well-being is important for learning and development as this enables children to explore, to investigate, and to challenge themselves in the environment" (NCCA, 2009, p.16). Early childhood educators and families must work together to support the physical well-being of babies and toddlers, including their

general health, rest, nutrition, resistance to infection, immunisations from certain diseases, and physical activity.

Physical Health and Activity

Aistear suggests various ways to enhance babies' physical activity, such as enabling them to explore and manipulate objects sensorially, strengthen their muscles, and crawl up ramps. Adults are encouraged to ensure toddlers get adequate rest and nutrition and provide opportunities to strengthen toddlers' muscles, refine skills, and enhance hand-eye coordination (NCCA, 2009). There is a sound rationale for those recommendations. International reviews have emphasised the variation in the provisions for and encouragement of physical activity in ECEC settings (O'Brien et al., 2018; Saunders et al., 2019). Physical activity should be built into the daily routine for all children, including babies and toddlers and the World Health Organisation has provided guidelines for physical activity, sedentary behaviour, and sleep to promote healthy routines and address rising obesity rates in children (World Health Organisation [WHO], 2019). Babies of less than one year should be physically active several times a day in various ways, particularly through interactive floor-based play (more is better, see more on the topic of play in the Theme of Exploring and Thinking below). Babies that are not yet mobile should spend a *minimum* of 30 minutes in a prone position (tummy time) spread throughout the day while awake. Babies should never be restrained for more than one hour at a time (e.g., in prams, high chairs, or strapped on a caregiver's back), and screen time is not recommended. When sedentary, engaging in reading and storytelling with an adult is encouraged (see also Communicating below). Babies from birth to three months of age should have 14–17 hours of quality sleep, with 12–16 hours for those from four to 11 months, including naps (WHO, 2019).

Toddlers aged one to two years should spend a *minimum* of 180 minutes in physical activity of various intensities (more is better). Toddlers should never be restrained for more than one hour at a time, and screen time is not recommended for children up to the age of two. From then, no more than one hour of screen time per day is recommended (less is better). 11–14 hours of good quality sleep, including naps, is recommended, with regular sleep and wake-up times.

Movement is at the heart of well-being, learning, and development. Babies and toddlers should be active in everything they do – holistic movement experiences should be integrated into the day (White, 2015). Freely available spontaneous movement and play opportunities offer children much more learning potential than an adult-devised programme.

The environmental design, planning, and provision support spontaneous play and movement to maximise physical development (White, 2015). Babies and toddlers must experience fresh air outdoors daily for sound physical health. There are many benefits to providing outdoor experiences for babies and toddlers:

- Cool and colder air improves appetite and energises people (of all ages);
- Exercise and fresh air support babies' natural rhythm of sleep and wakefulness;
- Cooler outdoor air generally contains more moisture and is easier on the body's airways and immune system than drier heated indoor air (see French, 2018 for more information on ideal outdoor environments).

Research into toddlers' risk-taking and risky play experiences emphasises the opportunities provided by well-planned and exciting outdoor environments (Little & Stapleton, 2021). Outdoor experiences and play put babies and toddlers in direct interaction with nature and living things, which is key to creativity and spirituality (NCCA, 2009). In *Aistear*, creativity and spirituality are conceptualised within the holistic learning and development principles and form one of the key Aims (NCCA, 2009). Humans (including very young children) have a deep-seated drive to search for meaning and values in their lives, which is afforded by spirituality (Daly, 2004). "Spirituality is interactive and social; it needs language, rituals, nurturance, a community", and love is at its core (Daly, 2004, p. 218).

Spirituality in children is manifested through their natural openness and joyful embracing of life; children's creativity and imaginations must be nurtured. Spirituality is broader than religion and is found in wonder, awe, responses to human and natural beauty in the environment, pain, and loss, accessing stillness and peace, living in the present, positive thinking and hope (Daly, 2004). *Aistear* encourages experiences of the natural environment outdoors for babies and toddlers (NCCA, 2009). This is appropriate as spirituality is presented in the literature as associated with feelings of belonging and connectedness, especially with strong relationships with people and surroundings (Baskin, 2016). The role of early childhood education and care is not to occupy and amuse children but to offer real experiences that are absorbing, challenging, and authentic (Katz, 2010). For babies and toddlers, such experiences include being part of everyday life, engaging in daily routines, feeling the fresh air on their faces and having the freedom to explore. Emphasising spirituality in ECEC may allow for an environment of empowerment, acceptance, harmony, and a more authentic way of being together.

Creativity is part of spiritual development. Visual and tactile art, literature, rhyme, music, drama and free play are means of communication and can affirm a child's experiences (Daly, 2004). The act of creating offers an open approach to fresh possibilities, problem-solving, ideas, and life. In the context of babies and toddlers slowing down, stopping and closely examining things that interest them, and marvelling at their discoveries form part of children's spiritual development in the company of attentive adults.

As advocated in *Aistear*, babies and toddlers must be enabled to explore objects in a multi-sensorial way so that they can smell, taste, hear, see, touch, reach, grasp, lift, and drop objects and explore their immediate environment (NCCA, 2009). The relationship between listening and silence is highlighted. Being comfortable with silence allows for quiet pauses in the soundscape to connect with nature and cultivate the art of listening. "Current research suggests that a daily dose of silence is imperative to developing original thought and creative ideas" (Garboden Murray, 2022).

Theme: Identity and Belonging

Aistear's Theme of Identity and Belonging is about children developing a positive sense of who they are and feeling valued and respected as part of a family and community (NCCA, 2009). This emphasis is warranted as Ireland is an increasingly diverse society, and it is essential that children learn from birth to respect their own identity and that of other individuals and groups. As mentioned above, for babies and toddlers to develop a sense of identity and self-worth necessary to thrive and become confident, they must experience intimate, responsive, and trusting relationships.

Sense of Self

In the first few years of life, babies and toddlers are on a journey to discover and develop a "sense of self in relation to others" (Bruce, 2015, p. 56). As much of the research tells us, babies' thinking is more complex than was previously understood. Crowley (2014) cites research undertaken by Dondi et al. (1999), which provides evidence that new-borns have some awareness of self as distinct from others. The researchers demonstrated that new-borns become distressed when they hear another baby cry, but not when they hear a recording of themselves crying. Babies are on a quest to know 'where do I', as a baby, end, and 'where do you', as another person (and the world), begin (French, 2018)? Babies need to see the impact they can have, for example, to kick at a mobile and make it move; experiences like this support the baby to see things as separate from themselves.

The capacity of babies to recognise themselves in a mirror and differentiate themselves from others is a clear indicator of a developing sense of self. Researchers placed babies from nine to 24 months in front of a mirror and observed their reactions (Lewis & Brooks-Gunn, 1979). Babies as young as 9–12 months indicated that they noticed the change in their appearance when rouge was placed on their nose by touching it.

In the beginning, babies see others as thinking the same way they do. However, developments in cognition and language contribute to an emerging sense of self. Babies gradually develop a theory of mind (Manning-Morton & Thorp, 2015), realising that others have different likes, dislikes, thoughts, beliefs, and so on than themselves. For example, their friend likes yoghurt, but they do not. With increasing vocabulary and understanding that others differ, very young children begin to categorise themselves, for example, based on age (baby, 'big school') and being ('I a good person') (Crowley, 2014).

The development of a positive sense of self (identity) is inextricably bound up with successful attachment relationships. Acquiring an identity as loveable, respected, valued, sensitive, open to new experiences, a curious inquirer and explorer all require the baby's consistent experiences of love, respect, affection, attunement, support, and positive responses to their initiatives by the majority of the people with whom they interact.

Adopting anti-bias goals for early childhood education will support babies' identity and belonging. These goals are centred on the following four themes: identity, diversity, justice, and activism for all children (Derman-Sparks & Edwards, 2016, p.14). They are adapted for babies and toddlers here. To promote children's sense of identity, *Aistear* asserts that each child will demonstrate self-awareness, confidence, family pride, and positive social/group identities. This means that within early childhood settings, children's fore and surnames will be learned and pronounced properly, and they will feel they and their families are loved and accepted by the setting. In relation to diversity, each child will express comfort and joy with human diversity, accurate language for human differences, and deep, caring human connections. Babies should be exposed to opportunities that notice, name, respect, and celebrate differences, 'My skin is black; yours is white'. Social justice approaches encourage opportunities that recognise unfairness (injustice) and the hurt it causes and language to describe unfairness. Babies can learn from experiences of fairness in sharing toys, equipment, and time, and with the support of adults, become familiar with concepts of fair and unfair based on words, gestures, and expression. Even very young children have a sense of fairness and kindness toward others and the capacity for empathy. Providing children with supported experiences to notice and overcome unfairness can prepare babies to demonstrate a sense of

empowerment and the skills to act with others or alone against prejudice and discriminatory actions.

Children's sense of self is connected to their self-esteem and how they feel valued and respected as part of a family and community (NCCA, 2009). Belonging is about having a secure relationship with or a connection with a particular group of people (NCCA, 2009). Babies and toddlers in Ireland come from a diversity of family backgrounds. Background can refer to an individual's ethnicity, culture, religion, and language of origin, in addition to social, economic, and family status. Culture refers to the ethnic identity, language, and traditions and includes factors such as: education, class, food, and eating habits, family attitudes to child-rearing, and division of family roles according to gender or age. Children's sense of self involves feelings of belonging, shared identity, and understanding. Cultures are neither superior nor inferior to each other. Culture is dynamic and evolves for individuals, families, and communities over time (Mathers et al., 2014). Ideally, professional practices reflect the families' values and beliefs and cultures of their communities (Dalli et al., 2011). As recommended in *Aistear*, in their work with families, educators embrace and respect difference (NCCA, 2009). The literature now recommends a move for educators to strive to become more culturally competent (Parkhouse et al., 2019; Trimmer et al., 2021) and to take culturally responsive actions. For example, effective programmes/partnerships include community engagement as a two-way process involving knowledge of the community served (cultural competency), leadership, authentic community engagement in decision-making, curriculum implementation, and a shared vision and goals (Trimmer et al., 2021). Parkhouse et al. (2019) recorded that approaches sometimes resulted in superficial and simplistic inclusion of minority figures or cultures without recognising the power differentials accompanying cultural differences. The importance of 'culturally sustaining pedagogy' (p. 417) has been developed to emphasise that marginalised cultures and communities must be actively maintained, not merely accommodated and that cultures are complex and fluid (Paris & Alim, 2017). Culturally sustaining pedagogies are rooted in multicultural education, where the focus on equity marks a departure from the classification of culturally diverse students as having a cultural deficit (Kelly et al., 2021).

Respect-based partnership with families is key, which means deeply engaging with families and in practices that promote diversity and inclusion. This involves sharing of information, skills, decision-making, responsibility, and accountability. There are three important dimensions of effective family engagement (Mathers et al., 2014). (1) Taking account of families' priorities, preferences, and cultural differences in all aspects of planning

and implementing the curriculum. (2) Ensuring procedures are in place for regular and continual two-way communication between educators and families. (3) Educators notice and respond to signs of stress in the family or other challenges to supporting children's learning and development (Mathers et al., 2014). Further details are provided in the Diversity, Equality and Inclusion Charter and Guidelines for Early Childhood Care and Education (Department of Children and Youth Affairs, 2016). Through supportive family involvement, parents are recognised as the first educators of their children, with duties and rights to participate in their child's learning and development. Early childhood educators must be sensitive to a family's standards and not undermine them, even if they do not agree with the family's concept of a 'good' baby. On the other hand, it is equally essential that educators protect the welfare of the community of children they have responsibility for (Katz, 2010); children also have rights which need to be upheld.

Babies' and Toddlers' Rights

In *Aistear*, children's rights are stressed in that they can express their rights and regard the rights of others (NCCA, 2009). The UN Convention on the Rights of the Child (UNCRC) (United Nations, 1989) is the most significant basis for global policy development on behalf of young children, including babies. It requires that governments ensure that all children be respected as persons in their own right and places an obligation on national governments to make regular reports to the UN Committee on the Rights of the Child. Lundy advises in her six-P framework (principles, process, participation, partnership, public budgeting, and publicity) that a rights-based approach requires explicit reference to the CRC. Meaningful participation means that children's views are given due weight; in other words, they have a voice concerning matters that affect them (Byrne & Lundy, 2019). Such an approach requires a focus "not just on rights-holders and their outcomes but also on their substantive rights and the information, resources and collaboration required to make them a reality" (Byrne & Lundy, 2019, p. 357).

As part of these rights, babies and toddlers need help in making sense of their experiences in order to be able to express their rights and value those of others. The adults' role in early childhood is to aid children to 'improve, extend, refine, develop and deepen their own understandings or constructions of their own world' (Katz, 2010, p. 6). Babies and toddlers need educators to support them to explore and to narrate what is happening. They also need authoritative educators who acknowledge children's rights and exercise their very considerable power over children with warmth, support, encouragement, and adequate

explanations of the limits imposed upon them. Authoritative educators treat children's ideas, wishes, and viewpoints as valid, even if they do not agree with them – in other words, they treat babies and toddlers with respect (Katz, 2010). For example, some babies love to be hugged and kissed; others do not. Some children seek independence and autonomy without adult interference, while others prefer support and guidance. Katz calls this her "principle of optimum effects"; this approach highlights the importance of knowing about each child deeply and supporting its identity and belonging. The basics of optimum development for babies and toddlers are a sense of safety; optimum self-esteem; feeling that life is worth living; help with making sense of experience; authoritative educators; and desirable role models (Katz, 2010). Anti-bias approach and culturally responsive practice in ECEC are as relevant to babies and toddlers as to older children; adherence to the key principles will support all babies' identity and sense of belonging.

Babies and toddlers arrive into ECEC settings with their interests and individualised agenda for learning which requires respect; this could be given greater emphasis in a revised *Aistear*. Children's interests emerge from their experiences and participation in family and community life; a 'funds of knowledge' approach is underpinned by this notion (Hedges et al., 2011). Children bring their personalised curriculum and learning experiences based on their unique contexts, are motivated to explore and learn through seeing, hearing, feeling, tasting, and touching. For example, a baby from an ardent GAA family will likely have jerseys, soft balls, and baby hurls and has experience of going to training, matches, and so on. That is part of her curriculum. In this context, the educator provides a curriculum which could include photos of the local GAA pitch, photos of siblings and babies wearing jerseys, teddy wearing a jersey, visits to the pitch, stories, and so on (French, 2018). As they may not initially communicate in words what they are thinking and feeling or their questions and interests, they rely on adults to observe and interpret their cues and give them a voice. The curriculum for babies and toddlers cannot be written in a list of what to do and when to do it – this goes against getting to know them, understanding their communications and responding (Fleer & Linke, 2016). The younger the child, the greater their inability to wait. Educators need to respond to babies and toddlers in the moment, focusing on their competencies, what they are communicating during the daily routines of feeding, nappy changing, going to sleep, and playing and exploring and responding appropriately; this requires intimate knowledge of the child, reading the signals of each and sensitively (French, 2021). Greater emphasis on babies' and toddlers' individual curricula, their rights, and supporting their voice to be heard could be highlighted in a revised *Aistear*.

Theme: Communicating

In *Aistear* the Theme of Communicating is about children sharing their experiences, thoughts, ideas, and feelings with others with growing confidence and competence in various ways and for various purposes (NCCA, 2009). The literature endorses the criticality of focusing on communicating as a Theme. Studies, which cross disciplines from neuroscience, psychology, machine learning, and education, have further confirmed that language is developmentally linked with cognition and social processes (Dalli, 2014). A quality dimension in ECEC consistently identified in the literature for children under three years is the "support for children's developing communication skills through play and routines" (Mathers et al., 2014, p. 38). Oral language development from birth to four years predicts reading comprehension in later years (Language and Reading Research Consortium & Chiu, 2018); therefore, the focus of this subsection is on oral language development and emergent literacy in the context of babies and toddlers.

Oral Language Development

What children communicate and express, from gesturing to babbling to speaking, is now highlighted in research, with a focus on understanding language acquisition and development in young children (Shiel et al., 2012). Early communication is led not by the mouth but by the hands through gesture, which is retained across the lifespan, e.g., babies point to things they want adults to see; as adults, we use our hands for emphasis or expressing a feeling (Novak & Goldin-Meadow, 2022). Gesture, combined with language, is linked to cognitive advancements, by affording an opportunity to see children's conceptual state and by playing a practical role in the learning process itself. Evidence indicates that delays in symbolic gesture production might signpost greater concerns for cognitive or language development (Novak & Goldin-Meadow, 2022). Educators use iconic gestures; this refers to a gesture that represents features of the object or the word's meaning. For example, gestures to demonstrate high or low, imitate sniffing a flower, or cupping hands in the shape of a ball while using the word. These gestures have meaning and are imitated by children who use them as symbols or signs (Novak & Goldin-Meadow, 2022). The use of gestures is not to be confused with baby sign language. Although proving popular for children less than three years old, there is "no convincing evidence that exposure to symbolic gesture intervention is associated with benefits in language acquisition for typically developing children" (Fitzpatrick et al., 2014. p 503).

Speech perception starts before birth and continues actively during the first months of life. Babies know a lot about language before they ever speak. Early vocalisation and babbling are critically important. While the sounds of 'bababaa...dadadaa' might seem unintelligible, they signal a very important stage in children's language development. McGillion and colleagues (2017) found that the age at which a baby starts to babble predicts when they will say their first words. Increased vocabulary acquisition is typically accompanied by: increased volume of early vocalisations at six months, increased complexity of babbling (multisyllabic, reduplicate [repeated syllables consisting of consonant and a vowel such as 'da da' or 'ma ma'], variegated (combine different sounds and syllables like 'magaga') and specific use of consonants (Morgan & Wren, 2018). Whilst there is individual variation in early vocalisations, babbling is seen as a useful indicator for children who are later identified as language impaired (Morgan & Wren, 2018). Therefore, understanding early phonetic (speech sounds) development in babbling is important due to its contribution to speech and language development and potential for early intervention (Morgan & Wren, 2018).

Bilingual babies and toddlers (those who speak more than one language) not only keep pace with their monolingual peers but show enhanced development in some other aspects of their cognitive development (Sebastián-Gallés, 2010). Through language, children appropriate their culture, seek the cooperation of others in their activities, integrate new experiences into an existing knowledge base, and reflect on their actions. To provide appropriate scaffolding for children in learning and developing, a shared context of meaning and experience must be established; the adult often needs to interpret or expand on what children say, their gestures, and mark-making. Through shared experiences, children gradually make sense of the world and adult meaning (French, 2018). As with all facets of children's learning, this process requires a close and nurturing relationship between adult and child.

Some level of language development occurs naturally through children's experience of a language-rich environment (French, 2019). Babies and toddlers are primed to socialise, communicate, and find other children fascinating. As a result, opportunities for babies and toddlers to interact with their peers are essential. Babies develop conversational and social skills by babbling, gurgling, playing, and socialising with peers. Babies need opportunities to understand turn-taking, sharing, and initiating conversations. Support and development of children's language capacities require the engagement of knowledgeable adults and encouragement of children's verbal expression (Shiel et al., 2012). In learning about

language, "babies appear to use the three social skills of; imitation, shared attention and empathetic understanding" (Dalli, 2014, p.3).

For various developmental reasons, some babies may never acquire fluent speech, and some may use assistive communication technologies (devices that help a person with hearing loss or a voice, speech, or language impairment to communicate). Every human being communicates, and educators can acknowledge and support different modes of communication. Educators can develop their understanding and employ appropriate techniques when children have specific needs due to hearing, vision, or communication issues (Graham, 2017).

As children learn to use language, pedagogical practices that support their development are informal conversations, songs, and rhymes with movements, shared reading and narrative during daily routines (Mathers et al., 2014). Educators using speech that is varied in words, syntactical structure, and grammatical complexity supports language acquisition, understanding, and production of language (Zauche et al., 2016). Narration is particularly important and involves the retelling and recall of children's experiences. It allows children to give meaning to the range of their experiences, develops their vocabulary, helps develop tools for thinking, and supports children's appreciation of their achievements. However, not all language exposure is beneficial for children's learning; it is important to note that directives/interventions that change the focus of a child's attention harm their language development (Topping et al., 2013). Through their speech, children demonstrate their understanding of the meanings of words and later written materials. Children's early experiences of communication and oral language skills underpin their literacy development. Emergent literacy depends on children's vocabulary development and experiences with books and print, and is the focus of the next section.

Emergent Literacy

For very young children, definitions of literacy include listening and communicating, reaching, grasping, exploring objects, problem-solving, engaging with texts (books or other written or printed work) and other media (digital technologies such as computer-based texts, images, voice, and music recordings or games on mobile phones, photographs, that provide information about a subject), singing songs, and rhymes (French, 2013). Listening, looking at, and talking about the pictures with others and making marks on the sand and paper are important. Literacy is the integration of listening, speaking, reading, and writing for communication and learning (Department of Education and Skills [DES], 2011).

Emerging literacy begins with informal conversations between educators and children as they go about their explorations and routines. Educators are laying the foundation for reading when they balance listening and talking aloud to babies and toddlers throughout the day, repeating their sounds, asking children questions, giving them time to respond, and singing them songs. Focusing on the pedagogical skills of narrating, rhymes, and sharing books is central to babies' and toddlers' literacy experiences; this supports the emergence of literacy in a natural and enjoyable way. Educators enhance the quality of the environments with age-appropriate, culturally responsive, and language-diverse books with interesting pictures and photos to talk about (Hall et al., 2015). Book-sharing and dialogic reading are essential to support young children's language and literacy development (Dowdall et al., 2020). Research emphasises the critical role of adult-child interaction during shared book reading for vocabulary learning (Wasik et al., 2016). Reading to babies as early as nine months predicts children's vocabulary skills at three years (Leech et al., 2022). These findings highlight that parental support and quality caregiving through childcare settings may be pivotal in enhancing babies' earliest interactions and experiences, which later support cognitive and educational attainment. Furthermore, parents and educators should "start a reading routine early in children's development" to familiarise children with books and reading material (Mol & Bus, 2011, p.287).

The early childhood literacy skills that are strong predictors of later achievement have been emphasised by professional and government panels concerned about early literacy (McCoy & Cole, 2011). These skills include oral language, alphabetic code, print knowledge, mark-making, and emergent writing; each skill is explained as follows. Oral language takes account of listening, comprehension (understanding narrative and story – the process of making meaning from action, speech, and text by connecting what one is learning to what one already knows), oral language vocabulary and being capable of explanatory talk. Alphabetic code includes alphabet knowledge (knowledge of letters), phonological knowledge (recognising the sounds that make up words), and phonemic awareness (letter-symbol recognition). Print knowledge/concepts comprise knowledge and experience of environmental print (stories, notices, and signs), how print is organised on the page, and how print is used for reading and writing. Mark-making and emergent writing embrace marks as children's ideas, symbols, and representations that will develop into letters and words that can be read (understanding writing functions). Writing functions refers to using writing for different purposes. The experiences that support the development of children's communication skills and play a key role in the development of their literacy skills include:

"knowledge of sound, pattern, rhythm and repetition; awareness of symbols such as print and pictures; opportunities to become familiar with and enjoy print in a meaningful way; opportunities to use mark-making materials" (DES, 2011, p.10). Children need experiences of "creating and sharing a range of texts in a variety of ways, with different media and materials, with adults and peers, both indoors and outdoors" (Early Education, 2021, p. 46).

Whilst the term 'non-verbal communication' is used in *Aistear*, perhaps greater specificity, e.g., 'gesture' (Novak & Goldin-Meadow, 2022) and 'babbling' (Morgon & Wren, 2018), could be employed. Gesture is mentioned in *Aistear*, for example, "responding to gestures with words, and pointing to things" (NCCA, 2009, p.36). However, babbling is not mentioned. Therefore, the importance of babbling and gesture in learning and development could be highlighted in the Learning Goals in an updated *Aistear*.

Theme: Exploring and Thinking

In *Aistear*, the Theme of Exploring and Thinking is about children making sense of the things, places, and people in their world by interacting with others, playing, investigating, questioning, and forming, testing, and refining ideas (NCCA, 2009). Exploring and Thinking place importance on exploring materials, physical skills, and play. This section considers babies and toddlers as agentic active learners and playful experiences as a key pedagogical strategy to support their learning.

Babies and Toddlers as Agentic, Active Learners

Agency is defined as a person's capacity to act independently and make their own free choices (Roberts, 2010). In babies and toddlers, it is seen when they feel empowered to shake a rattle, crawl around a corner, throw a ball, or do something. Agency is the ability of a child to act on the world "through the expression of mind and body" (Dalli et al., 2011, p.73). Young children actively 'learn by doing', using their senses to feel, touch, hear, taste, see and generally explore and work with various objects and materials around them, including natural materials. Through these sensory experiences, children develop the dispositions, skills, knowledge, understanding, attitudes, and values that will help them grow as confident and competent learners (Dalli et al., 2011).

Babies and toddlers need a lot of opportunities and time for hands-on experimentation and exploration (Stonehouse, 2012). They need to try out new physical skills like sitting, eating, climbing, and running and experience the satisfaction of being able to achieve new things (for example, the baby who has discovered how to crawl or the toddler who has

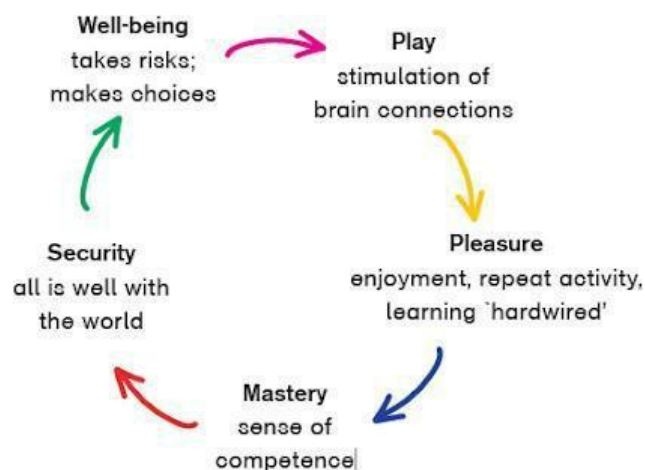
worked out how to get around holding on to furniture). They also need to play with others, singing a nursery rhyme or rolling a ball to another baby (Stonehouse, 2012).

We know that babies are naturally curious; they start to learn and understand the world around them through the sensory and physical exploration they enjoy (David et al., 2003). These explorations are fun and playful, but they are also deeply meaningful, as babies use play to interpret and understand the world around them, supported by people who are significant to them. The connections between exploring and thinking, positive dispositions to learning and agency are evident in Roberts' (2010) research on experienced educators' perceptions of agency. The components of agency are influencing, learning, and a positive sense of self; influencing – acting on the world (e.g., the baby dropping her toy from the highchair knowing that it will be picked up); learning – exploring and understanding the world (e.g., the baby learning that banana flesh is soft and edible) and a positive sense of self – being in the world (e.g., the baby being adventurous enough to crawl around the corner).

Babies exercise agency when they feel empowered to grasp a toy, crawl across the floor, choose the carrot rather than the apple to chew, and look at the people talking within a supportive social and physical learning environment. Babies who exert agency are active agents (and initiators) of their experiences rather than passive recipients of experiences created by others. When babies exert their agency, they also learn about compromise, negotiation, failure, success, and resilience. Agency is encouraged by supportive educators who develop babies' self-esteem, well-being, confidence, and ability to explore and experiment (Roberts, 2010). As competent learners, babies make connections (for example, through the senses) and compare, categorise, and classify; they use their imagination and creative skills to generate symbols and signs to represent thoughts and language. Babies search out patterns and, by doing so, learn to discriminate and make connections between different objects and experiences. As connections are made, babies make increasing sense of the world. They do not have to wait until they have acquired language to start thinking; however, language and thought are developmentally linked, and each promotes the development of the other (David et al., 2003). As babies explore the world through touch, sight, sound, taste, smell, and movement, their sensory and physical explorations affect the patterns that are laid down in the brain. Through repeated experiences of people, objects, and materials, young children form mental images, which lead them to imitate, explore and re-enact as they become imaginative and creative. Babies' ability to imagine accelerates as they develop, as does their acquisition of language and use of symbols in play (David et al., 2003). Babies' developing cognitive and creative abilities include ideas about mark making and their

discovery of 'intentionality' – the desire 'to do', in this case, to make a mark. This is connected to children's many ways of representing the world (through movement, braille, song – the 'hundred languages of children'), and early literacy (David et al., 2003).

As babies become more mobile and can control motor movements, they begin to form mental images of actions, events, and experiences, and their explorations become more intentional. The child as an active learner and explorer aligns well with the Exploring and Thinking Theme (NCCA, 2009). Research has proven that direct action (physical and cognitive engagement with experiences), in addition to problem-solving and repetition, ensures that the synapses (brain connections or neural pathways) become stronger (for example, Gopnik, 2016; Nugent, 2015). This is particularly true of children aged from birth to three and those with specific requirements, as the foundations for all later learning are developed. Babies and toddlers who learn actively have positive dispositions to learning hardwired into their brains. These babies are interested in what they are doing through play and exploration, experience enjoyment and, with repetition, probability of success. They experience competence and, as a result, confidence. They are intrinsically motivated to learn; in other words, the motivation comes from within. See the active learning cycle below (French, 2018, p. 129).



It is acknowledged within *Aistear* (NCCA, 2009) that play is one of the key contexts for children's early learning and development. Through relationships in play, children develop and demonstrate improved verbal communication, high social and interaction skills, creative use of play materials, imaginative and divergent thinking, and problem-solving capacities (French, 2013).

Learning through Play

Play (indoors and outdoors) is a vital commitment throughout *Aistear* (NCCA, 2009) and is a fundamental right of children (United Nations, 1989). Play is one of the main ways that very young children learn, and there is evidence of "a promising link between play experiences and literacy learning, particularly for language and vocabulary development" (Rand & Morrow, 2021, p.246). Learning through play is not limited to language and literacy; play promotes learning in a range of academic domains and can close achievement gaps for children. However, play "is not taken seriously as an inclusive solution to the development of children's knowledge and holistic skills...More often, play is seen as something separate from the seriousness of school and work" (Dowd & Thomsen, 2021, p. 8). As the natural mode of learning for children, play is imperative as a strategy for enhancing young children's learning, supporting babies and toddlers' natural explorations, thinking, and dispositions for learning.

Mathers and colleagues (2014) cite two types of play that are particularly effective for the youngest children to make choices and take the lead: floor-based play and representational symbolic play. Floor-based play supports babies and toddlers to explore objects and experiences moving to second, representational symbolic play in the second year of life. A play-based curriculum for a baby and toddler is based on a sound understanding of child development and quality pedagogical practices while considering each child's needs, interests, and temperaments. This requires "structural conditions that support the educator in context" (qualifications, low adult-child ratios, group size) and relies on "constantly evolving supportive connections" between educators and babies, educators and educators, "elements of the organisation of the centre, and the centre's philosophy and leadership style" (Dalli et al., 2011, p.3).

Babies and toddlers benefit most from play with a caring adult who provides opportunities for every aspect of development, including "language, agency, social development, early numeracy, physical development, culture, and family traditions and enjoyment" (Fleer & Linke, 2016, p. 15). Babies enjoy 'hide and seek' games and 'give and take' games. Toddlers require child-initiated play and peer play but still need an educator nearby. The play engagement of children from three years slowly becomes less vulnerable to external influences and distractions. In line with what has already been discussed in this Chapter, reciprocal and responsive interactions between educators and children yielded positive results for play engagement. The physical availability of the educator is particularly

important for very young children because of the complexity of ECEC settings with so much movement (educators, children, and occasionally parents walking around).

Research has demonstrated that the quality of the physical designed environment of ECEC settings is related to children's cognitive, social, and emotional development. Environmental features such as size, density, privacy, well-defined play and care areas, modified open-plan space, and the quality of outdoor play spaces impact children's use, engagement and enjoyment of the space (American Academy of Pediatrics, 2011). Therefore, there is an important connection between how space and carefully selected sensory-motor play materials are arranged and the quality of learning for the babies and toddlers using them (American Academy of Pediatrics, 2011). Within their environment, babies and toddlers need materials and experiences selected primarily for individual interests and abilities rather than one-size-fits-all group play. Play materials should be chosen with a view to the baby and toddler seeing, hearing, communicating, and manipulating, providing varied opportunities for the child to explore. Treasure baskets, heuristic play experiences, and natural open-ended materials best support babies' and toddlers' play. The facilitating function of the environment may be of particular relevance for children at risk of educational inequality, as the setting may offer access to materials and learning experiences not offered in the home (Melhuish et al., 2015). Dalli and colleagues (2011, p. 80) recommend "an environment rich in things to explore, opportunities for physical movement, dance, song, rhyme, storytelling, and creative activities". However, the quality of the attention young children receive may be more important than providing educational tools (Trevanthen et al., 2003, cited in Melhuish et al., 2015).

Babies and toddlers need continual access to outdoor play (White, 2015), and they need to experience a degree of risk (Brussoni et al., 2012). Risky play in early childhood can help develop a child's self-confidence, resilience, executive functioning abilities, and risk-management skills. Brussoni's work in injury prevention research shows that engaging in risky play can reduce the risk of injury (2012). The success of outdoor play for babies and toddlers ultimately depends on the educators in the setting. Educators recognise and encourage the scientist and explorer in each child, accept the literal ups and downs that ensue, and at the same time maintain a watchful eye and nurturing presence for long periods of relatively uneventful action (French, 2018). The following are some ideas for the outdoors for babies' play by the seminal work of Greenman (1985), augmented with ideas for a movement-rich environment to facilitate young children's exploring and thinking by White (2015). Ideally, outdoor spaces for babies would have a variety of spaces to move without

obstruction: surfaces including grass, sand, wood, raised, rocky, and uneven. There should be gentle inclines to roll down and toddle up, grassy hills to feel secluded, and flat surfaces to strut, clamber, and wobble on. Surfaces should allow for balance and full movement.

Surfaces should also be large, vertical, and horizontal for aiming at and painting (with water in the sunshine – and watch the 'paint' dry) on a large scale. There should be a variety of textures: smooth round boulders, coarse bark, and smooth, sensual wood, soft and not-so-soft pine needles, and other vegetation to feel and rub against. Colour and scent that changes with the seasons should be available, with trees and shrubs that complement each other and transform themselves over time with falling leaves, cones, blossoms, and peeling bark. Skeletal structures should be set in the ground, such as ladders, hurdles, and bench-like structures that are motor structures for climbing on, over, under, and through. Decks or platforms should be included with wooden flooring outside, offering a flat surface that drains easily, and provides a good place for water play and outdoor play when the ground is wet. Raised platforms offer a baby and toddler a chance to see the world from a new vantage point. A slide inset in a hill eliminates most of the risk and leaves the thrills and spills (see French, 2018 for more detail).

Through making choices and following through on them with support from reflective and intentional educators, babies learn how to develop positive dispositions for learning (such as wonderment, curiosity, concentration, and perseverance), express their ideas, and become problem solvers. Babies' and toddlers' engagement with people, materials, ideas, and events triggers their curiosity and motivation to learn and is a key component of the Theme of Exploring and Thinking. *Aistear* defines dispositions as enduring habits of mind and action. A disposition is the tendency to respond to situations in distinct ways (NCCA, 2009). It is acquired from and affected by interactive experiences with the significant people in our lives and our environment. Examples from a baby and toddler perspective include curiosity (wanting to find out), concentration (ability to attend/focus on a single object), resilience (learning to adjust when a loved one leaves the room), and perseverance (determination to continue to reach the ball, even though there are obstacles [French, 2018]).

Contemporary literature highlights the importance of agency in very young children's learning (Dalli et al., 2011; Roberts, 2010). *Aistear* highlights children's self-identity; however, there is no reference to agency within *Aistear's* Principles and Themes (NCCA, 2009). A sense of agency is the belief that, as a baby or toddler, they have influence, can learn and can have a positive sense of self; the concept of agency could be included in an updated *Aistear*.

Dispositions are habitual positive approaches to learning, which involve

confidence and a desire to discover through exploration and experimentation (Roberts, 2010). Greater attention to supporting babies' and toddlers' dispositions could be attended to in a revised *Aistear*.

Concluding comments

The skills required to work with babies and toddlers are not intuitive. Babies and toddlers require a slow relational pedagogy, from their key person with sensitive responsive caregiving from educators who are 'in tune with' and on the same wavelength as them, are affectionate and available, and who use *all* aspects of the daily routine to enhance children's learning and development (French, 2021). We know that quality in an ECEC setting is linked to the qualifications of the staff, and that poor quality settings can do long-term harm to very young children (Melhuish et al., 2015). Children will flourish to their full potential with greater attention to strengthening the resources and capabilities of those who nurture babies' and toddlers' learning and development. Continued professional learning and development is required to give early childhood educators the skills to support babies' and toddlers' learning. The characteristics of successful professional learning and development include being tailored to the audience, embedded in the curriculum, multiple components of content, coaching, in-practice feedback and communities of practice, and long duration. The importance of investment in professional learning and development was highlighted (Brunsek et al., 2020; Ciesielski & Creaghead, 2020). Not only do ECEC staff "require comprehensive initial education programmes, ongoing professional learning and development during employment", they also need "supportive working conditions to effectively engage in high-quality interactions" (OECD, 2021, p.16). As advocated in *Aistear*, nurturing carers and educators build loving, warm, sensitive, reciprocal, and responsive relationships with babies and toddlers to build a sense of well-being, identity, and belonging, and the ability to communicate, explore, and think (NCCA, 2009).

References

- American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education. (2011). *Caring for our children: National health and safety performance standards; Guidelines for early care and education programs* (3rd edn.). American Academy of Pediatrics/American Public Health Association. <http://nrckids.org>.
- Baker, S. T., Le Courtois, S., & Eberhart, J. (2021). Making space for children's agency with playful learning. *International Journal of Early Years Education*, 1–13. <https://doi.org/10.1080/09669760.2021.1997726>
- Barblett, L., Cartmel, J., Hadley, F., Harrison, L., Irvine, S., Bobongie-Harris, F., & Lavina, L. (2021). *National quality framework approved learning frameworks update literature review*. Australian Children's Education and Care Quality Authority (ACECQA) <https://www.acecqa.gov.au/sites/default/files/2021-09/2021NQF-ALF-UpdateLiteratureReview.PDF>
- Baskin, C. (2016). Spirituality: The core of healing and social justice from an Indigenous perspective. *New Directions for Adult and Continuing Education*, 2016(152), 51–60. DOI:10.1002/ace.20212.
- Benson McMullan, M., Buzzelli, C., & Ra Yun, N. (2016). Pedagogy of care for well-being. In T. David, K., Gouch, & S. Powell (Eds.), *The Routledge international handbook of philosophies and theories of early childhood education and care* (pp. 259-268). Routledge.
- Bowlby, J. (1997). *Attachment Vol. 1 of the 'Attachment and Loss' Trilogy*. Harper.
- Brocklesby, S., & Scales, D. (2022). *A framework for infant and early childhood mental health*. Infant Mental Health Subgroup of the Area Based Childhood (ABC) Programme.
- Bruce, T. (2015). *Early childhood education* (5th ed.). Hodder Education.
- Brunsek, A., Perlman, M., McMullen, E., Falenchuk, O., Fletcher, B., Nocita, G., Kamkar, N. & Shah, P. (2020). A meta-analysis and systematic review of the associations between professional development of early childhood educators and children's outcomes, *Early Childhood Research Quarterly*, 53, 217–248.
- Brussoni, M. Olsen, L., Pike, I., & Sleet, D. (2012). Risky play and children's safety: Balancing priorities for optimal child development. *International Journal of Environmental Research and Public Health*, 9(9), 3134-48.

- Byrne, B., & Lundy, L. (2019). Children's rights-based childhood policy: A six-P framework. *The International Journal of Human Rights*, 23(3), 357-373, doi: 10.1080/13642987.2018.1558977.
- Center on the Developing Child. (2016). *Best practices to breakthrough impacts: A science-based approach to building a more promising future for young children and families*. <http://developingchild.harvard.edu/resources/from-best-practices-to-breakthrough-impacts>.
- Center on the Developing Child. (2010). *The foundations of lifelong health are built in early childhood*. Center on the Developing Child.
- Center for the Study of Social Policy. (n.d.). *Strengthening families: The protective factors framework*. Center for the Study of Social Policy. www.cssp.org/young-children-their-families/strengtheningfamilies
- Ciesielski, E., & Creaghead, N. (2020). The effectiveness of professional development on the phonological awareness outcomes of preschool children: A systematic review. *Literacy Research and Instruction*, 59(2), 121-147. DOI:10.1080/19388071.2019.1710785.
- Clark, A. (2020). Towards a listening system. In C. Cameron & P. Moss (Eds). *Transforming early childhood in England: Towards a democratic education* (pps. 134-150). London: UCL Press.
- Clarke, L., McLaughlin, T., Aspden, K., & Riley, T. (2021). Supporting teachers' practice through professional learning and development: What's happening in New Zealand early childhood education? *Australasian Journal of Early Childhood*, 46(1), 66–79. <https://doi.org/10.1177/1836939120979063>
- Cleaver, H., Unell, I., & Aldgate, J. (2011). *Children's needs – parenting capacity. Child abuse: Parental mental illness, learning disability, substance misuse and domestic violence*. TSO.
- Cohrssen, C., Church, A., Ishimine, K., & Tayler, C. (2013). Playing with maths: Facilitating the learning in play-based learning. *Australasian Journal of Early Childhood*, 38(1), 95–99. <https://doi.org/10.1177/183693911303800115>
- Crowley, K. (2014). *Child development: A practical introduction*. Sage.
- Dalli, C., White, E.J., Rockel, J., Duhn, I., with Buchanan, E., Davidson, S., Ganly, S., Kus, L., & Wang, B. (2011). *Quality early childhood education for under-two-year-olds: What should it look like? A literature review*. Ministry of Education (New Zealand).

Daly, M. (2004). *Developing the whole child: The importance of the emotional, social, moral and spiritual in early years education and care*. The Edwin Mellen Press Ltd.

David, T., Gooch, K., Powell, S. & Abbott, L. (2003). *Birth to three matters: A Review of the Literature*. Department of Education and Skills.

- Davis, B., Torr., J., Degotardi, S. (2015). Infants and toddlers: how visible are they in the Early Years Learning Framework? *International Journal on Child Care and Education Policy*, 9(12), 2-14. doi:10.1186/s40723-015-0014-y.
- Department of Children and Youth Affairs. (2016). *Diversity, equality and inclusion charter and guidelines for early childhood care and education*. Department of Children and Youth Affairs (Dublin).
- Department of Education and Skills. (2011). *Literacy and numeracy for learning and life: The national strategy to improve literacy and numeracy among children and young people 2011-2020*. Department of Education and Skills (Dublin).
- Derman-Sparks, L. & Edwards, J. (2016). The goals of anti-bias education: Clearing up some key misconceptions. *Anti-bias Education*, Exchange May/June, 14-18.
- Dondi, M., Simion, F., & Caltran, G. (1999). Can newborns discriminate between their own cry and the cry of another newborn infant? *Developmental Psychology*, 35, 418-26. doi:10.1037//0012-1649.35.2.418.
- Dowd, A.J., & Thomsen, B. S. (2021). *Learning through play: Increasing impact, reducing inequality*. Lego Foundation.
- Dowdall, N., Melendez-Torres, G. J., Murray, L., Gardner, F., Hartford, L., Cooper, P. J., & Melendez-Torres, G. J. (2020). Shared picture book reading interventions for child language development: A systematic review and meta-analysis. *Child Development*, 91(2), e383–e399.
- Early Education. (2021). *Birth to 5 matters: Non-statutory guidance for the Early Years Foundation Stage*. Early Education. www.birthto5matters.org.uk.
- Edwards, S. & Cutter-Mackenzie, A. (2013). Pedagogical play types: What do they suggest for learning about sustainability in early childhood education? *International Journal of Early Childhood*, 45, 327-346. <https://doi.org/10.1007/s13158-013-0082-5>.
- Engdahl, I. (2015). Early childhood education for sustainability: The OMEP world project. *International Journal of Early Childhood*, 47, 347-366. <https://doi.org/10.1007/s13158-015-0149-6>
- Fitzpatrick, E., Thibert, J., Grandpierre, V., Johnston, J. (2014). How HANDY are baby signs? A systematic review of the impact of gestural communication on typically developing, hearing infants under the age of 36 months. *First Language*, 34(6) 486– 509.
- Fleer, M., & Linke, P. (2016). *Connecting with babies: Responding appropriately to infants* (3rd edn.). Early Childhood Australia Inc.

- Fleer, M. (2011). Technologically constructed childhoods: Moving beyond a reproductive to a productive and critical view of curriculum development. *Australasian Journal of Early Childhood*, 36(1), 16–24. <https://doi.org/10.1177/183693911103600104>
- Franzen, K. (2015). Under three's mathematical learning. *European Early Childhood Education Research Journal*, 23(1), 43-54. <https://doi.org/10.1080/1350293X.2014.970855>
- French, G. (In press). *Supporting literacy and numeracy in early childhood for those at risk of educational inequality*. Literature review to underpin the revised Literacy (including Digital Literacy) and Numeracy Strategy. Dublin: Institute of Education, Dublin City University.
- French, G., & Lake, G. (In press). *Pedagogical strategies to support oral language development and emergent literacy in early childhood education and care*. Literature review to underpin the revised Literacy (including Digital Literacy) and Numeracy Strategy. Dublin: Institute of Education, Dublin City University.
- French, G. (2013). *Early speech and language matters: enhancing the communication environment and language development in early childhood*. Dublin: Barnardos
- French, G. (2018). *The time of their lives: Nurturing babies' learning and development in early childhood settings*. Barnardos.
- French, G. (2019). *Key elements of good practice to support the learning and development of children from birth to three*. Research paper commissioned by the National Council for Curriculum and Assessment. National Council for Curriculum and Assessment.
- French, G. (2021). Slow relational pedagogy with babies and toddlers. *An Leanbh Óg – The OMEP Ireland Journal of Early Childhood Studies*, 14(1), 134 – 246.
- Garboden Murry, C. (2022). *The soundscape of early childhood*. ExchangeEveryDay <https://www.exchangepress.com/catalog/product/the-soundscape-of-early-childhood/8252431/>
- Gerhardt, S. (2005). *Why love matters: How affection shapes a baby's brain*. London: Routledge.
- Graham, I. (2017). *Realising potential: Equality, diversity and inclusion in the early years*. Dublin: Barnardos.
- Goldschmied, E., & Jackson, S. (1994). *People under three: Young children in day care*. London: Routledge.

- Gopnik, A. (2016). Nurturing brain development from birth to three. Transcript of podcast interview with Annie Pleshette Murphy. <https://www.zerotothree.org/resources/283-nurturing-brain-development-from-birth-to-three#downloads>.
- Greenman, J. (1985) Babies get out: Outdoor settings for infant toddler play. *Beginnings*, Summer, 7-11.
- Hall, A. H., Simpson, A., Guo, Y., & Wang, S. (2015). Examining the effects of preschool writing instruction on emergent literacy skills: A systematic review of the literature. *Literacy Research and Instruction*, 54(2), 115-134. <https://doi.org/10.1080/19388071.2014.991883>
- Hedges, H., & Cooper, M. (2014). Engaging with holistic curriculum outcomes: Deconstructing 'working theories.' *International Journal of Early Years Education*, 22(4), 395–408. <https://doi.org/10.1080/09669760.2014.968531>.
- Hedges, H., Cullen, J., & Jordan, B. (2011). Early years curriculum: Funds of knowledge as a conceptual framework for children's interests, *Journal of Curriculum Studies*, 43(2), 185-205, DOI: 10.1080/00220272.2010.511275
- Jackson, S., & Forbes, R. (2015). *People under three: Play, work and learning in a childcare setting*. London: Routledge.
- Kangas, J., Venninen, T., & Ojala, M. (2016). Distributed leadership as administrative practice in Finnish early childhood education and care. *Educational Management Administration & Leadership*, 44. doi:[10.1177/1741143214559226](https://doi.org/10.1177/1741143214559226).
- Katz, L. (2010). What is basic for young children? In Sandra Smidt (Ed.), *Key issues in early years education* (pp. 4-17). London: Routledge.
- Kelly, L. B., Wakefield, W., Caires-Hurley, J., Kganetso, L. W., Moses, L., & Baca, E. (2021). What is culturally informed literacy instruction? A review of research in P-5 contexts. *Journal of Literacy Research*, 53(1), 75–99.
- Kuhl, P. (2010). *The linguistic genius of babies*. Podcast www.ted.com/talks/patricia_kuhl_the_linguistic_genius_of_babies?language=en.
- Language and Reading Research Consortium & Chiu, Y. D. (2018). The simple view of reading across development: Prediction of grade 3 reading comprehension from prekindergarten skills. *Remedial and Special Education*, 39(5), 289–303. <https://doi.org/10.1177/0741932518762055>
- Lebedeva, G. (2018). What is a neuro-relational approach? *Exchange Every Day*, July 9, 2018.

- Leech, K., McNally, S., Daly, M. & Corriveau, K. (2022). Unique effects of book-reading at 9-months on vocabulary development at 36-months: Insights from a nationally representative sample of Irish families. *Early Childhood Research Quarterly*, 58, 242-253. <http://dx.doi.org/10.1016/j.ecresq.2021.09.009>
- Leseman, P. (2009). The impact of high quality education and care on the development of young children: Review of literature. In European Commission (Ed.), *Early childhood care and education: Tackling social and cultural inequalities* (pp.17-50). Eurydice.
- Lewis, M., & Brooks-Gunn, J. (1979). *Social cognition and the acquisition of self*. Plenum.
- Little, H., & Stapleton, M. (2021). Exploring toddlers' rituals of 'belonging' through risky play in the outdoor environment. *Contemporary Issues in Early Childhood*. <https://doi.org/10.1177/1463949120987656>.
- Manning-Morton, J., & Thorp, M. (2001). *Key times: A framework for developing high quality provision for children under three years old*. Camden's Early Years Children's Development Partnership/University of North London.
- Mathers, S., Eisenstadt, N., Sylva, K., Soukakou, E., & Ereky-Stevens, K. (2014). *Sound foundations: A review of the research evidence on quality of early childhood education and care for children under three. Implications for policy and practice*. The Sutton Trust and the Education Endowment Foundation.
- McCoy, E. & Cole, J. (2011). *A snapshot of local support for literacy: 2010 survey*. National Literacy Trust.
- McGillion, M., Herbert, J.S., Pine, J., Vihman, M., dePaolis, R., Keren-Portnoy, T. & Matthews, D. (2017). What paves the way to conventional language? The predictive value of babble, pointing, and socio-economic status. *Child Development*, 88(1), 156-166.
- McGuire, J., Gallegos, D., & Irvine, S. (2018). Infant feeding nutrition policies in Australia early childhood education and care services: A content and qualitative analysis. *International Journal of Child Care and Education Policy*, 12(1), 14. <https://doi.org/10.1186/s40723-018-0053-2>
- McNally, S., & Quigley, J. (2014). An Irish cohort study of risk and protective factors for Infant language development at 9 months, *Infant and Child Development*, 23, 634–649.

- Melhuish, E., Ereky-Stevens, K., Petrogiannis, K., Ariescu, A., Penderi, E., Rentzou, K., Tawell, A., Leseman, P., & Broekhuisen, M. (2015). *A review of research on the effects of early childhood education and care on child development*. CARE with European Commission.
- Mol, S. E., & Bus, A. G. (2011). To read or not to read: A meta-analysis of print exposure from infancy to early childhood. *Psychological Bulletin*, *137*(2), 287-296.
- Morgan, L., & Wren, Y. E. (2018). A systematic review of the literature on early vocalizations and babbling patterns in young children. *Communication Disorders Quarterly*, *40*(1), 3–14. <https://doi.org/10.1177/1525740118760215>
- Morrison, G. (2014). *Fundamentals of early childhood education* (7th ed.). New York: Pearson.
- National Council for Curriculum and Assessment. (2009). *Aistear, the Early Childhood Curriculum Framework*. National Council for Curriculum and Assessment.
- National Council for Curriculum and Assessment. (2015). *Aistear Síolta Practice Guide*. National Council for Curriculum and Assessment.
- Nekitsing, C., Blundell-Birtill, P., Cockcroft, J. E., & Hetherington, M. M. (2018). Systematic review and meta-analysis of strategies to increase vegetable consumption in preschool children aged 2-5 years. *Appetite*, *127*, 138–154.
- Novak, M., & Goldin-Meadow, S. (2022). Harnessing gesture to understand and support healthy development. *Biomedical Sciences* <https://doi.org/10.1016/B978-0-12-818872-9.00075-3>
- Nugent, K. (2015). *The first three years are a time of massive brain development, with lifelong implications for the child and for society*. Opening Statement to the Joint Committee on Health and Children, Houses of the Oireachtas, Leinster House, Dublin.
- O'Brien, K. T., Vanderloo, L. M., Bruijns, B. A., Truelove, S., & Tucker, P. (2018). Physical activity and sedentary time among preschoolers in centre-based childcare: A systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, *15*(1), 117-133.
- Organisation for Economic Cooperation and Development. (2020). *Quality Early Childhood Education and Care for Children Under Age 3: Results from the Starting Strong Survey 2018*. TALIS, OECD Publishing. <https://doi.org/10.1787/99f8bc95-en>.

- Organisation for Economic Co-operation and Development. (2021). *Starting strong VI: Supporting meaningful interactions in early childhood education and care*, Starting Strong, OECD Publishing. <https://doi.org/10.1787/f47a06ae-eng>
- Paris, D., & Alim, H. S. (Eds.). (2017). *Culturally sustaining pedagogies: Teaching and learning justice in a changing world*. Teachers College Press.
- Parkhouse, H., Lu, C. Y., & Massaro, V. R. (2019). Multicultural education professional development: A review of the literature. *Review of Educational Research*, 89(3), 416–458. <https://doi-org.dcu.idm.oclc.org/10.3102%2F0034654319840359>
- Pobal. (2019). *Annual early years sector profile report*. Department of Children, Equality, Disability, Integration and Youth.
- Rand, M. K., & Morrow, L.M. (2021). The contribution of play experiences in early literacy: Expanding the science of reading. *Reading Research Quarterly* 56(S1), S239– S248. <https://doi.org/10.1002/rrq.383>
- Roberts, R. (2010). *Well-being from birth*. London: Sage.
- Russell, H., Kenny, O., & McGinnity, F. (2016). *Childcare, early education and socio-emotional outcomes at age 5: Evidence from the Growing Up in Ireland study*. The Economic and Social Research Institute.
- Saunders, R. P., Dowda, M., Pfeiffer, K. A., Brown, W. H., & Pate, R. R. (2019). Childcare center characteristics moderate the effects of a physical activity intervention. *International Journal of Environmental Research and Public Health*, 17(1), 101-113.
- Sebastián-Gallés, N. (2010). Bilingual language acquisition: Where does the difference lie? *Human Development*, 53, 245–55.
- Shaik, N., Martin, C. D., & Moodley, T. (2021). Reframing listening for belonging and participation in early childhood care and education settings: A case in South Africa. *Early Years*, 0(0), 1–14. <https://doi.org/10.1080/09575146.2021.1934818>
- Shiel, G., Cregan, Á., McGough, A., & Archer, P. (2012). *Oral language in early childhood and primary education (3-8 years)*. Commissioned Research Report No. 14. National Council for Curriculum and Assessment.
- Shonkoff, J. P., & Fisher, P. A. (2013). Rethinking evidence-based practice and two-generation programs to create the future of early childhood policy. *Development and Psychopathology*, 25(4 Pt 2), 1635–1653. DOI: [10.1017/S0954579413000813](https://doi.org/10.1017/S0954579413000813)
- Shuey, E., and Kankaraš, M. (2018). *The power and promise of early learning*, OECD Education Working Papers, No. 186. OECD Publishing. <https://dx.doi.org/10.1787/f9b2e53f-en>.

- Simpson, T., Condon, E., Price, R., Kelly Finch, B., Sadler, L., & Roosa Ordway, M. (2016). Demystifying infant mental health: What the primary care provider needs to know. *Journal of Paediatric Health Care, 30*(1), 38-48.
- Stonehouse, A. (2012). Everyday learning about babies as amazing learners. *Everyday Learning Series, 10*(1). Early Childhood Australia.
- Svinth, L. (2018). Being touched – the transformative potential of nurturing touch practices in relation to toddlers’ learning and emotional well-being. *Early Child Development and Care, 188*(7), 924-936. [DOI:10.1080/03004430.2018.1446428](https://doi.org/10.1080/03004430.2018.1446428)
- Tonge, K., Jones, R., Okely, A. (2020). Environmental influences on children's physical activity in early childhood education and care. *Journal of Physical Activity and Health, 17*(4), 423-428.
- Topping, K., Dekhinet, R., & Zeedyk, S. (2013). Parent–infant interaction and children's language development. *Educational Psychology, 33*(4), 391 426.
<http://dx.doi.org/10.1080/01443410.2012.744159>.
- Trimmer, K., Dixon, R. & Guenther, J. (2021). School leadership and Aboriginal student outcomes: Systematic review. *Asia-Pacific Journal of Teacher Education, 49*(1) 20-36.
- United Nations. (1989). *Convention on the rights of the child*. Geneva: UN Office of High Commissioner for Human Rights (OHCHR). <https://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx>.
- van Krieken Robson, J. (2019). Participatory pedagogy for values education in early childhood education. *European Early Childhood Education Research Journal, 27*(3), 420–431. <https://doi.org/10.1080/1350293X.2019.1600811>
- Wasik, B. A., Hindman, A. H., & Snell, E. K. (2016). Book reading and vocabulary development: A systematic review. *Early Childhood Research Quarterly, 37*, 39–57.
- Weissman, P. & Hendrik, J. (2014). *The whole child: Developmental education for the early years* (10th ed.). Pearson.
- White, J. (2015). *Every child a mover: A practical guide to providing young children with the physical opportunities they need*. British Association for Early Childhood.
- World Health Organization. (2019). *Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age*. Geneva: World Health Organization.
<https://apps.who.int/iris/handle/10665/311664>.

Zauche, L., Thul, T., Darcy Mahoney, A. & Stapel-Wax. (2016). Influence of language nutrition on children's language and cognitive development: An integrated review, *Early Childhood Research Quarterly*, 36, 318–333.

Chapter Four: Well-Being

Authors: Geraldine French and Clare Halligan

Abstract

The Literature Review took a systematic approach to identify, explore and map contemporary research in early childhood curricula and learning, highlighting where *Aistear*'s existing Aims and Learning Goals are validated and where there are opportunities for enhancement. The search strategy used key terms and concepts from the Aims and Learning Goals of Well-being to search four databases (Education Research Complete, ERIC International, Web of Science, and PsycINFO) for peer-reviewed journal articles, book chapters and scholarly reviews published in English from 2010-2022. The search identified 180 articles that considered children's well-being in learning and early childhood curriculum frameworks; these articles were subject to screening and full-text review. Thirty-three studies that met the criterion were selected for analysis and synthesis and were considered alongside seminal works, grey literature, and recommendations from consultation with internationally recognised experts in early childhood. Key trends that emerged from the review included nurturing relationships, compassion, empathy, risky play, participation, sustainability, and children's agency through social justice. The literature considered in the review reflects international trends and policy commitments concerning the multi-dimensional nature of children's well-being. The review's findings affirm the relevance of *Aistear*'s existing Aims and Learning Goals for the Theme of Well-being and highlight the importance of supporting children's psychological and physical well-being from early infancy and throughout childhood.

Introduction

Well-being, in the context of *Aistear*, focuses on supporting the developing child to be confident, happy, and healthy, with two key elements: "psychological well-being (including feeling and thinking) and physical well-being" (NCCA, 2009, p.16). Well-being is generally understood internationally as enhancing "the quality of people's lives" (Statham & Chase, 2010, p. 2). Within contemporary literature, the concept of well-being is debated, and there are variations in interpretation of the term. A systematic review of 209 studies identified that child well-being is poorly defined (Amerijckx & Humblet, 2013). The authors identify differing definitions of well-being along five key binary axes. These axes are positive versus

pathogenic (e.g., child abuse, family break-down, health problems); objective versus subjective (a child's own perceptions); current state versus over a lifetime; material (including financial, health, resources) versus spiritual; and individual versus community - the extent well-being is thought of in individual terms or "belonging to entities beyond the self" (Amerijckx & Humblet, 2013, p. 7). The findings yielded a growing strengths-based perspective on child well-being in the literature, as opposed to a negative, pathogenic view, while highlighting the persisting dominance of objective measures of well-being and its depiction in individual terms. Leveraging Bronfenbrenner's ecological systems theory (1979), the authors propose a more complex, subjective, spiritual and collective understanding of child well-being. Such a model considers the child's perspective and the wider exo- and macro-systems (e.g., the extended community), looking beyond the microsystem of the immediate family and the ECEC setting to understand children's unique contexts (Amerijckx & Humblet, 2013). Bronfenbrenner's model informs the well-being policy statement and practice framework developed by the Department of Education and Skills (DES, 2019). This document acknowledges the relational nature of being human and "the importance of the individual and his/her immediate relationships in their social context and their wider community" (DES, 2019, p.10). This perspective maps well onto *Aistear's* definition and the Aims and Learning Goals of Well-being, focusing on relationships, children's empowerment now rather than in the future, their strengths, physical health, and spirituality. Key trends emerging from the review include: nurturing relationships, compassion, perspective taking and empathy, co-regulation to self-regulation, and transitions. Due to the focus on curriculum approaches and learning frameworks and the search strategy, the studies reported in this chapter focus on the well-being of children aged 2-6 years in early childhood education settings, with fewer studies focusing on birth-3 years. A separate discussion of well-being for children aged from birth-3 is provided in Chapter Three.

Aim 1: Children Will Be Strong Psychologically and Socially

The innate need for connection emerges pre-birth in maternal sensitivity and attachment as parents begin to develop feelings of love, a desire to care and construct a sense of knowing who their child is (Medina et al., 2022; Siddiqui & Hägglöf, 2000). Pre-birth children are primed for connection, strengthened and enhanced by the earliest "ocular, olfactory, and tactile contacts of mother and child", the innate sensory responses and intuitive grasps that make us human (Haratipour et al., 2021, p.37). While we recognise infants and

young children as agentic, competent, and capable, children require high levels of consistent, responsive, compassionate, and nurturing care experiences to provide strong foundations for psychological strength and well-being. *Aistear* recognises and affirms the importance of children's attachments, the warm and supportive relationships at home and in their community that equip them with skills to build a sense of self and security (NCCA, 2009). Children's sense of well-being is not fixed, and children's psychological health and development are dynamic and subject to change "associated with and connected to a broad range of risk and protective factors at the individual, relational, community, cultural and societal levels" (DES, 2019, p.10). *Aistear's* Aims and Learning Goals align with contemporary discourse and scholarly literature that recognise the importance and value of connected relationships and responsive care that promote children's awareness of themselves and others (Soliman et al., 2021). In considering current and contemporary studies concerning children's psychological and social-emotional well-being in the context of early childhood curriculum and learning, concepts relating to nurturing relationships, compassion and empathy, self-regulation, and transitions emerged.

Nurturing Relationships

Every child is born with an innate attachment system; the function of the attachment system is to seek to stay near the people that nurture, care, love, and protect us, to remain in proximity to a human that eases our distress (Siegal & Bryson, 2020). Children's early childhood relationships are central to their lives and affect later attachments and well-being (Brogaard-Clausen & Robson, 2019). What babies and toddlers experience from moment to moment drives their development and emotional well-being in the present and the future (French, 2019). Just one nurturing person in a child's life can positively change the neural pathways of the brain to strengthen children's ability to build relationships, adapt, and learn (Bronfenbrenner & Morris, 2006).

Whilst celebrating the significance of a safe, secure, enabling environment identified in *Aistear* (NCCA, 2009), current studies further conceptualise the importance of the nurturing environment on children's well-being as a place to empower children, where agency is shared, and educators facilitate children's learning and engagement in a wide range of enriching experiences (Hayes & O'Neill, 2017). The contemporary literature moves beyond the idea of relationships as 'emotionally supportive' (Cheeseman, 2017) to think about "new possibilities for understanding and enacting relational pedagogies" that promote well-being (Degotardi et al., 2017, p. 358). Relational pedagogies also enable children's

learning. A series of longitudinal studies revealed that positive nurturing adult-child interaction is a significant predictor of language development and cognitive, social, and emotional functioning (National Institute of Child Health and Human Development [NICHD], 2012). Relational pedagogy blends teaching, learning, and play (Hedges & Cooper, 2018). Such an approach ensures the focus is on quality interactions between children and educators to foster and support academic, social, and emotional growth. Educators are therefore required to invest emotionally in building trusting relationships (Page, 2018). Children are proactive and intentional in their learning with educators (Hedges & Cooper, 2018). A balance of 'adult framed' experiences with play-based, relational approaches effectively supports children's learning, development, and well-being (Pascal et al., 2019). When educators are present with a child in every interaction and engage in empathetic, nurturing relationships in their environment, this sustained time supports children's social and emotional well-being (Noddings, 2012).

Aistear highlights warmth and connectedness (NCCA, 2009). Contemporary literature speaks to the importance of creating connectedness through physical interactions such as 'touch' to comfort and soothe (Svinth, 2018). The research suggests that emotionally attuned nurturing interactions, such as gentle touch, help infants learn about emotions and provide them with cues to modify their responses (Svinth, 2018). The primary function of nurturing touch is the expression of inter-subjective closeness (Svinth, 2018). This inter-subjective or mutual relatedness influences children's bodily, non-verbal, and emotional experiences and participation (Trevarthen & Aitken, 2009). The use of touch varies widely depending on gender, age, and socioeconomic status (Field, 2014). There are also significant cultural differences in how, whom and when we touch (Svinth, 2018). Engagement with families' cultural practices is thus important. Nurturing touch communicates different emotions as accurately as facial and vocal expressions. One study focused on adults' and toddlers' facial and vocal behaviour and found that tactile stimulation is essential to psychological and physical health (Stack & Jean, 2011). Touch plays an influential role for human infants in promoting optimal development and counteracting stressors (Diamond & Amso, 2008). For example, massaging babies has been found to lower cortisol (stress) levels and help them gain weight (Field et al., 2004).

Extending beyond the individual child, educators who enact a truly nurturing relational pedagogy work in culturally responsive ways to build trusting partnerships between families and ECEC settings, as well as to establish routines and expectations that respect the child and their background (Banerjee & Luckner, 2014; Cartmel & Grieshaber, 2014). Such a

relational pedagogy ensures the focus is on creating trusting spaces for children and their families (Barblett et al., 2021). This nurturing relationship includes finding ways to communicate, build trust, demonstrate respect for diverse parenting approaches, and establish routines within the environment that respond to children's cues (Cooper & Quiñones, 2020, p. 14).

Aistear recognises the importance of peer relationships and that these relationships should be fostered (NCCA, 2009). Children's social interactions with peers contribute to well-being, and a lack of friendships can be a significant stressor (Sandstrom & Dunn, 2014). The COVID-19 pandemic disrupted the play world(s), friendship groups, and potentially the well-being of every child in the country; missing one's friends materialised as a critical challenge for children and young people (Barron, 2020). Friendships can nurture and protect against feelings of low self-worth as children feel they can communicate with their friends and are not alone (Brogaard-Clausen & Robson, 2019). Children's perceptions of well-being are closely linked to social interactions with their peers (Koch, 2018). *Aistear* acknowledges the importance of play and the learning potential in developing friendships, knowledge, and understanding of the world (NCCA, 2009). The literature extends this understanding of the playful approach to highlight the importance of companionable learning. All children's development flows with active engagements with the world and the people in it (Roberts, 2010).

Nurturing interactions outside the family are related to subjective well-being and feelings of belonging (Sandstrom & Dunn, 2014). This subjective well-being should enhance an atmosphere of understanding, happiness, and love for every child; as social beings, we strive to connect, form attachments, to love, and be loved (Brogaard-Clausen & Robson, 2019). The current review thus validates the emphasis in *Aistear* on nurturing relationships with children, families, and their communities, highlighting that deeper levels of care and relationality have a powerful impact on children's overall well-being (Hayes & O'Neill, 2017). In addition to connected, caring, and nurturing relationships, children also need to develop a sense of themselves, seeing situations from different perspectives and gaining empathetic abilities to support their social development and emotional well-being (McCabe & Flannery, 2022).

Compassion, Empathy, and Perspective-Taking through Play

Children's awareness of themselves and others, the world around them, perceptions, thoughts, and feelings significantly influence their social, emotional, and cognitive development (Bradley et al., 2018). The educator's role in this process involves modelling principles of democracy, with notions of fairness, empathy, and compassion assuming central importance in a participatory framework with children, as well-being and participation go hand in hand (Lundy, 2007). Compassion involves feeling for another (Klimecki & Singer 2017) and activating the neurotransmitter oxytocin, which stimulates prosocial behaviour (Saturn, 2017). Good, compassionate relationships create safe spaces in which to show emotion. *Aistear* highlights the importance of providing a safe, secure environment where relationships can flourish (NCCA, 2009).

According to the literature, compassion should be made more visible in ECEC, offering an alternative narrative to the currently dominant neoliberal discourse with its heightened focus on 'hard skills' (Roberts-Holmes, 2015). Such a focus produces competitive, high-pressure learning conditions. A framework was devised to improve everyday practice in compassion within ECEC (Broadfoot & Pascal, 2021). The framework is underpinned by five interrelated conditions to support compassion in daily experiences. These interrelated conditions include: knowledge, communication and collaboration, opportunity, social role, and broader spheres of influence. Knowing a child's (or adult's) needs, signals of diminished well-being, and knowing the context of an upsetting scenario beforehand assists in providing compassion. The response can be tailored appropriately toward the child's preferences, such as sensitively inquiring, an understanding smile, a nod, a word of support, a helping hand or a hug. Listening, asking questions, and information sharing to support knowledge of the situation is important. Collaboration between the giver and receiver of compassion is integral to communication. Modelling compassionate behaviour through social roles, such as caring for others in play, is important, as is creating time and drawing attention to opportunities for compassion, for example, defending a peer or caring for a perceived hurt in a toy animal. Broader spheres of influence - previous experiences and community values (i.e. an ecological perspective) are also imperative in fostering compassion in children. These five conditions collectively shape and mediate how compassion is experienced as a multifaceted supportive mechanism that can unfold in different social and environmental contexts (Broadfoot & Pascal, 2021).

Social interaction requires individuals to understand each other accurately (Aslan & Köksal Akyo, 2019). Seeing a situation from another's perspective is important to children's 82

social and emotional development. *Aistear* recognises that children will “be aware of, name their feelings, and understand that others may have different feelings” (NCCA, 2009, p.17). Contemporary literature calls for an explicit focus on social and emotional learning (SEL) and finds that SEL contributes to long-term success and well-being (Durlak et al., 2011; Collaborative for Academic, Social and Emotional Learning [CASEL, 2021]). Social and emotional learning is the “process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions” (CASEL, 2019, p.52). Children demonstrated better academic performance, less stress, and had a more positive outlook on themselves and peers. Critically, “they better-understood emotions and perspective-taking, could set goals and solve conflicts and were making responsible decisions” (CASEL, 2021, p. 5). SEL signature practices include daily welcoming/inclusion experiences, engaging strategies, and optimistic closures (CASEL, 2019). For example, welcoming/inclusion experiences include morning check-ins, whole group meetings, and singing. Engaging strategies involve responding to cues, play-based explorations, social stories and role-play, and restorative practice (listening, expressing their perspective, and taking responsibility for our actions). Optimistic ‘closures’ centre on taking time at the end of the day to celebrate accomplishments or a child expressing what they would like to learn more about tomorrow (CASEL, 2019). A key success factor is that children, families, and communities are co-creators of the SEL vision and plans (CASEL, 2021).

Empathy is closely connected to compassion and perspective-taking; the ability to see another’s point of view is a prerequisite and the source of human empathy (Soliman et al., 2021; Wondra & Ellsworth, 2015). Children’s capacity for empathy can predict quality interactions and has facilitated more profound connections with others (Rumble et al., 2010). Empathy can promote friendship development and support conflict resolution and morality (Eisenberg, 2014), whilst a lack of empathy can amplify aggression, bullying, emotional detachment, and peer conflict (Nickerson et al., 2008). The current literature supports *Aistear*’s focus on nurturing the child’s sense of empathy and supporting children to “understand that others may have different feelings” (NCCA, 2009, p.17). Evidence indicates that empathy is a multidimensional construct that incorporates the cognitive ability to identify the correct emotion and having the emotional capacity to connect and share others’ feelings (Eisenberg, 2015). Contemporary studies suggest that dramatic activities, discussions on

emotional situations, and playful approaches support children's empathy and overall SEL (Cigala et al., 2015).

The current review suggests play is a fundamental activity for supporting and enhancing SEL development and increasing perspective-taking and self-curiosity in young children (Bradley et al., 2018). Self-curiosity helps children understand what triggers them emotionally or question what they can do to change the story or perspective (Bradley et al., 2018). Role-play and collaborative game-play are two types of play activities to consider when increasing SEL (Aslan & Köksal Akyol, 2019). Role-play allows the children to experience others' mental and emotional states. Talking about scenarios involving various emotional situations and then discussing the emotional conditions of the protagonists in these scenarios significantly improve children's emotional perspective-taking and self-curiosity abilities (Tenenbaum et al., 2008). Dramatic activities such as puppetry, creative playmaking, telling a story, sound-to-movement pantomime, and improvisation (Van Volkenburg, 2015) help children to become aware of themselves and others and thus improve their empathic abilities and overall well-being (McCabe & Flannery, 2022). Collaborative game-play also supports the development of SEL and perspective taking; players work together to accomplish a specific purpose (Aslan & Köksal Akyol, 2019). To succeed in collaborative games and further develop their social and emotional skills, children need to be aware of and understand each other's perspectives. Promoting children's social and emotional well-being is an important determinant of their positive development, enabling them to achieve positive outcomes in life (Durlak et al., 2015; OECD, 2018) and requires detailed planning (Soliman et al., 2021). *Aistear* recognises the importance of creative play in sharing feelings and exploring thoughts and ideas (NCCA, 2009, p. 54). Playful approaches increase perspective-taking, and self-curiosity, build confidence, and develop participation and interaction.

Co-Regulation to Self-Regulation

Research has consistently demonstrated that self-regulation is essential for developing and preserving health and well-being in childhood and across the lifespan (Braund & Timmons, 2021). Self-regulation in childhood predicts future academic success, social and emotional well-being, occupational attainment, and risk-taking behaviour in children (Braund & Timmons, 2021). Despite its importance, a unified definition of self-regulation is lacking. The absence of a definition can result in an inadequate understanding of self-regulation and how it relates to young children and difficulty developing strategies to support it in practice (Braund & Timmons, 2021). Broadly, self-regulation is children's ability to regulate their

thoughts, feelings, and behaviour. Policymakers have included self-regulation skills in practice and policy documents worldwide (Clarke et al., 2017), many with close reference to well-being (Robson & Zachariou, 2022). However, self-regulation is much more than a means of children (and adults) controlling their behaviour, such as sitting still and listening; these are examples of being managed/regulated by others, not self-regulation (Robson & Zachariou, 2022).

Self-regulation emerges from consistent co-regulation, where adults and children work together toward a common purpose, including finding ways to resolve upsets from stress in any domain and return to balance (Timmons, 2019). As children observe and interact with their peers and adults, children gradually move from the experience of being supported in managing their feelings, thoughts, and behaviour to developing the ability to regulate their emotions more independently. Sensitive and skilful adults play a crucial role in supporting the development and learning through observing children and deciding when to step back and offer support, encouragement, and stimulation for children's efforts (Early Education, 2021).

Co-regulation is the process of a 'more capable' individual regulating another individual; this can be an educator or another child (Kurki et al., 2016). Educators are in a good position with their children to co-regulate until children can regulate themselves (Braund & Timmons, 2021). Socially shared regulation is the process of multiple learners regulating activity at the onset of the task, which includes co-construction of the goals and strategies. Other strategies include:

- providing a warm, responsive relationship where children feel respected, comforted, and supported in times of stress and confident that they are cared for at all times (Early Education, 2021);
- creating an environment that makes self-regulation manageable and structured in a predictable way that is physically and emotionally safe for children to explore and take risks without unnecessary stressors (Dockett et al., 2013);
- encouraging self-regulation skills through modelling, suggesting strategies, providing frequent opportunities to practice, scaffolding to support children's self-regulation skills, and playful approaches (Conkbayir, 2022);
- using prompts to promote deep thinking and reflection, for example, encouraging a child to explain how they have done something to foster self-regulation.

A study by Baron and colleagues (2020) examines the make-believe play approach featured in the Tools of the Mind (TOMS) early childhood curriculum, which identifies students' self-regulation as a core aim (Braund & Timmons, 2021). The Tool's developers assert that immature or unstructured play does not promote self-regulation. Consistent with Vygotsky (1933), the developers identify 'mature' make-believe play as the key driver in self-regulation development (Baron et al., 2020). 'Mature' make-believe play signifies that children plan and negotiate roles in a play scenario (e.g., a patient, nurse, and doctor), use specific props and adhere to the roles they choose from the beginning of the play scenario (Baron et al., 2020). Make-believe play has been theorised to promote self-regulation skills and positive child outcomes (Bodrova & Leong, 2008). However, despite claims in the Tools of the Mind Curriculum that make-believe play activities support children's self-regulation development, the evidence is mixed (Baron et al., 2020).

Lillard et al. (2013) propose that a child's executive function is a proxy for self-regulation, while other studies highlight the importance and value of interactions, relationships, and sociodramatic play experiences. While there remains a wider discourse on approaches that support and enhance children's self-regulation, contemporary literature highlights pretend play and self-regulation as reciprocally beneficial. Whitebread and O'Sullivan (2012) reported a relationship between pretend play opportunities and self-regulation development. Bredikyte and Hakkarainen (2017) highlight the importance of narrative play and play worlds, with adult intervention and support, for self-regulation. Self-regulation is essential in supporting metacognition and goal setting (Braund & Timmons, 2021), positive attitudes in social interactions, peer conflicts, and maintaining friendships (Clarke et al., 2017).

Childhood is a foundational time where children's knowledge base and capacities for metacognition and self-regulation develop significantly (Rosanbalm & Murray, 2017). Encouraging children to reflect on themselves and peers places them at the centre of the regulation process and helps create understanding, motivation, and develops a sense of agency (Braund & Timmons, 2021). The literature calls for guidance and direction on encouraging and supporting the multi-dimensional concept of self-regulation beyond behavioural, social, and emotional characteristics (Braund & Timmons, 2021). Pedagogical guidelines and practice examples are required to guide educator support for children's self-regulation. Examples from the literature include support for children's metacognition through thinking aloud and goal setting (Braund & Timmons, 2021). Baker et al.'s (2021) theoretical account highlights the connection between children's agency and learning and

self-regulation. The article proposes that when play experiences are agentic, i.e. chosen and influenced by the child, they are more likely to explore and consolidate these experiences, which supports self-regulation. When children's learning is agentic, it is suggested that they are more likely to develop novel approaches and adjust when an approach is not working for them (Robson, 2010; Baker et al., 2021).

Aistear recognises the importance of using conflicts and challenges to discuss feelings (NCCA, 2009, p. 21); this is reflected in contemporary literature that speaks to the value of co-regulation strategies to help children develop self-regulatory skills (Braund & Timmons, 2021). The adult's role as a co-regulator is critical in a child's development of self-regulation. As with the examples in *Aistear* (2009), conflict resolution provides meaningful opportunities for children to learn social, emotional, and self-regulation skills. The current literature also suggests that responding to peer conflicts can be challenging for educators; they may need more support to work effectively with children during moments of conflict, such as child-centred mediation and fostering positive relationships (Clarke et al., 2017). When conflicts are positioned as learning events, educators learn how to empower children through being supported to express their feelings, make choices, and understand the perspectives of others during this intense intersubjective process (Clarke et al., 2017). During conflicts with peers, emotions are aroused, and it can be challenging for toddlers to use words. Educators can support toddlers by being attentive to their non-verbal communication and by supporting verbal communication and emotional regulation; these interactions enhance overall well-being as children begin to understand and express their emotions through co- construction and regulation of emotions (Majorano et al., 2015). Goal-directed learning can be developed through self-assessment, which supports and extends *Aistear*'s perspective on making "decisions and choices about their learning and development" (NCCA, 2009, p.17).

The importance of the link between young children's friendships, peer relationships, and children's well-being can be seen in transitions (Brogaard-Clausen & Robson, 2019). Studies suggest that educators and adults must attend to aspects such as grouping and pairing children within the daily routines, transitional times, breaks, and lunchtime. Such considerations of how the setting may accommodate children's friendships and preferred playmates are pivotal in supporting well-being during transitions (Brogaard-Clausen & Robson, 2019).

Transitions

Aistear recognises the significance of transitions and the role of the adult in helping children to “predict and cope with changes, transitions and stressful life events” (NCCA, 2009, p. 21). The term ‘transition’ is not universally defined; it can be broadly described as the experience of change, moving from one setting or phase to another, leaving the ‘comfort zone’ of the familiar and encountering the unknown (Fabian, 2009). Transitions may include from home to preschool, preschool to primary school, or transitions within the day-to-day activities in the ECEC setting. Positive transition experienced in childhood increases the likelihood of successful future transitions (O’Farrelly & Hennessy, 2014).

The increasing number of young children growing up in poverty, with many factors that can affect many aspects of social and emotional development, is highlighted in the literature (O’Farrelly et al., 2020). Inequalities emerge early, remain stable or widen over time and influence ongoing life chances (Duncan & Magnuson, 2011). Children living with poverty transitioning from home to preschool or preschool to primary may struggle with academic skills, behaviour problems, self-regulation, and social and emotional development. They are less likely to be considered ‘ready for school’ than their advantaged peers (Shonkoff, 2015). ‘School readiness’ is defined “as children's preparedness for what they are expected to know and do in academic domains and processes of learning when they enter a formal classroom setting” (Linder et al., 2013, p.1). It is a debated and contested concept in Western Europe. Bingham and Whitbread (2018, p. 364) argue that the ‘schoolifying’ of early childhood education is likely to be damaging, particularly for young children and those experiencing socio-economic deprivation. The literature calls for greater attention to meeting children's socio-emotional needs in smooth transitions from early childhood to school. Children experiencing transitions require consistent pedagogical approaches and experiences, such as continuing play-based curriculum approaches (physical, constructional, and social play), child-initiated experiences, and responsive interactions in ECEC settings (French, 2022).

Within the literature, concepts of readiness and transition are often combined, focusing on children’s skills and knowledge as they start school (Dockett et al., 2013). Building relationships between educators involved in transition is critical in promoting continuity and a sense of belonging for all involved. This focus on school readiness contrasts with research that emphasises the importance of child, family, community, and setting characteristics in promoting positive transitions to include cultural and linguistic diversity (Dockett et al., 2013). Quality transitions recognise the importance of feeling known and

seen. A quality experience for all children ensures continuity between home, key people, and all the settings that make up children's learning journeys. While transitions may occur frequently, not all children navigate these comfortably or happily (Early Education, 2021).

In the context of preparedness for the transition to school, children should be enabled to adapt well to the school environment and experience accomplishment. Achieving these measures as an educator is based on the ability to identify and support factors contributing to such adaptation and success (Sabol & Pianta, 2017). Educators tend to identify 'readiness' as children's ability to communicate wants, needs, and thoughts, having curiosity and enthusiasm for learning, and robust self-regulation and social skills (Sabol & Pianta, 2017). In contrast, parents typically prioritise literacy and numeracy skills (Rimm-Kaufman & Sandilos, 2017). Research indicates that a child's feelings about school and early relationships foster ongoing engagement, participation, and achievement. Early socioemotional factors (e.g., liking school and making and sustaining friendships), rather than educational factors, foster children's sense of belonging and attachment to school (O'Farrelly et al., 2020). A school adjustment model that engenders a sense of mastery, connectedness, and inclusion, as well as supportive spaces to be creative and playful, with strong ties between school and family, was highlighted as priorities to support successful transitions (O'Farrelly et al., 2020). The literature demonstrates that traditional 'readiness' measures capture academic aspects of school adjustment, but aspects of children's motivation, social and emotional skills, creativity, and environmental features require further consideration (McNamara et al., 2018). Elements that could underpin a range of effective educational transitions are the importance of relationships and care, focusing on strengths and competencies rather than deficits, promoting inclusivity rather than exclusivity, responsiveness to local communities, dedicated support and resources, and high-quality programmes (Dockett et al., 2013).

Furthermore, high expectations for all children and families, coupled with recognition of the strengths and funds of knowledge they bring, are cornerstones of effective transition to school approaches, regardless of the backgrounds of those involved (Dockett et al., 2013). Educators need to form a caring relationship not only with an individual child but with a group of children; they need to observe and analyse events and initiate different experiences or transitions, taking into account the well-being of the whole group (O'Farrelly et al., 2020). Transitions provide many opportunities to bring ethics of care, inclusion, and pedagogy into an integrated whole. As horizontal transitions often include all these three dimensions of

early childhood education, transitions are potent contexts for young children's learning, development and well-being (O'Farrelly et al., 2020).

Existing literature affirms *Aistear*'s focus on connected, supportive relationships, and experiences that promote psychological well-being. The existing Learning Goals are aligned with current studies that promote and encourage children's psychological and social development as key to child well-being. The studies suggest that these feelings of confidence, connectedness, and resilience are supported through nurturing pedagogical relationships (Brogaard-Clausen & Robson, 2019), touch (Svinth, 2018), empathy (Soliman et al., 2021), perspective-taking (Aslan & Köksal Akyol, 2019) and comfort in coping with transitions (O'Farrelly et al., 2020). The review suggests there is potential for enhancement through greater emphasis on practice and pedagogies that promote social and emotional learning strategies (CASEL, 2021), compassion and co-regulation (Braund & Timmons, 2021; Robson & Zachariou, 2022) and self-regulation through play (Bradley et al., 2018).

Aim 2: Children Will Be As Healthy and Fit As They Can Be

Aistear recognises that physical well-being “enables children to explore, to investigate, and to challenge themselves in the environment” (NCCA, 2009, p. 16). In 2021, a review of Approved Learning Frameworks commissioned by the Australian Children's Education and Care Quality Authority (ACEQA) mapped the key principles and learning goals of more than 20 international learning frameworks and curriculum approaches. The review highlights the importance of the environment, the natural world, and outdoor play in supporting children's learning and emotional and physical well-being (Barblett et al., 2021). These key trends of autonomy, participation, play, and physical activity as enabled by indoor and outdoor spaces and effective educator practices are particularly relevant to *Aistear*'s Theme of Well-being. The framework promotes experiences and opportunities for children to become aware of their bodies, making healthy choices that allow them to explore, experiment, and engage in various playful experiences. Within the current review, key trends emerged; the importance and influence of indoor and outdoor environments, risky play, and nutrition to support children's physical health and development.

Environments That Promote Play and Physical Activity

Contemporary literature endorses the importance of the physical environment in promoting children's autonomy, well-being, participation, and physical activity (Barrable,

2020; Kangas et al., 2016; Knauf, 2019; Sando & Sandseter, 2020; Tonge et al., 2020). Learning environments provide an important context within which children's behavioural, affective, and cognitive outcomes can be enriched, their autonomy assured, and their well-being enhanced (Barrable, 2020). Autonomy can be described as "acting with full volition and self-endorsement" while considering the external environment and socialising agents such as educators and families (Barrable, 2020, p.291). Children's quest for autonomy can be encouraged or stifled depending on the adults' behaviours. Key findings concerning the environment to support autonomy for three to eight-year-old children include that: a structure, both in time and outdoor space, within which children can feel safe to enact self-directed behaviours should be created (Barrable, 2020). Furthermore, children should be allowed to rest and hide within the place as they wish, and ownership of space should be promoted, for example, naming places and selecting equipment and materials (Barrable, 2020).

In the context of children's participation, the environment provides "young children (ages 3–6) with social and spatial contexts, in which their needs and interests are respected and in which they can make their own decisions about their actions" (Knauf, 2019, p.2). This definition mirrors Barrable's emphasis on 'alterable' environments that can change and be influenced by educators and children. Knauf (2019) suggests that six features affect the efficacy of the environment. (1) Transparency: the openness of the environment for children (e.g., small items of furniture that children can see over enhances participation). (2) Structure: the arrangement of the materials that respond to children's interests and furniture in the indoor environment and exhibition areas. (3) Flexibility and responsivity: access to materials with multiple purposes (e.g., pedestals that could be used as benches or walls). (4) Accessibility: open shelving and storage boxes available for children. (5) Functional diversity: a range of thematic possibilities and potential functions offered within the setting (e.g., fine motor skill development through construction, drawing and art materials, scientific/technological development through scales and measures). (6) Representation: children see themselves in mirrors, photographs (e.g., on portfolios, wall displays, birthday calendars), and artefacts made by the children.

Key findings revealed that the physical accessibility, the design of materials and furniture, and the representation of children in the environment facilitate children's participation and sense of ownership and autonomy in the environment (Knauf, 2019). Such environments respond to children's needs and interests, ensuring that children feel valued and afford opportunities for decision-making and participation in the spirit of the UNCRC

(Knauf, 2019). Children's active participation in their learning environment has been found to increase well-being, self-regulation, problem-solving skills, and communication (Sandseter & Seland, 2016).

Tonge et al. (2020) looked at the experiences of over 300 children aged two to five years in New South Wales, Australia. The study found that children's physical activities were higher in settings that offered free-flowing routines where children move indoors and outdoors throughout the day, compared with a structured routine where the educators determined access to the outdoors. The study suggests that child-led, free-flowing routines offer children greater quality "choice and independence, elements that contribute to sustained engagement and uninterrupted time", particularly concerning physical activity and movement (Tonge et al., 2020, p. 15). The study also found that in settings with smaller outdoor environments, children were more sedentary throughout the day; girls spent considerably more time in sedentary activities than boys. Within the current literature, outdoor play and natural world experiences are consistently recognised as providing unique opportunities for physical activity, collaboration, risk-taking, and relationships that are sometimes not possible indoors (Tovey, 2017). Enriching environments offer children unique affordances that challenge and extend children's perception of the world and promote physical activity and well-being (Sando & Sandseter, 2020). The concept of affordance draws on Gibson's theory (2014); it considers what the environment offers the child and what experiences in that space can deliver, positive or negative. Affordances are not a fixed feature of the space but a dynamic interaction between the child, the environment, and the play experience (Sando & Sandseter, 2020).

From the child's perspective, play is self-initiated, spontaneous, free, enjoyable, and connected to physical activity and well-being. Children's activity habits are more likely to develop when children are engaged in enjoyable, physically active play that promotes a sense of well-being (Koch, 2018). Sando and Sandseter (2020) analysed video footage of 73 children aged three to four across eight early childhood settings. They found that well-resourced environments provide children with multiple play-based experiences that promote physical activity, well-being, and social relationships. In particular, children's access to open-ended objects like tyres, planks, barrels, and water containers promoted physical activity and gross motor coordination, cooperation, collaboration, and joint problem-solving.

Within this Literature Review, the studies consistently highlight the importance of providing children free access to enriching indoor and outdoor environments that promote movement, mastery and exploration. A key trend is allowing children to experience

ownership, autonomy, and independence within environments, and the ability to choose and access play equipment and materials based on their interests and play preferences.

Risk and Risky Play

Aistear promotes opportunities that provide children with the experience, excitement, and energy of taking risks. Contemporary literature highlights the benefits of risky play experiences in promoting children's well-being, sense of autonomy, mastery, social competency, resilience, and problem-solving skills (Barrable, 2020; Harper & Obee, 2021; Obee et al., 2021; Sando & Sandseter, 2020). Risky play is defined as "thrilling and challenging forms of play that have the potential for physical injury and has been linked to development and health benefits for children in the early years" (Obee et al., 2021, p. 2607). Despite the recognised benefits, children's opportunities to experience risky play are thought to be limited by children's increasing access to passive digital experiences and limitations resulting from highly risk-averse societies (Harper & Obee, 2021). Limited access to risky play experiences reduces children's opportunities to practice, master, and refine physical control and coordination when balancing, climbing, or moving at speed.

Risky play has many benefits, including support for children's judgement, resilience, and self-determination. Forest schools provide examples of how safety concerns can be addressed and overcome by working collaboratively with young children to develop a culture of positive choices, responsibility, and good judgement (Barrable, 2020). In a sample of rural Scottish forest schools, children aged 3-8 years were afforded play experiences that included using sharp tools, climbing, hiding, balancing, and jumping. These experiences afford children opportunities for growth development and mastery but also pose a risk of injury. However, the study found that children, particularly young children, can be supported to develop a healthy awareness of risk and danger and to negotiate with the environment, materials and their peers to make good judgements when taking physical risks. This was supported by guided debate and discussion with knowledgeable educators, as well as physical boundaries and perimeters. The study found that children can evaluate and manage risks with support and collaborate with peers and adults to share information that facilitates risky play experiences and exploration (Barrable, 2020).

The literature suggests that children's physical strength, coordination, and control are supported and enhanced by risky play experiences that challenge their gross and fine motor skills, judgement, and problem-solving. The studies highlight the importance of outdoor learning environments, equipment, and play materials

that allow children to explore and extend their physical skills, independence, and self-determination. Children's engagement, participation, and safety in risky play are supported and enhanced by educators with positive attitudes, who encourage children to assess and manage risk through discussion, debate, and reflection.

Feeding and Nutrition

There is increasing recognition of the importance and long-term influence and impact of health-promoting policies and practices in early childhood. *Aistear* aims to promote children's healthy choices and "positive attitudes to nutrition, hygiene, exercise and routine" (NCCA, 2009, p.17). Experiences in early childhood settings can instil positive attitudes, beliefs, and habits that promote healthy eating for children and their families. The Literature Review protocol did not generate a significant number of studies that consider health promotion; those that did emerge focused on feeding and nutrition in early childhood settings. Despite the importance of early experiences of food, nutrition, and mealtimes, there is a lack of studies that explore approaches to healthy eating and choices in early childhood curricula frameworks. Studies that did emerge considered: the absence of infant feeding nutrition policies in Australian ECEC settings (McGuire et al., 2018), strategies to promote vegetable intake in children aged two to five years (Nekitsing et al., 2018), and the importance of mealtimes as an opportunity for learning and development (Harte et al., 2019).

Children's early experiences with food and nutrition are recognised as highly important and influential for children's growth and development, as well as long-term health and obesity prevention (McGuire et al., 2018). Despite this, there is limited research that considers the feeding and nutritional needs of infants and young children in early childhood settings. McGuire et al. (2018) found that despite recognising the importance of early feeding practices and nutrition, infants were largely invisible in ECEC policy and curricula. The study asserts that while children should be viewed as competent and capable, infants are also highly vulnerable and dependent on adults and educators for responsive caregiving pedagogies that respond to their basic needs. The paper suggests that educators be given training and guidance that recognises and acknowledges cues for hunger and satiety and respects children's agency in terms of food preferences and refusal. The study advocates that children's care needs and routines should be viewed as the curriculum, with experiences such as feeding seen as opportunities to build trusting and reciprocal relationships with children and their families and to promote healthy development and learning.

Children's preferences and inclinations are influenced by their unique socio-cultural contexts, experiences, experimentation, and exploration. A recent systematic review and meta-analysis of strategies to increase vegetable consumption in preschool children aged 2–5 years (Nekitsing et al., 2018) suggests that increased opportunities to taste and explore vegetables resulted in higher intake. The meta-regression that considered findings from 30 separate studies indicated that the more 'exposures' a child had to a vegetable, the more likely they are to eat it, especially for unfamiliar or disliked vegetables. These findings suggest that experiences encouraging children to explore, play, and experiment with vegetables can lead to increased consumption. There is a small but growing body of literature that suggests ECEC settings have significant potential to influence positive lifelong food and nutrition habits through a curriculum that initiates greater awareness of nutrition, quality food, and positive attitudes to food (Barnes et al., 2021; Farewell et al., 2021; Wallace et al., 2017). These studies suggest that early childhood educators have positive attitudes toward supporting children's healthy food choices and preferences but lack confidence, training, and parents' support to implement and sustain health-promoting environments and experiences.

Finally, the scoping methodology identified a paper that considered the value of mealtimes as occasions for socialisation, learning, sharing, and exploration across two ECEC settings in Australia (Harte et al., 2019). The study highlighted the value of mealtimes as important daily rituals, routines, and socio-cultural learning moments and experiences that emerge when children eat together, particularly with food brought from home. The findings suggest that greater attention should be given to mealtime as an important ritual within the micro-system of early childhood settings, one that encourages interactions and relationships with peers and educators that can promote healthy eating practices. Much like McGuire and colleague's (2018) study, Harte and colleagues (2019) also highlight the importance of recognising and responding to children's agency in terms of food preferences and choices, as well as recognising hunger and satiety cues.

In *Aistear*, the adult "supports children's psychological and physical well-being by helping them to make healthy choices about nutrition" (NCCA, 2009, p.16). Despite limited studies emerging in the current review, the findings recognise the value and future potential of supporting children's positive attitudes to nutrition and healthy eating. It can be suggested that educators require additional training, support, information, and resources to encourage children and their families to establish healthy routines and explore and experiment with different foods. The review also calls for greater attention to the experience of eating and feeding in early childhood settings, particularly for infants and young children.

Well-being focuses on children's physical health and well-being and promotes experiences that support physical development, awareness of their bodies, self-determination, and autonomy. The current review highlights the importance of indoor and outdoor environments that encourage physical activity and promote children's sense of ownership and agency.

Risky play experiences are valued for the experience of challenge, mastery, and excitement that they offer children. The studies remind us of children's confidence and competence in evaluating and mediating risk with support from knowledgeable educators and supportive environments. Finally, the review suggests that early childhood curricula should consider mealtimes as a key context for establishing healthy eating and responsive feeding practices.

Aim 3: Children Will Be Creative and Spiritual

Aistear suggests that children who express themselves creatively and experience a spiritual dimension in life enhance their well-being (NCCA, 2009). The conceptualisation of creativity and related characteristics such as flexibility, self-curiosity, and spirituality are beneficial for promoting originality and deepening children's thinking and social and emotional well-being. These conceptualisations are evident in the current literature (Meta-McMahon, 2019). Children are the actors who contribute to interplay within their environment; their agency can influence everyday lives. *Aistear* also recognises that caring for the environment is crucial (NCCA, 2009). It is strongly advocated that sustainability education be strengthened within the ECEC curriculum, generally given "the interest and ability of children, even very young children, to engage with these concepts" (Barblett et al., 2021, p.21). Children's engagement with nature builds emotional and physical well-being and environmental awareness (Barblett et al., 2021) through practices that empower children to feel valued and to live sustainably as respectful, caring global citizens (Samuelsson & Park, 2017). The contemporary literature in this current review centred on three key trends concerning children's creative and spiritual being: creativity, spirituality, and sustainability.

Creativity

Creativity refers to the ability to produce original and valuable ideas (Smith & Smith, 2017). Creativity is a key competence in present societies, and education systems worldwide are pursuing ways to foster creativity in children (Bai et al., 2019). *Aistear* identifies the importance of children expressing themselves creatively through the arts (NCCA, 2009).

Creativity and related characteristics such as flexibility and self-curiosity (as discussed above) are higher in early childhood education than in later life. Contemporary studies suggest that creativity decreases over time in formal education (Bai et al., 2019). Despite this discourse, the literature finds that early childhood educators would like support in implementing and fostering skills to respect and protect children's curiosity and learning interests (Bai et al., 2019). Thereby helping children build learning habits such as taking the initiative, focusing, daring to face difficulties, exploring and trying, and being willing to imagine and create (Bai et al., 2019).

The Learn to Think preschool (LTT-P) programme for promoting creativity in young children was implemented and evaluated in China (Bai et al., 2019). The factors of creative thinking examined included: originality (requiring children to cross boundaries, think outside of the box, and express novel ideas), fluency (requiring children to reflect on the thinking process and methods learned in an experience, i.e., metacognition skills), and elaboration (enriching content is provided requiring children to apply their learning). The results suggest that the LTT-P programme can promote young children's creative thinking, especially concerning the aspects of originality and elaboration (Bai et al., 2019). The results for fluency were less clear. Creativity skills are enhanced through LTT-P by:

- (1) stressing pedagogical strategies that introduce independent exploration, story-based scenarios with concrete materials and drawings, picturing the scenery, cognitive conflict, and modelling (e.g., drawing by the educator);
- (2) emphasising the importance of creating a social-emotionally safe classroom climate when implementing thinking activities; and
- (3) encouraging students to transfer learned thinking methods to new content domains (Hu et al., 2016).

Children in the LTT study were explicitly supported to describe their thinking process, explain their ideas to peers and educators in almost all activities, and collaborate (Hu et al., 2016). The findings suggest that a structured programme in ECEC to promote creativity in children can be effective and beneficial for promoting originality in children's thinking.

The highest levels of creativity, social, and cognitive development can be promoted in schools through musical play and the arts (Ritblatt et al., 2013). Evidence suggests children benefit from using music as part of the creative daily routine to help children transition smoothly from one activity to another and adjust to demands. In addition, extensive research highlights the benefits of music for building self-regulation, self-curiosity, and independence

(Custodero & Johnson-Green, 2008; Zachariou & Whitebread, 2017). From infancy, musicality exists at the core of family interactions and forms the basis for social and emotional communication and well-being throughout life (Ritblatt et al., 2013). Zentner and Eerola (2010) found that preverbal infants had more creative rhythmic responses to music than speech. These findings support Robinson's (2002) thinking that children, from a very young age, find connections to music that may not develop solely from verbalisations and that rhythmic music could potentially serve as a way to engage children in learning creatively.

Ritblatt and colleague's (2013) study using the Thinking Ability Structure Model (TASM) indicated that the music groups improved children's social skills, specifically social cooperation, interaction, and independence scales. Music and movement are instrumental in increasing children's well-being and joy of learning with a central element of play; children are more eager to learn, more curious about learning, and more creative (Ritblatt et al., 2013). Music and the arts can inspire creativity, calm busy minds, lift us, and are closely connected to feelings of well-being.

The importance of educators incorporating creative art pedagogy in their teaching to foster and enhance well-being was discussed (McCabe & Flannery, 2022). Creative arts education can shape learning experiences to create emotionally safe spaces, provide opportunities to explore and express personal identity, and develop trusting relationships with students. Visual arts education provides the learners with experience of creating or looking while discussing visual art permits explorative and relational learning. Drama is a creative, shared, collaborative activity concerned with exploring the human experience, which enables the exploration of imagined worlds (McCabe & Flannery, 2022). Drama aspires to be a space for activating individual learning and creativity, learning about community and learning within the curriculum (Anderson & Dunn, 2013). Art education is a way of experiencing implicit, ambiguous, complex aspects of the self; it is also a way to reach beyond the self, setting aside preconceptions and connecting with external reality, and with other people, from new perspectives (Lewis Harter, 2007). The contemporary literature validates *Aistear's* focus on "experiencing the arts" (NCCA, 2009, p.17). The literature also recognises that the experience of working with visual media can develop self-esteem, self-worth or self-efficacy once the children feel they have acquired and mastered specific skills and techniques to create original work (McCabe & Flannery, 2022). The arts can shape learning experiences to create emotionally safe spaces, provide opportunities to explore and express personal identity, and develop trusting relationships (Hellman & Milling, 2020). Experiencing creativity through

the arts allows children the time and space to reflect on their creations, observe, and connect with the world around them in a meaningful, thought-provoking way.

Spirituality

Spirituality encompasses the essence of life, providing children with a window to greater consciousness and a more profound understanding of being, meaning, and purpose, and therefore greater well-being (Mata-McMahon, 2019). *Aistear* recognises the importance of children experiencing a spiritual dimension and of nurturing the child's "sense of wonder and awe" (NCCA, 2009, p.17). Spiritual moments are direct, personal, and often have the effect, if only for a moment, of awakening a person to questions about identity and place in the universe. Such moments have the potential to capture the essence of spirituality for the young child and can be enabled by exploring playful pedagogical approaches (Harris, 2015). The contemporary literature affirms spiritual education within *Aistear* and contends that if spiritual education is to go beyond the surface and be experienced as transformative, then thinking (cognitive), feeling (affective), and inner reflective intuiting (spiritual) must play key roles and, in this way, can complement the educational process (Mata-McMahon, 2019).

A survey on perceptions of nurturing spirituality in childhood was undertaken involving 33 ECEC settings (Mata-McMahon, 2019). The purpose of the survey was to expand the view of young children's development to include the spiritual and connect with the benefits of play (Mata-McMahon, 2019). Findings show that 45.5% of surveyed educators mentioned play as a way to nurture children's spirituality. The findings suggest that pretend play assists in social behaviour, improving children's sensitivity to social signs and emotional regulation (Mata-McMahon et al., 2019). *Aistear* aligns with this finding in facilitating children to express themselves through various types of play (NCCA, 2009).

Five methods of nurturing spirituality emerged: appreciation of nature, reflection and pondering, meditation practices, yoga, and practices centred on children's needs, e.g., play. Findings revealed the importance of providing opportunities for creative expression and free play, engagement with nature, contemplative practices (e.g., mindfulness), relationship building, and moral character development to nurture children's spirituality (Mata-McMahon, 2019). Interactions and experiences that support spiritual nourishment for children, including play-based therapy, outside play, and exploration foster children's openness to greater consciousness and reflection.

Spirituality assists children and young people in expressing their thinking, meaning-making, and identity-formation (Goodliff, 2013). Consumerism, a growing human population, and “spiritual impoverishment have led to a radical disconnection of humans from Nature” (Smith, 2009, p. 653). *Aistear* offers learning experiences of the natural environment outdoors and supports children in describing the experiences, for example, by touching flowers and leaves, and looking at spider webs (NCCA, 2009, p.18). Supporting children’s connectedness with the natural world requires educators “to promote children’s rationality with nature as a component of their spirituality” (Robinson, 2019, p. 348). Human well-being is intimately entwined with the well-being of Earth’s ecosystems. Positive, age-appropriate spiritual experiences are critical for developing concern for the environment and ensuring the planet’s sustainability and could be reinforced in *Aistear*.

Sustainability

Engagement with nature contributes to our emotional and physical well-being. It supports our learning of the natural world, building a sense of stewardship and conservation (Dennis et al., 2014) and is vital for our present and future sustainability (Common Worlds Research Collective, 2020). *Aistear* encourages “care for the environment” (NCCA, 2009, p.17). With climate change now a lived reality, contemporary literature places central importance on caring for the environment, highlighting the necessity of having a sustainable environment for everyone to enjoy, now and in the future. Positive learning outcomes, reduced behavioural problems, co-construction of learning, and increased engagement and levels of well-being are associated with increased access to natural spaces (Dennis et al., 2014). Increasing recognition of the value of “environmental stewardship” alongside “academic content knowledge” is recommended in early childhood curricula (Kuo et al., 2019, p. 6). Protecting the environment is now an immediate existential challenge for the well-being of all, and sustainable practices must be developed through education and lived experiences (Quay & Jensen, 2018).

Internationally, there is growing interest within the literature on the contribution of ECEC in promoting global citizenship, addressing issues of fairness, social justice, and equity, and enhancing global well-being, which corresponds with the broader definition of sustainability. Reflecting on this, several other ECEC curricula (e.g., Norway, Sweden, Japan, and Korea) include an underpinning principle of sustainability, positioning children and young people as competent problem-solvers, able to engage with complex problems and enact positive change (Elliott et al., 2020). Ethically informed views about sustainability

should be encouraged (Elliott & Young, 2015). Building children's relationships and experiences with the natural world are important; however, the literature also purports that exploration of outdoor spaces may be limited due to the unpredictability of the outdoors and educator fears (Schenetti & Guerra, 2018). The contemporary literature advocates the need to embrace a systems-theory approach, and a broader definition of sustainability, beyond nature play. Children's agency and active global change roles need stronger articulation and voice in the ECEC curriculum (Ärlemalm-Hagsér & Davis, 2014).

Early childhood education plays a significant role in supporting the achievement of the goals for sustainable development (Bautista et al., 2018). Communities are becoming more mindful of the significance of caring for the natural environment and sustainable social and economic environments (Bahtić & Jevtić, 2020). Early childhood and preschools can provide foundations for lifelong learning about sustainability. Accordingly, early childhood education must build capacity and competencies to support sustainability goals (Diaries et al., 2009). Goal 4 of the United Nations' Sustainable Development Goals (SDG) is to ensure inclusive, equitable, and quality education for all children throughout their lifetime, with specific reference to providing quality ECEC; this necessitates a discussion of how early learning might incorporate more focus on sustainability (Samuelsson & Park, 2017). This goal of the SDGs has received particularly strong support in international agreements and is targeted for realisation by 2030 (United Nations, 2015). The SDG Report (United Nations, 2016) defines quality education as including foundational literacy and numeracy in addition to interpersonal and social skills, values, and attitudes that facilitate people to live healthy lives and respond to global challenges. Values related to sustainability promote a specific type of pedagogy in which the child should be allowed to take the initiative, think, and reflect. This is addressed in the Education for Sustainable Development skills (UNESCO, 2012), which can be adapted for ECEC: problem-solving, innovation (e.g., entrepreneurial education), life and lifestyle (e.g., consumer awareness), and citizenship (see further discussion below). *Aistear*'s existing Learning Goals support the development of skills relating to sustainability by encouraging children to become reflective and think flexibly (NCCA, 2009). The following opportunities for further enhancement of sustainability in ECEC are recommended (Samuelsson & Park, 2017):

- a focus on 'how to learn', central in sustainable learning, as it involves self-reflection on 'what' and 'how' one learns;

- opportunities for children to make meaning of their feelings, bodies, and experience; this requires educators to deeply listen to children in addition to directing their attention towards issues of sustainability in play;
- developing children's values to include: "respect for all living things and the environment, and the ability to discover and reflect, and take a stand in respect to ethical dilemmas" and "develop children's understanding of science and relationships with nature, including knowledge about plants, animals and environmental issues, such as global warming" (evident in the Swedish curriculum [Samuelsson & Park, 2017, p. 279]) and include sustainability and global questions in their revised curriculum;
- educators who understand what may be unsustainable and what can be done to promote sustainability can help children connect to their lived experiences. For example, in Nordic countries walking in the forest and appreciating nature are important parts of the national culture; and a
- a curriculum that is open enough to enable educators to reflect and innovate. Education for Sustainable Development concepts should be included as part of initial education for early childhood educators (Samuelsson & Park, 2017)

Children's knowledge needs to be anchored in their experiences to lead to meaningful understanding (Roberts, 2010; Seligman, 2011). Educators can engage in communities of practice that focus on the collaborative design of educational activities and programmes that could enrich pedagogical activities about sustainability (King & Holland, 2022). The findings of Bahtic and Jevtić's (2020) research indicate that kindergartens and preschools provide foundations for lifelong learning about sustainability and that educators can play an important role in promoting children's understanding through enriching pedagogical activities engendering compassion for nature and the environment.

Compassion is a socio-emotional competency recognised as key for empowering "children as global citizens to lead sustainable lifestyles that support and sustain collective well-being" (Broadfoot & Pascal, 2021, p. 910). Conditions enabling compassion experiences in early childhood were explored (Broadfoot & Pascal, 2021). The findings align with Goal 5 of the SDG (United Nations, 2015), seeking 'good health and well-being'. ECEC is a critical context for fostering compassion to support collective well-being and promote a more just and healthy world. The COVID-19 pandemic has compounded the urgent need for the socio-emotional competency of compassion to be fostered in education for the well-being of

children and our planet (Aslan & Köksal Akyo, 2019). A growing body of literature recognises young children having significant knowledge and compassion for the Earth, with essential ideas about environmental issues and knowledge of the responsibilities individuals carry concerning sustainability (Engdahl, 2015).

Contemporary literature endorses the Aims and Learning Goals of *Aistear*, which recognise that children express themselves creatively and experience a spiritual dimension in life to enhance their well-being (NCCA, 2009). ECEC has an important role in redefining our nurturing relationship within the environment by instilling the concepts of interdependence and compassion, whereby we come to understand our place within the world rather than existing apart from it (Common Worlds Research Collective, 2020). The concept of ‘compassion’ has recently seen greater use and attention due to its predisposition to support well-being, justice, and peace (Broadfoot & Pascal, 2021). While *Aistear* (NCCA, 2009) does not use the term ‘compassion’, it does advocate for children to care for others and the environment; the discourse prevalent in contemporary literature in this review suggests embedding environmental education and sustainability within the curriculum (Barblett et al., 2021). For example, the Finnish National Core Curriculum (pre-primary) describes environmental education as “creating a foundation for a sustainable way of living by familiarising children with nature preservation, children are [thus] guided to take care of their environment” (Finnish National Agency for Education, 2018, p. 80).

Aim 4: Children Will Have Positive Outlooks on Learning and On Life

In many early childhood curricula (including *Aistear*), young children are positioned as competent problem-solvers who enact positive change (Elliott et al., 2020). In *Aistear*, Aim 4 states that children “need to feel valued, respected, empowered, cared for, and included” (NCCA, 2009, p.16). Internationally, there is increasing attention paid to the potential of children’s early childhood experiences to promote global citizenship and address issues of fairness, social justice, and equity. Within this Literature Review, sustainability, social justice, citizenship, and agency repeatedly emerged across all four of *Aistear’s* Themes. In the context of Aims and Learning Goals of Well-being, key trends emerging included: values (van Krieken Robson, 2019), social justice and power relations (Adair & Sachdeva, 2021), democracy (Karlsdottir & Einarsdottir, 2020), citizenship (Harris, 2020) and children’s agency (Correia et al., 2019). Social justice and citizenship are also discussed

in Chapter 5: Identity and Belonging concerning children's understanding and expression of rights.

Values, Social Justice, and Democratic Citizenship

The concept of 'values' is much contested, and a definition of the term remains undifferentiated and vague (Johansson et al., 2018). A pluralist view considers that values are socially constructed and vary in individuals, situations, and over time. Values can be implicit, emotionally loaded, embedded in practice, and therefore challenging to see and articulate. Values are embedded in the attitudes, feelings, language, actions, rules, and materials within early childhood settings, and both educators and children will represent their values and beliefs. Recognition, respect, and awareness of values are likely to impact children's sense of belonging, value, and well-being (Johansson et al., 2018).

The Literature Review identified an empirical research study that was conducted to explore the pedagogy applied by early childhood educators about values, including spirituality (van Krieken Robson, 2019). The study explored early childhood educators' experience mediating and promoting a national action to promote Fundamental British Values, defined as; "democracy, the rule of law, individual liberty, and mutual respect and tolerance for those with different faiths and beliefs". Rather than emerging from the children, educators or local context, these values were imposed on children and settings as part of a wider government measure to counter terrorism. It is argued that moral pedagogies, where children are positioned as constructors of knowledge about values, have the potential to support ECEC practice in ways that respect and uphold children's rights (van Krieken Robson, 2019). Such an approach requires educators to adopt a critical stance (van Krieken Robson, 2019). The study suggests that this process may be enhanced by educators' reflecting on the positioning of children within pedagogical relationships through the lens of child rights (Lundy, 2007). Consideration of relationships is central to pedagogy in values education, and this is supported by earlier work by Formosinho and Formosinho (2016) exploring participatory pedagogy in ECEC. Van Krieken Robson's (2019) study explored the attempts of educators to comply with the directive on 'teaching values' while attempting to remain authentic in right-based approaches and participatory pedagogies. Whilst educators respect children's right to formulate values relevant to their lives, the process of pedagogical documentation is an area where educators may intervene in ways that diminish children's agency (van Krieken Robson, 2019).

The study demonstrated that sensitive and authentic pedagogical documentation of children's experiences and understandings supported educators in respecting children's agency, and offered valuable avenues to explore ideas about respect and shared knowledge of faith practices, democratic practices, and care for community members (van Krieken Robson, 2019). In promoting concepts of solidarity, justice, empathy, respect and hope, research suggests that educators should adopt a critical stance and consider their epistemic beliefs about how children learn and develop a consciousness of imposed values that inhibit children's agency (van Krieken Robson, 2019).

Social justice and citizenship emerged consistently in the literature searches concerning children's well-being, sense of belonging, and how children see and understand their worlds. Socially-just education promotes authentic equality, where all children are afforded the same access, opportunities, and support, and critically, equity, where each child or group of children are encouraged about their interests, needs, and strengths (Karlsdottir & Einarsdottir, 2020). Chapter 5: Identity and Belonging, discusses approaches to social justice and citizenship, including pedagogical approaches that harness children's innate sense of fairness, curiosity, and proficiency to explore difference, diversity, and dignity.

Social justice and democratic citizenship are rights-based approaches to children's participation that position children as "social actors, actively participating in decision making and advocacy for the self and others" (van Krieken Robson, 2019, p. 428). Children's right to participate, and to influence matters affecting them, are critical in establishing democracy and citizenship. The concept of 'participation' is well established; however, deep knowledge and understanding of how to encourage children's meaningful participation in early childhood settings have not been fully realised (Correia et al., 2019). The literature suggests that educators can promote children's participation and agency by framing and grounding pedagogical relationships in right-based approaches (Adair & Sachdeva, 2021; Lundy, 2007). Educators' recognition and respect for children as social actors and agents in their lives promote children's advocacy for the self and others as democratic citizens. Children's participation is supported by adults that listen carefully, recognise children's competence and actively engage them in decision-making (Correia et al., 2019; Phillips et al., 2020). *Aistear* promotes learning experiences that encourage children to demonstrate independence, make choices and "decisions and to take the lead" (NCCA, 2009, p.16). This is in keeping with current studies that consider children's early experiences of active citizenship influence advocacy, leadership, participation, and agency. In an Updated *Aistear* additional emphasis

could be placed on children's agency, their rights to make decisions, initiate learning, and influence change.

Resilience

In the 1970s, research emerged that considered children who developed well, despite experiences of adversity or risk. The capacity of these children to adapt and sometimes thrive in difficult circumstances was referred to as resilience. Masten (2001) defines resilience as “the capacity of a system to adapt successfully to significant challenges that threaten its function, viability, or development” (p.16). A person that adapts positively, despite significant challenges or threats, is said to have a capacity for resilience. Adaptive or protective factors can be “social, biological, psychological, family or community (which includes culture and peer group) characteristics that reduce the harmful effect of adversity and trauma for children's overall adaptation and wellbeing” (Herrman, 2021, p. 21). Children's capacity to respond and adjust to adversity has been described by Masten (2011) as “ordinary magic” (p. 230);

“Resilience does not come from rare and special qualities, but from the everyday magic of ordinary, human resources in the minds, brains and bodies of children, in their families, and relationships and in their communities”

(Masten, 2011, p.235)

Children's resilience is a dynamic and multifaceted construct that influences children's development and learning (Archdall & Kilderry, 2016; Cefai et al., 2018). Much of the current research on children's resilience tends to focus on longitudinal studies of children's medium to long-term-trajectories arising from early adversity and specific cohorts of children, such as children that have experienced homelessness or alternative care systems. However, there is a recognition of the potential of universal approaches to supporting children's social and emotional learning and resilience; such programmes benefit all children, particularly those at risk of adversity and marginalisation (Archdall & Kilderry, 2016; Cefai et al., 2018; Herbers et al., 2014; Miller-Lewis et al., 2013). The current literature suggests that successful programmes to support resilience adopt ‘developmental, ecological systems approach(s)’ (Cefai et al., 2018, p. 191); that is, they consider and respond to children's unique social-cultural and developmental context. In a review of school-based interventions, Hart and Heaver (2013) reported the value of systems-level work across the school, home, and family, as well as direct teaching of problem-solving skills and close relationships as

protective factors for children at risk of adversity. Research on resilience also suggest that individuals with capacity for resilience share common traits including: self-efficacy, tolerance, self-acceptance, patience, optimism, and hope, with an ability to drawing from personal resources to overcome challenge (Archdall & Kilderry, 2016; Herrmann, 2021; Miller-Lewis et al., 2013). While within-person attributes are of interest, it is important to recognise that young children depend on multiple contextual processes and protective factors including connected and supportive relationships, predictable and comforting routines, safe environments, and meaningful engagement (Cefai et al., 2018).

The scoping methodology identified one review paper (Herrmann, 2021) and one intervention study (Cefai et al., 2018) that speak to the importance of supporting children to develop skills, reflect on experiences, and draw from supportive relationships and contexts to adapt positively to change and challenge. Herrmann (2021) considers current understandings of resilience within early childhood settings. The paper asserts that early childhood educators play an important role in promoting protective factors and adaptation skills that can buffer the effects of adversity and enhance children's capacity for resilience. Strategies include warm, responsive relationships, encouragement of deep thinking and emotional intelligence, harnessing family and community supports, routines and predictability, and hope. The article recommends using children's literature to develop children's narratives of overcoming challenges and play and games to support problem-solving and decision-making skills. Herrmann (2011) emphasised support and teaching of 'personal processes', such as self-regulation, sense of control and self-efficacy, social competence, goal-setting, and cognitive flexibility. The paper also considered educator's awareness of children's families and wider communities as key sites of support, assistance, and strength.

Cefai and colleagues (2018) present the findings of an evaluation of RESCUR Surfing the Waves. This universal resilience programme aims to promote children's social and emotional well-being, particularly for children at risk of absenteeism, bullying, exclusion, or mental health difficulties. The programme is delivered by teachers in mainstream classes and focuses on developing children's communication skills, relationships, self-determination, and perseverance. The programme uses story-telling, modelling, animal characters, and 'mindfulness' activities to engage children and families. The study explored the implementation and evaluation of the programme with 97 children (4-5 years) across 20 classes in five early childhood settings in Malta. The universal programme was delivered over one year, with pre and post-measures of children's resilience skills, behaviour, and

learning engagement. The study findings suggest improvements in children's resilience skills, prosocial behaviour, and learning engagement, but no significant difference in internalized and externalized problem behaviours. While the paper's findings are of interest, it is difficult to ascertain how practical such an approach is within a play-based curriculum in early childhood settings in Ireland. It is perhaps important that in the review and revision of *Aistear's* Learning Goals, further consideration could be given to careful considerations of inhibiting factors that result in stress and adversity for children, as well as support in developing skills that support children in drawing on their personal skills and wider support systems to promote resilience.

Concluding Comments

The current Literature Review provides an overview of contemporary international trends on the Theme of children's Well-being and development in early childhood curricula and learning frameworks. It offers up-to-date perspectives on children's physical and psychological well-being, as well as strategies that promote agency, participation, and engagement with early learning experiences. The review noted the relative absence and visibility of babies and young children across the literature aligned with the Aims and Learning Goals of *Aistear's* Theme of Well-being and early childhood curricula; this is discussed further in Chapter 3. Key trends in the review were: nurturing relationships, compassion, perspective taking and empathy, co-regulation to self-regulation, and transitions. These trends are aligned with the existing Aims and Learning Goals of *Aistear*, and the key messages are in keeping with the key Principles and intention of the framework.

Almost all of the studies reviewed for the Theme of Well-being refer to the importance of rights-based approaches to children's meaningful and authentic participation and how their awareness of themselves as agentic beings is pivotal to their overall well-being. It is suggested that *Aistear* could be further enhanced by making the concept of children's rights, influence, and agency more explicit in the Aims and Learning Goals. The review also highlighted the importance of nurturing relationships that respond to children in their unique contexts to offer security, support, and comfort. Concepts of compassion and empathy for self and others emerged as significant to children's social and emotional development. Early childhood educators play an important role in encouraging children's perspective-taking, compassionate responses, and resilience through modelling, encouraging, and stretching children's innate capacity for kindness. One area that may require attention in enhancing *Aistear* is consideration and acknowledgement of children's physical and psychological

vulnerability and their need for comfort and affection, while still acknowledging their confidence and competence. The review highlighted the importance of enriching and enabling indoor and outdoor learning environments in supporting children's physical activity and risky play. Children benefit from opportunities to experience the thrill, joy, and excitement of risk and adventure that promotes well-being, self-determination, problem solving, and physical development. Finally, as with the other Themes of *Aistear*, sustainability emerged as topical and highly relevant. Early childhood experiences offer significant potential to foster compassion for the planet and the plants, animals, and people that live on it, to support collective well-being, and promote a more just and healthy world.

References

***Denotes literature included in the mapping table**

- *Adair, J. K., & Sachdeva, S. (2021). Agency and power in young children's lives. *Young Children*, 10.
- Amerijckx, G., & Humblet, P.C. (2013). Child well-being: What does it mean? *Children & Society*. DOI:10.1111/chso.12003.
- Anderson, M., and J. Dunn. 2013. *How drama activates learning: Contemporary research and practice*. Bloomsbury.
- Archdall, K., & Kilderry, A. (2016). Supporting children's resilience: Early childhood educator understandings. *Australasian Journal of Early Childhood*, 41(3), 58–66.
- Ärlemalm-Hagsér, E. & Davis, J. (2014). Examining the rhetoric: A comparison of how sustainability and young children's participation and agency are framed in Australian and Swedish early childhood education curricula. *Contemporary Issues in Early Childhood*, 15(3), 231–244.
- *Aslan, D., & Köksal Akyol, A. (2019). Impact of an empathy training program on children's perspective-taking abilities. *Psychological Reports*, 123(6), 2394–2409. <https://doi.org/10.1177/0033294119868785>
- *Bahtić, K., & Višnjić Jevtić, A. (2020). Young children's conceptions of sustainability in Croatia. *International Journal of Early Childhood*, 52(2), 195–211. <https://doi.org/10.1007/s13158-020-00266-4>
- *Bai, H., Duan, H., Kroesbergen, E.H., Leseman, P.P., & Hu, W. (2019). The benefits of the Learn to Think Program for preschoolers' creativity: An explorative study. *The Journal of Creative Behavior*.
- *Baker, S. T., Le Courtois, S., & Eberhart, J. (2021). Making space for children's agency with playful learning. *International Journal of Early Years Education*, 1–13. <https://doi.org/10.1080/09669760.2021.1997726>
- Banerjee, R., & Luckner, J. (2014). Training needs of early childhood professionals who work with children and families who are culturally and linguistically diverse. *Infants and Young Children*, 27(1), 43–59. DOI: 10.1097/IYC.0000000000000000

- Barblett, L., Cartmel, Jennifer, Hadley, F., Harrison, L., Irvine, S., Bobongie-Harris, F., & Lavina, L. (2021). *National quality framework approved learning frameworks update literature review*. Australian Children's Education and Care Quality Authority (ACECQA) <https://www.acecqa.gov.au/sites/default/files/2021-09/2021NQF-ALF-UpdateLiteratureReview.PDF>
- Barnes, C., Yoong, S. L., Nathan, N., Wolfenden, L., Wedesweiler, T., Kerr, J., Ward, D. S., & Grady, A. (2021). Feasibility of a web-based implementation intervention to improve child dietary intake in early childhood education and care: Pilot randomized controlled Trial. *Journal of Medical Internet Research*, 23(12), e25902. [doi:10.2196/25902](https://doi.org/10.2196/25902)
- *Baron, A., Malmberg, L.-E., Evangelou, M., Nesbitt, K., & Farran, D. (2020). The play's the thing: Associations between make-believe play and self-regulation in the Tools of the Mind early childhood curriculum. *Early Education and Development*, 31(1), 66–83. <https://doi.org/10.1080/10409289.2019.1613327>
- *Barrable, A. (2020). Shaping space and practice to support autonomy: lessons from natural settings in Scotland. *Learning Environments Research*, 23, 291–305 <https://doi.org/10.1007/s10984-019-09305-x>
- Barron, C. (2020). *Impact of coronavirus restrictions on children and young people's ability to maintain their play worlds and friendship groups*. Dublin: Dublin City University.
- Bautista, A., Moreno-Núñez, A., Ng, S., & Bull, R. (2018). Preschool teachers' interactions with children about sustainable development: planned and incidental conversations. *International Journal of Early Childhood*, 50(1), 15–32.
- Bingham, S. & Whitbread, D. (2018). School readiness in Europe: Issues and evidence. In M. Fleer and B. van Oers (Eds.), *International handbook of early childhood education*, Volume I (pp.363-391). The Netherlands: Springer.
- Bodrova, E., & Leong, D. (2008). Developing self-regulation in kindergarten: Can we keep all the crickets in the basket? *Young Children*, 63(2), 56–58.

- *Bradley, C., Cordaro, D. T., Zhu, F., Vildostegui, M., Han, R. J., Brackett, M., & Jones, J. (2018). Supporting improvements in classroom climate for students and teachers with the four pillars of well-being curriculum. *Translational Issues in Psychological Science*, 4(3), 245–264. <https://doi.org/10.1037/tps0000162>
- *Braund, H., & Timmons, K. (2021). Operationalisation of self-regulation in the early years: Comparing policy with theoretical underpinnings. *International Journal of Child Care and Education Policy*, 15(1), 8. <https://doi.org/10.1186/s40723-021-00085-7>
- Bredikyte M., & Hakkarainen P. (2017). Self-regulation and narrative intervention in children’s play. In T. Bruce, P. Hakkarainen, & M. Bredikyte (Eds.), *The Routledge International Handbook of Early Childhood Play* (pp. 246—258). Taylor & Francis.
- *Broadfoot, H., & Pascal, C. (2021). An exploration of what conditions facilitate experiences of compassion in one early childhood community. *European Early Childhood Education Research Journal*, 29(6), 910–924. <https://doi.org/10.1080/1350293X.2021.1985558>.
- Brogaard-Clausen, S., & Robson, S. (2019). Friendships for well-being? Parents' and practitioners' positioning of young children's friendships in the evaluation of well-being factors. *International Journal of Early Years Education*, 27(4), 345-359.
- Bronfenbrenner U. (1979). *The ecology of human development. Experiments by nature and design*. Harvard University Press.
- Bronfenbrenner, U., & Morris, P. A. (2006). The Bioecological model of human development. In R. M. Lerner, & W. E. Damon (Eds.), *Handbook of child psychology: Theoretical models of human development* (pp. 793 – 828). John Wiley.
- Cartmel, J., & Grieshaber, S. (2014). Communicating for quality in school age care services. *Australasian Journal of Early Childhood*, 39(3), 23-28. <https://doi.org/10.1177/183693911403900304>
- *Cefai, C., Arlove, A., Duca, M., Galea, N., Muscat, M., & Cavioni, V. (2018). *RESCUR Surfing the Waves: An evaluation of a resilience programme in the early years*. *Pastoral Care in Education*, 36(3), 189–204. <https://doi.org/10.1080/02643944.2018.1479224>

- Center on the Developing Child. (2020). How to help families and staff build resilience during the COVID-19 outbreak <https://developingchild.harvard.edu/resources/how-to-help-families-and-staff-build-resilience-during-the-covid-19>
- Cheeseman, S. (2017). Narratives of infants' encounters with curriculum: Beyond the curriculum of care. *Contemporary Issues in Early Childhood*, 18(1), 55-66. doi:10.1177/1463949117692243
- Cigala, A., Mori, A., & Fangareggi, F. (2015). Learning others' point of view: Perspective taking and prosocial behaviour in preschoolers. *Early Child Development and Care*, 185(8), 1199–1215.
- *Clarke, L., McLaughlin, T. W., & Aspden, K. (2017). Promoting learning during toddlers' peer conflicts: Teachers' perspectives. *Early Years*, 1–15. <https://doi.org/10.1080/09575146.2017.1384919>
- Collaborative for Academic, Social and Emotional Learning. (2019). *2011-2021: 10 years of social and emotional learning in US school districts elements for long-term sustainability of SEL*. CASEL.org
- Collaborative for Academic, Social and Emotional Learning. (2019). *Social and emotional learning: 3 signature practices playbook*. CASEL.org
- Common Worlds Research Collective. (2020). *Learning to become with the world: Education for future survival*. Education Research and Foresight Working Paper 28. Paris, UNESCO.
- Conkbayir, M. (2022). *The neuroscience of the developing child: Self-regulation for wellbeing and a sustainable future* (1st ed.). Routledge. <https://doi.org/10.4324/9781003327479>
- Cooper, M., & Quiñones, G. (2020). Toddlers as the one-caring: Co-authoring play narratives and identities of care. *Early Child Development and Care*, 1-16. <https://doi.org/10.1080/03004430.2020.1826465>
- *Correia, N., Camilo, C., Aguiar, C., & Amaro, F. (2019). Children's right to participate in early childhood education settings: A systematic review. *Children and Youth Services Review*, 100, 76–88. <https://doi.org/10.1016/j.chidyouth.2019.02.031>

- Custodero, L., & Johnson-Green, E. (2008). Caregiving in counterpoint: Reciprocal influences in the musical parenting of younger and older infants. *Early Child Development and Care*, 178(1), 15–39. doi:10.1080/03004430600601115
- Degotardi, S., Page, J. & White, E. J. (2017). (Re)conceptualising relationships in infant-toddler pedagogy. *Contemporary Issues in Early Childhood*, 18(4), 355-361.
- Dennis, S. F., Wells, A., & Bishop, C. (2014). A post-occupancy study of nature-based outdoor classrooms in early childhood education. *Children, Youth and Environments* 24(2), 35-52. <http://www.jstor.org/action/showPublication?journalCode=chilyoutenvi>
- Department of Education and Skills. (2019). *Well-being policy statement and framework for practice*. Department of Education and Skills
<https://www.gov.ie/pdf/?file=https://assets.gov.ie/24725/07cc07626f6a426eb6eab4c523fb2ee2.pdf#page=null>.
- Diamond, A., & Amso, D. (2008). Contributions of neuroscience to our understanding of cognitive development. *Journal of the Neurological Sciences*, 17(2) 137-141.
- Diaries, J., Engdahl, I., Otieno, L., Pramling Samuelson, I., Siraj-Blatchford, J., & Vallabh, P. (2009). Early childhood education for sustainability: Recommendations for development. *International Journal of Early Childhood*, 41(2), 113–117.
- Dockett, S., Lillemyr, O. F., & Perry, B. (2013). Play and learning in early years education: International perspectives. In O. F. Lillemyr, S. Dockett, & B. Perry (Eds.), *Varied perspectives on play and learning: Theory and research on early years education* (pp. 1-8). Information Age Publishing.
- Duncan, G., & Magnuson, K. (2011). The nature and impact of early achievement skills, attention, and behaviour problems. In G. Duncan, & R. J. Murnane (Eds.), *Whither opportunity: Rising inequality, schools, and children's life chances* (pp.47–69). Russell Sage Foundation.
- Durlak, J. A., Domitrovich, C. E., Weissberg, R. P., & Gullotta, T. P. (2015). *Handbook of social and emotional learning: Research and practice*. Guilford.
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82, 405-432.

- Early Education. (2021). *Birth to 5 matters: Non-statutory guidance for the Early Years Foundation Stage*. Early Education. www.birthto5matters.org.uk.
- Eisenberg, N. (2014). Empathy-related responding and its relations to socioemotional development. *Asia-Pacific Journal of Research in Early Childhood Education*, 8(1),1–17. <https://doi.org/10.1017/9781316271698.007>
- Elliott, S., & Young, T. (2015). Nature by default in early childhood education for sustainability. *Australian Journal of Environmental Education*, 32(1), 57–64.
- Elliott, S., Ärlemalm-Hagsér, E., Okjong, J., Wang, W., & Mackey, G. (2020). An update on countries previously represented in the first volume (Australia, Japan, South Korea, New Zealand, Norway, Sweden, United Kingdom, plus China). In S. Elliott, E. Ärlemalm-Hagsér, & J. Davis (Eds.), *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies* (pp. 53 - 68). Routledge.
- *Engdahl, I. (2015). Early childhood education for sustainability: The OMEP World Project. *International Journal of Early Childhood*, 47(3), 347–366. <https://doi.org/10.1007/s13158-015-0149-6>
- Fabian, H. (2009). Informing transitions. In A-W. Dunlop & H. Fabian (Eds), *Informing transitions in the early years: Research policy and practice* (pp. 3-20). Open University Press.
- Farewell, C. V., Maiurro, E., Powers, J., & Puma, J. (2021). The Healthy Environment Project: Promoting sustainable change in early childhood education settings. *Health Education Journal*, 80(4), 472–486. <https://doi.org/10.1177/0017896920988754>
- Field, T. (2014). *Touch*. A Bradford Book.
- Finnish National Agency for Education. (2018). *National core curriculum for early childhood education and care 2018*. Finland: Finnish National Agency for Education
- Formosinho, J., & J. Formosinho. (2016). Pedagogy-in-participation, the search for holistic practice. In J. Formosinho, & C. Pascall (Eds.), *Assessment and evaluation for transformation in early childhood* (pp. 26–57). Routledge.

- French, G. (2022). *Educational inequality in early childhood education and care*. Literature review commissioned by the Department of Education as part of a suite of papers to underpin the new Literacy (including Digital Literacy) and Numeracy Strategy. Dublin City University.
- French, G. (2019). *Key elements of good practice to support the learning and development of children from birth to three*. National Council for Curriculum and Assessment.
- Gibson, J. (2014). *The ecological approach to visual perception* (Classic Edition). Taylor & Francis.
- Goodliff, G. (2013). Spirituality expressed in creative learning: Young children's imagining play as space for mediating their spirituality. *Early Child Development and Care*, 183(8), 1054-1071.
- Haratipour, H., Partash, N., Ebrahimi, E., Delvarian Zadeh, M., & Bolbolhaghghi, N. (2021). Non-physiological and physiological delivery method: Comparison of maternal attachment behaviors and anxiety. *Journal of Caring Sciences*, 10(1), 37–42. <https://doi.org/10.34172/jcs.2021.011>
- *Harper, N., & Obee, P. (2021). Articulating outdoor risky play in early childhood education: Voices of forest and nature school practitioners. *Journal of Adventure Education and Outdoor Learning*, 21(2), 184-194, doi:10.1080/14729679.2020.1784766
- *Harris, K. I. (2015). Social studies investigations for young citizens: Passports to inquiry, community, and partnerships. *Social Studies Research and Practice*, 10(3), 10.
- Hart, A., & Heaver, B. (2013). Evaluating resilience-based programs for schools using a systematic consultative review. *Journal of Child and Youth Development*, 1(1), 27–53
- *Harte, S., Theobald, M., & Trost, S. G. (2019). Culture and community: Observation of mealtime enactment in early childhood education and care settings. *International Journal of Behavioral Nutrition and Physical Activity*, 16(1), 69. <https://doi.org/10.1186/s12966-019-0838-x>
- Hayes, N., & O'Neill, S. (2017). Little changes, big results: The impact of simple changes to early years learning environments. *Early Years*, 1-16.

- Hedges, H., & Cooper, M. (2018). Relational play-based pedagogy: Theorising a core practice in early childhood education. *Teachers and Teaching*, 24(4), 369-383, doi: [10.1080/13540602.2018.1430564](https://doi.org/10.1080/13540602.2018.1430564)
- Hellman, D. S., & Milling, S. (2020). Social emotional learning in arts teacher education policy: A content analysis of assurance standards and course descriptions. *Arts Education Policy Review*, 122(3), 1–11. doi:10.1080/10632913.2020.1793251.
- Herbers, J. E., Cutuli, J. J., Supkoff, L. M., Narayan, A. J., & Masten, A. S. (2014). Parenting and coregulation: Adaptive systems for competence in children experiencing homelessness. *American Journal of Orthopsychiatry*, 84(4), 420–430. <https://doi.org/10.1037/h0099843>
- *Herrmann, Z. (2021). Supporting resilience in ECE: Strategies for teachers. *He Kupu, The Word*, 6(4), 20-31.
- Hu, W., Jia, X., Liu, J., & Shan, X. (2016). Effects of a “Learn to Think” intervention programme on Chinese primary school students’ learning strategies. *The International Journal of Creativity and Problem Solving*, 1, 21–41.
- Johansson, E., & Röthle, M. (2018). Narratives: Tools for reflection on values. In E. Johansson & J. Einarsdottir (Eds.), *Values in early childhood education: Citizenship for tomorrow*. Springer.
- *Kangas, J., Venninen, T., & Ojala, M. (2016). Educators’ perceptions of facilitating children’s participation in early childhood education. *Australasian Journal of Early Childhood*, 41(2), 85–94. <https://doi.org/10.1177/183693911604100212>
- *Karlisdottir, K., & Einarsdottir, J. (2020). Supporting democracy and agency for all children: The learning stories of two immigrant boys. *Contemporary Issues in Early Childhood*, 21(4), 325–339. <https://doi.org/10.1177/1463949120978472>
- King, F., & Holland, E. (2022). A transformative professional learning meta-model to support leadership learning and growth of early career teachers. *International Journal of Leadership in Education*. doi:[10.1080/13603124.2022.2037021](https://doi.org/10.1080/13603124.2022.2037021)
- Klimecki, O. M., & T. Singer. (2017). The compassionate brain. In E. M. Seppala, E. Simon-Thomas, S. L. Broan, M. C. Worline, C. D. Cameron, & J. R. Doty (Eds.), *The Handbook of Compassion Science* (pp. 109–120). Oxford University Press.

- *Knauf, H. (2019). Physical environments of early childhood education centres: Facilitating and inhibiting factors supporting children's participation. *International Journal of Early Childhood*, 51(3), 355–372. <https://doi.org/10.1007/s13158-019-00254-3>
- Koch, A. B. (2018). Children's perspectives on happiness and subjective well-being in preschool. *Children & Society*, 32(1), 73–83. <https://doi.org/10.1111/chso.12225>
- Kuo, M., Barnes, M., & Jordan, C. (2019). Do experiences with nature promote learning? Converging evidence of a cause-and-effect relationship. *Frontiers in Psychology*, 10(305), 1-9. <https://doi.org/10.3389/fpsyg.2019.00305>
- Kurki, K., Järvenoja, H., Järvelä, S., & Mykkänen, A. (2016). How teachers co-regulate children's emotions and behaviour in socio-emotionally challenging situations in day-care settings. *International Journal of Educational Research*, 76, 76–88. <https://doi.org/10.1016/j.ijer.2016.02.002>
- Lewis Harter, S. (2007). Visual art making for therapist growth and self-care. *Journal of Constructivist Psychology*, 20(2), 167–182. [doi:10.1080/10720530601074721](https://doi.org/10.1080/10720530601074721).
- Lillard, A., Lerner, M., Hopkins, E., Dore, R., Smith, E., & Palmquist, C. (2013). The impact of pretend play on children's development: A review of the evidence. *Psychological Bulletin*, 139(1), 1–34. [doi:10.1037/a0029321](https://doi.org/10.1037/a0029321).
- Linder, S. M., Ramey, M. D., & Zambak, S. (2013). Predictors of school readiness in literacy and mathematics: A selective review of the literature. *Early Childhood Research & Practice*, 15(1).
- Lundy, L. (2007). Voice is not enough: Conceptualising Article 12 of the United Nations Convention on the Rights of the Child. *British Educational Research Journal*, 33(6), 927-942.
- Majorano, M., Corsano, P. & G. Triffoni. (2015). Educators' intervention, communication and peers conflict in nurseries. *Child Care in Practice*, 21(2), 98–113. [doi:10.1080/13575279.2014.1001812](https://doi.org/10.1080/13575279.2014.1001812).
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56(3), 227–238. <https://doi.org/10.1037/0003-066X.56.3.227>

- Masten, A. S. (2011). Resilience in children threatened by extreme adversity: Frameworks for research, practice, and translational synergy. *Development and Psychopathology*, 23, 493-506. <https://doi.org/10.1017/S0954579411000198>
- *Mata-McMahon, J. (2019). Finding connections between spirituality and play for early childhood education. *International Journal of Children's Spirituality*, 24(1), 44–57. <https://doi.org/10.1080/1364436X.2019.1619528>
- McCabe, U., & Flannery, M. (2022). Well-being and the arts in Irish primary teacher education: Aligned or apart? A policy and self-study perspective. *European Journal of Teacher Education*. <https://doi.org/10.1080/02619768.2022.2040478>
- *McGuire, J., Gallegos, D., & Irvine, S. (2018). Infant feeding nutrition policies in Australian early childhood education and care services: A content and qualitative analysis. *International Journal of Child Care and Education Policy*, 12(1), 14. <https://doi.org/10.1186/s40723-018-0053-2>
- McNamara, L., Lodewyk, K., & Franklin, N. (2018). Recess: A study of belongingness, affect, and victimisation on the playground. *Children & Schools*, 40, 114-121. <http://dx.doi.org/10.1093/cs/cdy006>
- Medina, N. Y., Edwards, R. C., Zhang, Y., & Hans, S. L. (2022). A longitudinal investigation of young mothers' prenatal attachment, depressive symptoms, and early parenting behaviour. *Journal of Reproductive and Infant Psychology*, 40(2), 196–211. <https://doi.org/10.1080/02646838.2021.1886257>
- Millei, Z., & Sumsion, J. (2011). The 'work' of community in Belonging, Being and Becoming: The Early Years Learning Framework for Australia. *Contemporary Issues in Early Childhood*, 12(1), 71-85.
- Miller-Lewis, L. R., Searle, A. K., Sawyer, M. G., Baghurst, P. A., & Hedley, D. (2013). Resource factors for mental health resilience in early childhood: An analysis with multiple methodologies. *Child and Adolescent Psychiatry and Mental Health*, 7, Article 6. <https://doi.org/10.1186/1753-2000-7-6>
- National Council for Curriculum and Assessment. (2009). *Aistear, the Early Childhood Curriculum Framework*. Dublin: National Council for Curriculum and Assessment.

- *Nekitsing, C., Blundell-Birtill, P., Cockroft, J. E., & Hetherington, M. M. (2018). Systematic review and meta-analysis of strategies to increase vegetable consumption in preschool children aged 2–5 years. *Appetite*, *127*, 138–154.
<https://doi.org/10.1016/j.appet.2018.04.019>
- Nickerson, A. B., Mele, D., & Princiotta, D. (2008). Attachment and empathy as predictors of roles as defenders or outsiders in bullying interactions. *Journal of School Psychology*, *46*(6), 687–703. <https://doi.org/10.1016/j.jsp.2008.06.002>
- Noddings, N., (2012) The caring relation in teaching, *Oxford Review of Education*, *38*(6), 771-781, <https://doi.org/10.1080/03054985.2012.745047>
- *Obee, P., Sandseter, E. B. H., & Harper, N. J. (2021). Children’s use of environmental features affording risky play in early childhood education and care. *Early Child Development and Care*, *191*(16), 2607–2625.
<https://doi.org/10.1080/03004430.2020.1726904>
- O’Farrelly, C., & Hennessy, E. (2014). Watching transitions unfold: a mixed-method study of transitions within early childhood care and education settings. *Early Years*, *34*(4), 329–347. <https://doi.org/10.1080/09575146.2014.968838>.
- *O’Farrelly, C., Booth, A., Tatlow-Golden, M., & Barker, B. (2020). Reconstructing readiness: Young children’s priorities for their early school adjustment. *Early Childhood Research Quarterly*, *50*, 3–16.
<https://doi.org/10.1016/j.ecresq.2018.12.001>
- Organisation for Economic Co-operation and Development. (2018). *Social and emotional skills well-being, connectedness and success*. Organisation for Economic Co-operation and Development.
- Page, J. (2018). Characterising principles of professional love in early childhood care and education. *International Journal of Early Years Education*, *26*(2), 125-141.
<https://doi.org/10.1080/09669760.2018.1459508>
- Pascal, C., Bertram, T., & Rouse, L. (2019). *Getting it right in the Early Years Foundation Stage: A review of the evidence*. Centre for Research in Early Childhood.
<https://shop.earlyeducation.org.uk/sites/default/files/EYFS%20Coalition%20Chris%20Pascal%20slides%20for%20sharing.pdf>

- Phillips, L. G., Ritchie, J., & Adair, J. K. (2020). Young children's citizenship membership and participation: Comparing discourses in early childhood curricula of Australia, New Zealand and the United States. *Compare: A Journal of Comparative and International Education*, 50(4), 592–614.
- Quay, J., & Jensen, A. (2018). Wild pedagogies and wilding pedagogies: Teacher-student-nature centredness and the challenges for teaching. *Journal of Outdoor and Environmental Education*, 21, 293-305. <https://doi.org/10.1007/s42322-018-0022-9>
- Rimm-Kaufman, S. E., & Sandilos, L. (2017). School transition and school readiness: An outcome of early childhood development. In R. E. Tremblay, M. Boivin, & R. Dev. Peters (Eds.), *Encyclopaedia on early childhood development*. <http://www.child-encyclopedia.com/>
- *Ritblatt, S., Longstreth, S., Hokoda, A., Cannon, B.-N., & Weston, J. (2013). Can music enhance school-readiness socioemotional skills? *Journal of Research in Childhood Education*, 27(3), 257–266. <https://doi.org/10.1080/02568543.2013.796333>
- Roberts-Holmes, G. (2015). The 'datafication' of early years pedagogy: If the teaching is good, the data should be good and if there's bad teaching, there is bad data. *Journal of Education Policy*, 30(3), 302–315.
- Roberts, R. (2010). *Well-being from birth*. SAGE Publications Ltd.
<https://dx.doi.org/10.4135/9781473914681>
- Robinson, C. (2019). Young children's spirituality: A focus on engaging with nature. *Australasian Journal of Early Childhood*, 44(4), 339-350.
- Robinson, K. (2002). Teacher education for a new world of musics. In B. Reimer (Ed.), *World music and music education: Facing the issues* (pp. 219–238). National Association for Music Education.
- Robson, S. (2010). Self-regulation and metacognition in young children's self-initiated play and reflective dialogue. *International Journal of Early Years Education*, 18(3), 227-241.
- Robson, S., & Zachaiou, A. (2022). *Self-regulation in the early years*. SAGE Publications Ltd.

- Rosanbalm, K., & Murray, D.W. (2017). *Self-regulation snapshot 1: A focus on infant and toddlers*. Office of Planning, Research & Evaluation. U.S. Department of Health & Human Services.
https://www.acf.hhs.gov/sites/default/files/documents/opre/infantstoddlersnapshot_accessible_508_compliant_updated.pdf
- Rumble, A. C., Van Lange, P. A., & Parks, C. D. (2010). The benefits of empathy: When empathy may sustain cooperation in social dilemmas. *European Journal of Social Psychology*, 40 (5), 856–866. <https://doi.org/10.1002/ejsp.659>.
- Sabol, T. J., & Pianta, R. (2017). The state of young children in the United States: School readiness. In E. Votruba-Drzal, & E. Dearing (Eds.), *The Wiley handbook of early childhood development programs, practices, and policies* (pp. 3–17). John Wiley.
- Sandstrom, G. M., & Dunn, E. W. (2014). Social interactions and well-being: The surprising power of weak ties. *Personality & Social Psychology Bulletin*, 40(7), 910–922.
<https://doi.org/10.1177/0146167214529799>.
- *Samuelsson, I. P., & Park, E. (2017). How to educate children for sustainable learning and for a sustainable world. *International Journal of Early Childhood*, 49(3), 273–285. <https://doi.org/10.1007/s13158-017-0197-1>.
- Sandseter, E. B. H., & Seland, M. (2016). Children’s experience of activities and participation and their subjective well-being in Norwegian early childhood education and care institutions. *Child Indicators Research*, 9(4), 913-932.
- *Sando, O. J., & Sandseter, E. B. H. (2020). Affordances for physical activity and well-being in the ECEC outdoor environment. *Journal of Environmental Psychology*, 69, 101430. <https://doi.org/10.1016/j.jenvp.2020.101430>.
- Saturn, R. (2017). Two factors that fuel compassion: The oxytocin system and the social experience of moral elevation. In E. M. Seppälä, E. Simon-Thomas, S. L. Brown, M. C. Worline, C. D. Cameron, & J. R. Doty (Eds.), *The Oxford handbook of compassion science* (pp. 121–131). Oxford University Press.
- Schenetti, M., & Guerra, E. (2018). Emotion map making. Discovering teachers’ relationships with nature. *Asia-Pacific Journal of Research in Early Childhood Education*. 12(2), 31-56.

- Seligman, M. E. (2011). *Flourish: A new understanding of happiness and well-being and how to achieve them*. Nicholas Brealey.
- Shonkoff, J. P. (2015). The neurobiology of early childhood development and the foundations of a sustainable society. In P. T. M. Marope, & Y. Kaga (Eds.), *Investing against evidence* (pp. 55–72). UNESCO Publishing.
- Siegel, D., & Bryson, T. P. (2020). *The power of showing up: How parental presence shapes who our kids become and how their brains are wired*. Scribe.
- Siddiqui, A., & Hägglöf, B. (2000). Does maternal prenatal attachment predict postnatal mother–infant interaction? *Early Human Development*, 59(1), 13–25.
[https://doi.org/10.1016/S0378-3782\(00\)00076-1](https://doi.org/10.1016/S0378-3782(00)00076-1)
- Smith, C. (2009). Reconnecting with Earth: Ecospirituality as the missing dimension in spirituality and sustainability education. In M. de Souza et al. (Eds.), *International handbook of education for spirituality, care and wellbeing, International Handbooks of Religion and Education 3*, (pp. 653-675). Doi.10.1007/978-1-4020-9018-9 35.
- Smith, J. K., & Smith, L.F. (2017). The 1.5 criterion model of creativity: Where less is more, more or less. *The Journal of Creative Behavior*, 4, 281–284.
<https://doi.org/10.1002/jocb.191>.
- *Soliman, D., Frydenberg, E., Liang, R., & Deans, J. (2021). Enhancing empathy in preschoolers: A comparison of social and emotional learning approaches. *The Educational and Developmental Psychologist*, 38(1), 64–76.
<https://doi.org/10.1080/20590776.2020.1839883>.
- Stack, D. M., & Jean, A. D. L. (2011). Communicating through touch: Touching during parent-infant interaction. In M. J. Hertenstein, & S. J. Weiss (Eds.), *The handbook of touch: Neuroscience, behavioral, and health perspectives* (pp. 273–298). Springer.
- Statham, J., & Chase, E. (2010). *Childhood well-being: A brief overview. Briefing paper 1*. Childhood Wellbeing Research Centre.
- *Svinth, L. (2018). Being touched – the transformative potential of nurturing touch practices in relation to toddlers’ learning and emotional well-being. *Early Child Development and Care*, 188(7), 924–936. <https://doi.org/10.1080/03004430.2018.1446428>

- Tenenbaum, H. R., Alfieri, L., Brooks, P. J., & Dunne, G. (2008). The effects of explanatory conversations on children's emotion understanding. *British Journal of Developmental Psychology*, 26(2), 249–263.
- Timmons, K. (2019). Kindergarten expectations and outcomes: Understanding the influence of educator and child expectations on children's self-regulation, early reading, and vocabulary outcomes. *Journal of Research in Childhood Education*, 33(3), 471-489. doi: [10.1080/02568543.2019.1609144](https://doi.org/10.1080/02568543.2019.1609144)
- *Tonge, K., Jones, R., Okely, A. (2020). Environmental influences on children's physical activity in early childhood education and care. *Faculty of Social Sciences, University of Wollongong*, 4797. <https://ro.uow.edu.au/sspapers/4797>.
- Tovey, H. (2017). *Froebel's principles and practice today*. London Froebel Trust. <https://www.froebel.org.uk/uploads/documents/FT-Froebels-principles-and-practice-today.pdf>
- Trevarthen, C., & Aitken, K. J. (2009). Infant intersubjectivity: Research, theory, and clinical applications. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 42(1), 3–48.
- UNESCO. (2012). *Promoting skills for sustainable development* (ED/PSD/ESD/2012/PI/4). UNESCO. www.unesco.org/educationESD012/PI/4.
- UNESCO. (2019). *Framework for the implementation of education for sustainable development (ESD) beyond 2019*. <http://www.unesdoc.unesco.org/ark:/48223/pf0000370215?posInSet=1&queryId=59a4c2eb-f363-40ee-85b3-4b66c0512b5>.
- UNICEF. (2019). *The state of the world's children 2019: Children, food and nutrition: Growing well in a changing world*. UNICEF. <https://www.unicef.org/reports/state-of-worlds-children-2019>
- UNICEF. (2021). *Understanding child subjective well-being, A call for more research and data policy making targeting children*. UNICEF.

- United Nations. (1989). *Convention on the rights of the child*. UN Office of High Commissioner for Human Rights (OHCHR). Retrieved from [HTTPS://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx](https://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx).
- United Nations. (2015). *Transforming our world: The 2030 agenda for sustainable development (A/Res/70/1)*. UN General Assembly.
<http://sustainabledevelopment.un.org>
- United Nations. (2016). *The sustainable development goals report 2016*.
United Nations. <https://unstats.un.org/sdgs/report/2016/>
- United Nations. (2019). *Global Sustainable Development Report 2019: The Future is Now—Science for Achieving Sustainable Development*. Retrieved from [HTTPS://sustainabledevelopment.un.org/content/documents/24797GSDR_report_2019.pdf](https://sustainabledevelopment.un.org/content/documents/24797GSDR_report_2019.pdf).
- *van Krieken Robson, J. (2019). Participatory pedagogy for values education in early childhood education. *European Early Childhood Education Research Journal*, 27(3), 420–431. <https://doi.org/10.1080/1350293X.2019.1600811>
- Van Volkenburg, J. B. (2015). Reaching children with autism spectrum disorders using creative dramatics: The building blocks model. *Dimensions of Early Childhood*, 43(2), 13–20.
- Vygotsky, L. (1933). Play and its role in the mental development of the child. *Soviet Psychology*, 5(3), 6–18. doi:10.2753/RPO1061-040505036
- Wallace, R., Devine, A., & Costello, L. (2017). Determining educators' needs to support healthy eating environments in early childhood settings. *Australasian Journal of Early Childhood*, 42(2), 20–29. <https://doi.org/10.23965/AJEC.42.2.03>
- Whitebread, D., & O'Sullivan, L. (2012). Preschool children's social pretend play: supporting the development of metacommunication, metacognition and self-regulation. *International Journal of Play* 1(2), 197-213. DOI: 10.1080/21594937.2012.693384
- Wondra, J. D., & Ellsworth, P. C. (2015). An appraisal theory of empathy and other vicarious emotional experiences. *Psychological Review*, 122(3), 411. <https://doi.org/10.31234/osf.io/ejms8>

Zachariou, A. & Whitebread, D. (2017). A new context affording for regulation: The case of musical play. *International Journal of Educational Psychology*, 6(3), 212-249.
<https://doi.org/10.17583/ijep.2017.2959>

Zentner, M., & Eerola, T. (2010). Rhythmic engagement with music in infancy. *Proceedings of the National Academy of Sciences of the United States of America*, 107(13), 576.

Chapter Five: Identity and Belonging

Authors: Dr Thérèse Farrell and Grainne McKenna

Abstract

The Literature Review took a systematic approach to identify, explore, and map contemporary research on early childhood curricula that affirms *Aistear*'s existing Aims and Learning Goals and identifies potential areas for enhancement aligned with contemporary literature. The search strategy used key terms and concepts from the Aims and Learning Goals of Identity and Belonging to search four databases (Education Research Complete, ERIC International, Web of Science, and PsycINFO) for peer-reviewed journal articles, book chapters, and scholarly reviews published in English from 2010-2022. The search identified 334 articles that considered children's identity and belonging and early childhood curriculum frameworks; these articles were subject to screening and full-text review. Thirty-eight articles were selected for analysis and synthesis and were considered alongside seminal works, grey literature, and recommendations from consultation with internationally recognised experts in early childhood. The findings of the review highlight the importance of ensuring and endorsing children's right to feel respected and valued; these principles are embedded across *Aistear*, but particularly within the Theme of Identity and Belonging. Key trends that emerged from the review included: identity formation, social justice, citizenship, participation, and sustainability. The contemporary literature considered as part of the review reflects international trends and policy commitments concerning rights-based approaches to childhood and early learning experiences in the last decade. It offers up-to-date perspectives on how we can further support and enhance children's identity, sense of connection and capacity to thrive as citizens of a diverse world.

Introduction

Children's early experiences shape their sense of personal and social identity; this process is supported by connected and collaborative relationships that notice, recognise, and respond to children within their unique context. The Aims and Learning Goals of *Aistear* are influenced by the United Nations Convention on the Rights of the Child (UNCRC, 1989). *Aistear* supports the learning and development of children as competent and capable individuals, nested within unique contexts that reflect their background, beliefs, language, and cultural identity. The child is viewed as an "active learner growing up as a member of a

family and community with particular traditions and ways of life” (NCCA, 2009, p.7). In particular, the Theme of Identity and Belonging reflects Articles 29 and 30, which state that respect and recognition of children’s cultural identity, values, and language, and that of others, should be part of their education. The Aims and Learning Goals in Identity and Belonging highlight the importance and value of diverse identities and promote children’s right to an education that recognises and respects their cultural identity, values, and language.

Internationally, many early childhood policies, practices, and curricula view children as unique, capable, and competent; this includes Nordic countries (Brembeck et al., 2004), New Zealand (Chan, 2019) and Australia (Sumsion et al., 2018; Sumsion & Wong, 2011). *Aistear* is aligned with contemporary literature and scholarly discourse that recognises and respects children’s capacity, agency, and proficiency in the social construction of their worlds.

The Literature Review considers contemporary literature that aligned with the four Aims within the Theme of Identity and Belonging. The search terms and inclusion criteria (Chapter Two) resulted in the selection of 38 articles that offer insight into current research relating to children’s sense of identity and belonging across and within the totality of the curriculum. The selected literature affirms the existing Aims and Learning Goals of the Theme. It provides contemporary evidence to guide the development of the framework to enhance professional practice and pedagogies, learning experiences, and the places and spaces in which children develop a strong sense of identity and belonging.

Aim 1: Children Will Have Strong Self-identities and Will Feel Respected and Affirmed as Unique Individuals with Their Own Life Stories

Aistear suggests that children who are given messages of respect, love, approval, and encouragement are likely to develop a positive sense of self and awareness of their important contribution to their world (NCCA, 2009). The conceptualisation of children as connected to themselves, others, and their environments is consistently observed across international examples of early learning frameworks and curricula. In 2021, a review of Approved Learning Frameworks commissioned by the Australian Children’s Education and Care Quality Authority (ACEQA) mapped the key principles and learning goals of more than 20 international learning frameworks and curriculum approaches. The concept of children as unique, active participants, and citizens in their own right is embedded as a principle and priority across all the reviewed frameworks (Barblett et al., 2021). Frameworks that adopt holistic and relational approaches, such as *Aistear* and Te Whāriki, give greater consideration

to recognising, responding to, and respecting children as they are, rather than focusing on who they will become (Agbenyega & Klibthong, 2013; Flear et al., 2019; Pascal et al., 2019). The current review identified three key trends concerning children's sense and appreciation of self: identity formation, belonging and becoming.

Identity Formation and Sense of Self

Rochat and Hespos (1997) assert that “long before infants recognise themselves in front of a mirror, they manifest signs of differentiation between self and external stimulation” (p. 106). Since the 1980s, studies consistently attest to the capacity of infants to interpret information from their environment, their body, and their impact on the world (Neisser, 1985; Rochat & Hespos, 1997). Despite this, the term ‘identity’ is not well-defined in early childhood literature. *Aistear* describes the concept of identity as relating to children's recognition of themselves as an individual, separate from others, and with “a sense of who they are” (NCCA, 2009, p. 26). The process of identity formation is acknowledged as a complex process that continually evolves. Siraj-Blatchford and Clarke (2006) advise that identity for babies, toddlers and young children should not be defined and bound as a homogeneous experience with others. Rather, identity formation should be viewed as a complicated intersection of the numerous dimensions that shape children's ways of knowing and being. *Aistear* highlights the importance and influence of connected and responsive relationships in supporting children's sense of self-worth and identity. *Aistear's* emphasis on “respectful relationships with others” (NCCA, 2009., p.26) is in keeping with studies that emphasise the importance of relational, responsive, and encouraging pedagogies to promote and support children's sense of identity and belonging (Stratigos et al., 2014; Wastell & Degotardi, 2017). Shaik and colleagues (2021) highlight the importance of listening and connecting to recognise how children know and express themselves and their understanding through physical proximity, eye gaze, engagement with others, and learning experiences. Listening carefully and paying attention to children's interests, ideas, and preferences are presented as powerful pedagogical strategies to affirm all children as unique individuals (Chesworth, 2016; Macartney, 2012).

Aistear encourages a shared appreciation of the features that make a person special and unique, such as their name, footprint, or birthday. While recognising and celebrating such dimensions is important, the current studies highlight the potential of broader conceptualisations of being, knowing, and doing that contribute to our identity formation

(Mitchell & Bateman, 2018). Children's sense of self and identity is supported by early learning experiences that respond to children's socio-ecological contexts and expressions of their thinking and meaning-making as demonstrated in their play preferences, engagement with others, and interaction and contributions to the physical learning environment. Early childhood curriculum can guide responsive pedagogies and practices that provide children with time, space, and opportunities to know themselves, to recognise and take pride in their bodies, abilities, cultural identity, values, and language (Derman-Sparks & Edwards, 2021; Lalvani & Bacon, 2019; Martens et al., 2015; Mitchell & Bateman, 2018).

Within the current review, children's cultural identity emerged as an area of importance and influence (MacNaughton, 2000; Osgood, 2020; Siraj-Blatchford & Clarke, 1996, 2006). MacNaughton (2000) argues that children's social and cultural identities are co-constructed through dialogue or narrative and that pedagogies based on this notion critically engage children's sense of who they are and what they can achieve. Recent studies exploring children's perspectives on belonging in early childhood reflect children's capacity and fluency in understanding, navigating, and adjusting to dimensions of difference between themselves and others. Kyrönlampi et al. (2021) noted how children's photographs and discussions with adults and peers could provide rich insights into how children see themselves and others within the social, cultural, and material environment of preschool settings. Early childhood curriculum can guide responsive pedagogies and practices that provide all children with time, space, and opportunities to know themselves. Children's sense of self and connectedness to people and place depends on welcoming environments, responsive and reciprocal relationships, and learning experiences that respond to their unique developmental and sociocultural context.

Belonging

Within an Irish context, *Aistear* defines belonging as “having a secure relationship with or a connection with a particular group of people” (NCCA, 2009. p. 25) and emphasises children's sense of value and affirmation in their environment and relationships. Over the last eighty years, stemming from the work of Maslow (1943), furthered by Ainsworth (1963; 1969) and Bowlby (1969), the concept of ‘belonging’ has emerged and been established as a basic human need, driven by an innate need for warm, responsive relationships and deep human connections. Recent studies have drawn attention to the life-long effects of positive connections and relationships, or the lack thereof, on human development, including

cognition, social-emotional well-being, and health (Acar et al., 2019; Ahnert et al., 2013; Barandiaran et al., 2015). Several studies in this review highlighted the importance of ‘belonging’ in early childhood (Johansson & Puroila, 2021; Kyrönlampi et al., 2021; Papatheodorou, 2010; Selby et al., 2018; Stratigos et al., 2014; Sumsion et al., 2018; Sumsion & Wong, 2011). The concept of ‘belonging’ is embedded as a core principle across multiple early learning frameworks and curricula; however, there is little consensus on how ‘belonging’ is observed, enacted, and experienced by infants and young children (Barblett et al., 2021; Ebbeck et al., 2010; Johansson, 2009; Stratigos et al., 2014; Sumsion & Wong, 2011). Despite lengthy discussion and debate, ‘belonging’ as a concept within early childhood curricula is loosely defined and difficult to measure (Johansson & Puroila, 2021; Selby et al., 2018; Sumsion & Wong, 2011). Contemporary academics ask how we can define and describe ‘belonging’, to whom it applies, and how, if at all, can ‘belonging’ be observed and operationalised in early childhood settings, particularly for young children? (DeNicolo et al., 2017; Selby et al., 2018; Slee, 2019; Souto-Manning & Lanza, 2019; Stratigos et al., 2014). Despite this debate, there is broad agreement that children’s awareness of self, connection to others, and comfort and safety in the learning environment are facilitated by deliberate choices, practices, and approaches that honour all children as unique individuals.

Sumsion and Wong (2011) completed research to explore conceptualisations of ‘belonging’ to map and interrogate the contested concept. This work highlighted the dynamic, highly contextualised, and ever-evolving concept of ‘belonging’. Their study identified ten overlapping dimensions of belonging: “emotional, social, cultural, spatial, temporal, physical, spiritual, moral/ethical, political and legal” (Sumsion & Wong, 2011, p. 33). This conceptual work is accompanied by a discussion that highlights ‘belonging’ in flux, constantly “enacted, contested, and negotiated in the various times, places, and groups in which we live our daily lives” (Stratigos et al., 2014, p. 178). More recent consideration of ‘belonging’ relating to the Voice of Children (Wastell et al., 2017) describes the construct of belonging as a “lattice pie”. People and place represent the “filling” held together by experiences that give meaning to their belonging, the latticed strands of agency, shared interest, belongings, inclusion, and time (Wastell & Degotardi, 2017, p. 42).

Despite contested definitions of ‘belonging’, concepts of acceptance, and a sense of comfort, self-appreciation, safety, connectedness, and respect for individuality permeate the discussion (Chan, 2019; Garrity et al., 2017; McGregor et al., 2020; Selby et al., 2018; Souto-Manning & Lanza, 2019; Wastell & Degotardi, 2017). There is recognition of the importance of the environment and how children’s cultures, languages, and attributes are represented

within the physical space, books, and play materials, and how this supports a sense of connection and place belonging (Chan, 2019; Garrity et al., 2017; Hawkins, 2014; Lalvani & Bacon, 2019; Stagg-Peterson et al., 2022). The literature also highlights the importance of relational connections, particularly a sense of belonging within the peer group. Studies speak to the value of curriculum and pedagogical practice that recognises and responds to children's interest and capacity to form relationships in infancy and early childhood, particularly with their same-aged peers and how these relationships afford children greater self-appreciation and self-worth (Macartney, 2012; Selby et al., 2018). Educators play a critical role in creating conditions where children can develop a deep, connected sense of belonging through practices of listening, noticing, and responding to children's positions and perspectives, nurturing children's sense of belonging and collective group membership (Ebbeck et al., 2010; Macartney, 2012; Slee, 2019; Stratigos et al., 2014; Wastell & Degotardi, 2017).

Becoming

The Theme of Identity and Belonging emphasises the provision of environments, relationships, and learning experiences that respect and affirm children's unique identities and life stories. The notion of children's identity and belonging is not static; rather, children's identities evolve in response to their cultural and social worlds; hence, their identity is continually in a state of 'becoming'. For Deleuze and Guattari (1987), the concept of 'becoming' offers a way of understanding change that does not depend on 'series' and 'structure'. Evans (2015) builds on Deleuze and Guattari's (1987) work and argues the concept of "becoming negates the existence of a stable series of identities" (p.36), but rather acknowledges, encourages, and values the present state; the now. A Deleuzean-Guattarian conceptualisation of 'becoming' is not a resemblance, identification, or impression, nor is it moving forward or reverting along with a defined series of beings perpetually imitating one another. This understanding of children in a constant state of 'becoming' depends not only on a child's sense of self and identity, but on their awareness and appreciation of differences in others, as influenced by their wider bio-ecological context. In *Aistear* (2019), the term 'becoming' is sometimes used to reflect a final goal or achievement, for example, children "becoming effective communicators and learners" (p.11) or "becoming toilet trained" (p.20). Current discourse recognises 'becoming' as an important concept, and used in relation to skill acquisition can detract from the power and value of children's present. *Aistear* should

consider this concept of ‘becoming’ in the Principles and Themes to recognise and encourage children as they carve their unique pathways, life stories, and identities (Knaus, 2015).

Children’s early experiences shape their sense of personal and social identity; this process is supported by connected and collaborative relationships that notice, recognise, and respond to children within their unique context. The findings of the current review affirm the importance of support for children’s emerging and ever-evolving identities within early childhood curriculum and learning frameworks. The literature recognises that children’s sense of self is constructed from their experiences and engagement with people, places, and personal experiences. Early childhood curricula can support the development of environments and experiences that reflect children’s characteristics, sociocultural contexts, home languages, strengths, needs, and preferences. Children are more likely to feel valued when they can see themselves, their families, and their interests reflected in the environment.

Aim 2: Children Will Have a Sense of Group Identity Where Links with Their Family and Community are Acknowledged and Extended

Aistear promotes experiences and opportunities that ensure children have a sense of group identity and know that their families and communities are positively acknowledged and welcomed. The concept of children as 'unique', with prescribed rights to inclusion, participation agency, and citizenship, is embedded across *Aistear* and international early childhood curricula and learning frameworks (Barblett et al., 2021). Despite this, robust evidence and practice guidelines on the efficacy of specific approaches to promote group belonging and inclusion are less well developed (Blewitt et al., 2021). Children's sense of belonging, inclusion, and group identity is important for their development, well-being and agency; experiences in infancy and early childhood influence their sense of self, their connectedness to others, and their attitudes to diversity and difference (Eek-Karlsson & Emilson, 2021; Janssen & Vandebroek, 2018; Sadownik, 2020).

Early childhood settings reflect the social and cultural context of children, and the transition to early childhood settings has been described as the first “step into society” that presents children with a “mirror” reflecting how society views and values them (Vandebroek, 2015. p.109). In infancy and early childhood, children interpret and internalise key messages about gender, disability, race, and cultural and linguistic diversity from various sources, including: family, teachers, media, peers, books, and social, political, and religious institutions (Derman-Sparks, 2021). Educators and children benefit from a

conscious understanding of diversity where individual and group identities are named and differences valued (Lalvani & Bacon, 2019, 2021). The values, messages and attitudes embedded in early childhood settings influence children's responses to diversity; this presents a unique opportunity to promote experiences and opportunities that emphasise equal recognition and respect for all children (Hedges, 2022; Lalvani & Bacon, 2019).

Equal Recognition, Participation, and Inclusion

The review highlighted young children's awareness of, exposure to, and interpretation of multiple forms of diversity within early childhood curricula and settings. Prejudice, particularly toward minority groups, begins in early childhood (Hawkins, 2011; Raabe & Beelmann, 2011). Young children are not only aware of individual differences but can experience rejection, discrimination, and bullying in educational settings (Jenkins et al., 2017; Sadownik, 2020). The available literature speaks to children's capacity to work creatively with diversity, navigate cultural contexts, and express their views on fairness or unfairness, building solidarity through play, drawing, discussion, and story-telling (Agarwal-Rangnath, 2021; Ang, 2018; Benavides et al., 2020; Dunkerly-Bean & Bean, 2016; Hawkins, 2014). Early childhood curriculum can guide the development of pedagogical spaces and humanising experiences by encouraging children's innate curiosity and sense of fairness to promote acceptance, respect, and connection with other people, places, groups, and communities (Agarwal-Rangnath, 2021; Souto-Manning & Lanza, 2019). Internationally, the contemporary literature pays particular attention to children at greater risk of exclusion and marginalisation resulting from: gendered values, special educational needs or disabilities, cultural and racial diversity, and socio-economic status (Agbenyega & Klibthong, 2013; Garrity et al., 2017; Sumsion & Wong, 2011; West-Burns & Murray, 2016).

Gendered Values and Identity

The importance of gender identity and values within early childhood policies, curricula, and practice emerged as a trend within the current review. Societal beliefs and attitudes can reflect gendered values and limiting roles that can be explicitly or implicitly communicated and embedded in early childhood settings (Chapman, 2022; Emilson et al., 2016 & Yoon, 2020). Emilson and colleagues (2016) explored how educators' gender beliefs and values are embedded in Swedish preschool practice. A key finding from their research is educators' support for gender neutrality concepts and a shared belief that children should be

treated as individuals, free to make choices and express preferences irrespective of their gender identity. However, this concept can be challenging in practice. Emilson et al. (2016) reported that educators struggled to encourage children not to subscribe to gendered stereotypes. They experienced conflict and contradiction in responding to and supporting children's interests related to gender-identified toys and games (Emilson et al., 2016). Chapman (2022) maintains that we must move beyond concepts of gender-neutrality to consider more expansive work around gender, including recognition and exploration of spaces, places, and experiences that are inherently gendered. She asserts that educators should be encouraged to “develop strategies to consider broader contextual dimensions of gender imbalances and inequalities, rather than focusing on removing inequalities from the setting” (Chapman, 2022, p.13). By supporting, exploring and expanding children's beliefs and experiences, educators are more likely to achieve “pro-diversity” practices and spaces relating to gender (Chapman, 2022. p.14). Yoon (2020) maintain that play is a key site for exploring and negotiating gender expressions, as children's play can limit stereotypes that narrow and exclude identities. Through play, popular culture artefacts, and symbolic tools, Yoon (2020) demonstrate how children mobilise themselves across various contexts within their own social and cultural worlds. The current review highlights the need for consideration of holistic approaches to gender within early childhood curriculum, pedagogy and policy, particularly in creating gender-expansive learning environments (Chapman, 2022; Emilson, Folkesson & Lindberg, 2016; Yoon, 2020).

Additional Learning, Development, and Care Needs

International research consistently demonstrates the potential of high-quality early childhood environments to enhance outcomes for all children, particularly those with additional learning, development, and care needs (Barton & Smith 2015; Guralnick 2020; Lundqvist, et al., 2016; Walker et al., 2021). Contemporary studies focus on experiences of inclusion from a rights-based perspective that acknowledges that all children learn differently and that schools and organisations must be structured and resourced to facilitate full and meaningful access and participation for all. There is a growing body of literature that explores anti-ableist approaches which assert that children's additional needs should be recognised and valued as forms of diversity to support the creation of responsive curricula that promotes understanding and acceptance of multiple forms of difference (Blewitt et al., 2021; Derman-Sparks & Edwards, 2021; Lalvani & Bacon, 2019).

Within the current review, there were limited references to concepts of physical accessibility and universal design; greater attention was given to children's engagement with educators and their same-aged peers and participation in learning experiences. This focus is perhaps representative of a broader shift in interest, from children with additional needs and disabilities being 'present' to experiences of meaningful involvement and participation (Eek-Karlsson & Emilson, 2021; Stratigos et al., 2014; Walker et al., 2021). Children's sense of belonging and group identity requires much more than children's access and proximity to their peers. Beyond children's physical presence, there is a need to reduce the stigma, isolation and 'othering' experienced by children with additional needs or physical disabilities and ensure that children are aware of and prepared to contribute to a pluralistic society where difference is no longer regarded as a deficit. Within the current literature, it is accepted that inclusive, not merely integrative, early childhood settings are typically high-quality settings with accessible and supportive environments and responsive adults (Barton & Smith, 2015; Buysse & Hollingsworth, 2009; Guralnick, 2001, 2020; Lundqvist et al., 2016; Passmore & Hughes, 2021; Walker et al., 2021).

Within an Irish context, the Diversity, Equality, and Inclusion Charter and Guidelines (Department of Children and Youth Affairs, 2016) and the Access and Inclusion Model (AIM) (2016) promote access and participation in early childhood education and care for children with additional needs or disabilities. AIM provides important resources to support children's access to settings and also calls for practice and pedagogies that move beyond children's presence to children's meaningful participation and engagement. AIM is underpinned by evidence-based research on best practices in early childhood education and care and Universal Design (Ring et al., 2020), and attention is given to accessibility, usability, and inclusive environments as well as training, specialist support, and additional adult assistance in the preschool room. Roberts and Callaghan (2021) have explored the attitudes and perceptions early childhood educators have of AIM. Their study considered the experiences of almost 200 early childhood educators in Ireland and found that AIM has supported early childhood settings in developing inclusive environments and practices. The study found positive attitudes toward inclusion but noted challenges concerning educators' skills, experience, and confidence, and the need for appropriate support and training for those working directly with children. The development of curricula and learning frameworks presents an opportunity to complement and support the design and implementation of practice that acknowledges and embraces children's different ways of being, knowing, and doing (Macartney, 2012).

Migration, Globalisation, and 'Superdiversity'

Over the last twenty years, many European countries have witnessed greater diversity in society's social, cultural, and economic dimensions with significant migration-related diversity and global mobility from the Middle East and Eastern European countries (Eek-Karlsson & Emilson, 2021; Vandebroek, 2007). Irish society has been transformed and enhanced by ethnic, cultural, and religious diversity that provides young children with increased awareness of and exposure to multiple forms of difference (Garrity et al., 2017; McGregor et al., 2020). Inward migration from countries within the European Union, and outside the EU, including Nigeria, India, and the Philippines has increased socio-cultural diversity (Fanning & Michael, 2018; McGinnity et al., 2020). Recent studies have identified poorer outcomes for migrants of Black ethnicity in terms of employment and the Irish labour market (McGinnity et al., 2020) and figures from the Central Statistics Office show increasing numbers of racially aggravated crimes and assaults in Ireland since 2013 (Sambaraju & Minescu, 2019). Despite these trends, there is limited academic literature on children's experience of racism or prejudice in an Irish context. What is evident, from broader international perspectives, is that young children have a racialised sense of themselves and others and that children can form negative attitudes, unfavourable racial stereotypes, and prejudice based on their early experiences and representations of difference (Derman-Sparks & Edwards, 2021; Hawkins, 2014; Kintner-Duffy et al., 2022; Lalvani & Bacon, 2019; MacNevin, 2017; Sullivan et al., 2021).

Early childhood curriculum can harness children's natural curiosity about difference to equip them to participate and collaborate within multi-ethnic and multi-cultural societies. Derman Sparks (2021) argues that early childhood educators are responsible for grounding children's experiences in anti-bias approaches that challenge racism and prejudice and uphold social justice to shape children's knowledge and understanding of diversity and difference. In considering anti-bias approaches, it should be recognised that prejudice extends “beyond mere differences in phenotype (skin colour)” (Sambaraju & Minescu, 2019, p. 398) to complex layers of inequality and exclusion.

Over the last decade, many countries, including Ireland, have experienced increasing numbers of asylum seekers and refugee children pursuing refuge and international protection (Chan, 2019; 2020; Garrity et al., 2017; Kintner-Duffy et al., 2021). The marginalisation of these children and families does not subside when they are provided with shelter and safety, and full inclusion means full access and participation in society (Agbenyega & Klibthong, 2013). Within the literature, the term 'superdiversity' (Vertovec, 2007; Meissner and

Vertovec, 2014) has been used across multiple disciplines as a 'lens' to consider ethnocultural diversity arising from migration and global mobility. The concept refers to the multiple layers of inequality that can emerge from the interplay of complex variables of 'difference' such as socio-economic status, linguistic diversity, age, gender, and (dis)ability within these populations (Vertovec, 2007; Vandebroek, 2007; Sadownik, 2020). Educators must recognise and respond to children's diverse contexts through a co-constructed curriculum that learns from and engages across differences (Lalvani & Bacon, 2019). Childcare settings that explore and appreciate linguistic, social, and cultural differences support children's individual and group identity and social development see better engagement and participation of children and families (Garrity et al., 2017, Ogletree & Larke, 2010). Despite this, current research suggests that wider systems, policies, and educational provisions can be slow to adapt to 'superdiverse' communities and pluralistic societies (Chan, 2020; Garrity et al., 2017; Kintner-Duffy et al., 2022; Sadownik, 2020; 't Gilde & Volman, 2021).

Aistear recognises the importance of children's right to belong, positive acknowledgement of their community, and the creation of learning environments and experiences that promote individual and group identity, reflecting children's family structures, cultures, and backgrounds through equipment and materials, books, toys, and environmental displays. The "Greater Tomorrow" Crèche and Ballyhaunis Community Preschool is an example of the importance of culturally responsive practices in an Irish context. The study reflects on the value of books and materials that represent and reflect the characteristics of children, different family types, and cultures (Garrity et al., 2017). Early childhood curriculum can enhance children's sense of group identity and belonging through culturally responsive approaches that respect children's unique contexts. This includes considering interpersonal relationships, learning activities, materials, and institutional and cultural practices (Kyrönlampi et al., 2021). The available literature cautions against focusing merely on 'celebrations' of customs and festivals. While this can provide an opportunity to explore and celebrate diversity, it is insufficient to build mutual respect and group belonging. In some cases, focusing on routine and custom can further reinforce racial and cultural stereotypes (Juvonen et al., 2019). Regular experiences and exposure to different ways of knowing, being, and doing can be enhanced through regular and sustained access to global literature, folklore, traditional music, song, and dance that reflect the socio-cultural contexts of children, their families, and local communities (Agbenyega & Klibthong, 2013; Agbenyega et al., 2017; Ebbeck et al., 2010; Juvonen et al., 2019; Ukala & Agabi, 2017).

Indigenous Groups, Roma, and Traveller children

A growing body of literature contributes to our awareness of identities from diverse cultural and ethnic groups that present “different ways of knowing, being and doing” (Chan, 2020, p. 567). This awareness and understanding demands increased attention to equal access and outcomes for non-dominant, indigenous groups often visibly absent from early childhood curricula (Chan, 2019, 2020; Putnam et al., 2011; Ukala & Agabi, 2017). International research from Canada, New Zealand, Australia, Kenya, Ireland, and Nigeria provides insight into the specific challenges experienced by children from indigenous communities. Studies consistently demonstrate poorer outcomes concerning children's health, well-being, and development influenced by factors at the family, community, and the broader societal systems levels (Chan, 2020; Gould, 2017; Halselth & Greenwood, 2019; Murray, 2012; Ng'asike, 2019; Putnam et al., 2011; Ukala & Agabi, 2017). These studies highlight the potential of high-quality early childhood education and care practices to alleviate the disproportionate burden of inequality experienced by indigenous groups. Early childhood education and care can provide children with learning experiences that promote indigenous culture, language, and identity, and address imbalances in health, socio-economic status, and educational outcomes experienced by minority groups. Rather than 'ignoring' differences in language, ethnicity or beliefs, West-Burns and Murray (2016) recommend that early childhood educators challenge the dominant discourse and 'tap into' the voices of children and their families to generate an authentic recognition and appreciation of diversity.

Within an Irish context, the Traveller community is officially recognised as an ethnic minority and an ethnic group, representing 0.7% of the population (McGinnity et al., 2020). Travellers have a unique nomadic identity and culture that distinguishes them from 'settled people' (O'Sullivan et al., 2018). Since 2017, Irish Travellers have been legally recognised as an ethnic minority indigenous to Ireland (Haynes et al., 2021). While recognition as an ethnic minority does not afford Travellers any additional rights, it does encourage wider societal recognition of the deep structural disadvantage, significant marginalisation, exclusion, and inequality experienced across multiple domains, including: health, housing, and education (Boyle et al., 2020; Kavanagh & Dupont, 2021; Murray, 2012; O'Sullivan et al., 2018). *Aistear* acknowledges the importance of providing learning materials that reflect children's backgrounds and cultures, including: Travellers, lone parents, and people with disabilities. However, environmental considerations and representation in books and play objects are insufficient to address deeply ingrained prejudice and discrimination. Early childhood curriculum can offer specific guidance and encouragement that supports children in

recognising and respecting the values, knowledge, skills and language of the Traveller community as valuable resources. Halselth and Greenwood (2019), in their review of indigenous early childhood development in Canada, emphasised the importance of partnership with parents and community members in the planning, designing, and delivering programmes to reduce the impact of inequality. Internationally, there are multiple examples of culturally responsive practices in early childhood curricula to promote positive acknowledgement of children from non-dominant and indigenous groups, as well as strategies for prejudice reduction across early childhood education and care curricula and practice frameworks (Barblett et al., 2021). Successful international approaches for children from indigenous contexts highlight the importance of respectful collaboration with families and community representatives to co-construct a 'local' curriculum that empowers children and strengthens their pride in themselves and their communities. Examples include: play experiences that allow children to explore, share, and make meaning of their identity within their schools and communities (Stagg-Peterson & Friedrich, 2022), as well as oral traditions, story-telling, song, and dance (Halselth & Greenwood, 2019; Ng'asike, 2019). While there are examples of evidence-based projects and initiatives with Traveller children in Ireland, further attention must be given to mainstreaming evidence-based approaches to ensure Traveller children and their families are positively acknowledged and welcomed in early childhood education and care settings in Ireland.

Culturally Responsive Approaches, Pedagogies, and Practice

Identity and Belonging highlights the importance of children's sense of belonging and group identity, including respect for difference and diversity (NCCA, 2009). Contemporary literature on early childhood curricula and group identity focuses on children at risk of marginalisation and exclusion. Very young children can form and hold negative attitudes and prejudice based on race (Hawkins, 2014; Sullivan et al., 2021). Despite this, evidence suggests that children can develop positive feelings and pride in their own identities, as well as those of others, when their environments, relationships, and experiences counter, address, and challenge implicit bias (Husband, 2019; Sullivan et al., 2021). Hawkins (2014) asserts that children's understanding of the social world is constructed through a lengthy process influenced by what they see, hear, and experience. These experiences can be influenced by curriculum approaches that recognise bias, affirm diversity and respond to children's unique contexts.

Places, Spaces, and Learning Materials

The literature suggests that in high-quality early childhood education and care settings, there is evidence of cultural recognition and responsiveness in classroom displays, toys, books, and learning materials (Derman-Sparks et al., 2020; Ginner Hau et al., 2020; Hawkins, 2014; Neylon; 2014; Roberts & Callaghan, 2021; Ukala & Agabi, 2017). Derman-Sparks (2021) asserts that children's sense of identity and belonging is constructed from experiences and interpretations drawn from multiple sources, including media, books, and toys, with environmental cues “planting the seeds of openness and connection” (p. 39). The literature provides examples of national policy that encourages and, in some cases, mandates the provision of culturally diverse play and learning materials (Martens et al., 2015; McAnelly & Gaffney, 2019; Roberts & Callaghan, 2021). Meaningful recognition of children's place and right to belong requires the early childhood education and care curriculum to promote classroom displays and play materials that reflect and celebrate children's home languages and cultural customs and provide affirmation that their families and communities are positively recognised (Eek-Karlsson & Emilson, 2021; Garrity et al., 2017; Neylon; 2014; West-Burns & Murray, 2016). However, children's sense of group identity and belonging cannot be fully realised through the provision of physical objects and classroom displays, merely being surrounded by 'diverse' materials is unlikely to result in learning experiences and discussions that explore diversity (MacNevin, 2017).

Interpersonal Connections and Relational Pedagogies

Evidence suggests that children as young as three notice and make value judgements concerning race and ethnicity (Aboud et al., 2012). Children can be supported to challenge unfairness and exclusionary behaviours to interrupt cycles of oppression but to do so require opportunities to interact with adults and peers to develop their ideas about belonging, identity, and diversity and challenge misinformation or inaccurate stereotypes within and across their communities (Derman-Sparks et al., 2020; Husband, 2019). The evidence highlights the importance of early childhood educators paying attention to and demonstrating genuine interest in each child. Ensuring all children feel noticed and valued supports children's sense of self and social construction of their worlds (Eek-Karlsson & Emilson, 2021; McGregor et al., 2020; Papadopoulou & Gregoriadis, 2017). The theme of 'relational pedagogies' was prevalent in considering children's sense of group belonging; this concept moves beyond concepts of adult 'support' or 'assistance' to deeper relationships, interactions,

and connections that are responsive to children's unique contexts. Relational connections among children, their families, educators, peers, and community members support children's sense of safety, well-being, and group belonging, with the current review emphasising: kindness, reciprocity, respect, affection, hospitality, and equality (Barblett et al., 2021; Chesworth, 2016; Fler et al., 2019; Shaik et al., 2021). In supporting children's sense of comfort and belonging in early childhood settings, practices aligned with secure and warm relationships emerged strongly. In nurturing these connections, there is a growing awareness of the importance of paying attention to each child and recognising how a “caring and loving” approach to children and families promotes enriched practice (Eek-Karlsson & Emilson, 2021, p. 6).

Aistear recognises that children's group and cultural identity forms within the family and, from there, extends and evolves as they engage with their peers. Children's relationships with peers are critical in promoting children's sense of belonging and acceptance. Current studies highlight the importance of diverse play experiences through which children can explore differences, cultural practices, daily routines, and celebrations to build knowledge, friendships, and relational connections. Secure relationships are supported by educators that tune in to children's interests, identities, funds of knowledge, interests, and working theories, particularly during shared play episodes. Reflecting on inclusive practice in Irish settings, Garrity et al. (2017) describe how staff ensure respect for 'difference' is part of everyday practice, planning, and reflection. For example, when children comment on a classmate using a walking aid, this was recognised and responded to as a teachable moment. Children were encouraged to discuss, describe, and explore the experience of others, and themselves, with children encouraged to “have a go” using the “walker” (Garrity et al., 2017. p. 313). This acknowledgement, recognition, and understanding of diverse experiences and perspectives allow for reciprocal relationships and rich relational pedagogy that supports all children, especially diverse learners (Harris, 2015). In building group identity, the research emphasises reciprocal connections and relationships that listen and pay attention to lived experiences and the shared knowledge of all community members from an 'open and curious perspective' (Macartney, 2012; Moloney & McCarthy, 2018; Rinaldi, 2004).

Aistear aims to support children's sense of belonging and group identity and is grounded in Article 29 of UNCRC (1989), a rights-based approach that respects and recognises children's cultural identity, values, and language (and that of others) as part of their education. The current review asserts that children's sense of group identity relies on their access to people, places, and spaces that deliberately show respect for children's

individual and group identities and close, respectful partnership with families and communities. A key theme emerging from the review was the need for greater awareness and authentic responses to non-dominant groups and children at risk of exclusion and marginalisation. Early childhood curriculum can guide supportive environments, culturally responsive practice, and inclusive pedagogies that promote children's family and community heritages, languages, and practices.

Aim 3: Children Will Be Able to Express Their Rights and Show an Understanding and Regard for the Identity, Rights, and Views of Others.

Aistear affirms the position of children as rights holders, and considers how children express these rights while respecting and upholding the views and rights of others. The trends in the literature over the past decade reaffirm *Aistear*'s recognition of the rights of babies, toddlers, and young children. Children's rights and facilitating these rights are deemed essential in democratic education (Smith, 2019; Woodhead, 2006). The UNCRC (1989) emphasises the child's right to have their views sought and given due weight, and this should be experienced by children individually and as a group. Article 12 focuses on children's voices, which should be listened to, heard, and acted on (Lundy, 2007; Lundy et al., 2021; Murray, 2019; Smith, 2019), while this review also affirms children's participation rights (Correia et al., 2019; Dunphy, 2012) as presented in Articles 29 and 30. Coupled with children's rights is the concept of responsibility, that is to recognise and respect the rights of others and to be and become citizens and agents of and for change. UNESCO (2015) identifies the need for citizenship education to begin in early childhood, for children to become agentic thinkers and active citizens who participate in societal decisions. Children's awareness of social justice issues (Benavides et al., 2020; Hawkins, 2014; Lalvani & Bacon, 2019; Martens et al., 2015; Murray, 2012) and their active participation is central to this. The available evidence also argues that children can become agents of change for sustainability while acknowledging culture as an essential dimension within early childhood settings and beyond (Ärlemalm-Hagser & Davis, 2014; Johansson, 2009; Kim & Dreamson, 2020; Prince, 2010). The current review identifies key trends concerning babies, toddlers, and young children's rights; international commitment to rights-based approaches; children as rights holders; active participation; social justice; and citizenship and sustainability.

Commitment to Rights-based Approaches

Over the past decade, international research, policy, and curricula trends have demonstrated commitment to rights-based approaches which recognise the centrality of children's citizenship, participation, and rights in childhood (Ärlemalm-Hagser & Davis, 2014; Johansson, 2009; Kim and Dreamson, 2020; Prince, 2010; Sandberg & Ärlemalm-Hagsér, 2011). For children, citizenship status depends on relationships with adults, especially in early childhood. From an Australian perspective, Ailwood and colleagues (2011) explored how young children (birth-8) are constructed in educational policy for citizenship. Their research concludes that children's right to participate and the extent of their participation in their social and economic world remains dependent on adults' "perception of their ability to participate" (Ailwood et al., 2011, p. 651). They maintain that conceptions of young children as agentic citizens, while evidenced in discourses of early childhood research, are not often reflected meaningfully in policy and practice (Ailwood et al., 2011). However, this finding is not unique to the Australian context, as demonstrated by Luff and colleagues (2016) in England. While the revised National Curriculum (DfE, 2015) includes prescribed programmes of study for citizenship and a national framework for citizenship (DfE, 2015), there is no mention of 'citizenship' in the Early Years Foundation Stage curriculum framework. As endorsers for the United Nations Convention on the Rights of the Child (1989), governments have obligations for legislation, policy, and curriculum, particularly concerning children's rights and participation.

Alderson (2008) positions children as experts on their own lives, and to unpack this concept, Meehan (2016) researched what matters to children in early childhood settings in England. The findings demonstrate that children have views about what is important to them. However, it highlights the challenge for early childhood educators working with young children to ensure children's views are sought, considered, and included in the adult world (Meehan, 2016). This study echoes the findings of Silva Dias & Menezes (2013); they present the (dis)continuities between school discourses and practices regarding citizenship in the vision of teachers and children in Portugal. They found that young children had already established concepts of political and social organisation at the beginning of schooling. Both children and teachers report their involvement in planning and implementing projects and activities (Silva Dias & Menezes, 2013).

Phillips and colleagues (2020) also compare discourses on children's citizenship membership and participation but in the context of Australia, New Zealand, and the United States. Their research explores how discourses authorise the constructions of children as

citizens alongside opportunities for civic participation. While noting that the discursive field is complex and not fixed, their analysis discovered that “discursive conditions in support of children as citizens who can actively participate are more present in Australia and New Zealand than in the United States” (Phillips et al., 2020, p.608). They caution that if society, particularly curricula, fails to recognise children as active contributors to society, then education perpetuates the construction of children as unknowing and vulnerable. Furthermore, they argue that if policy and curricula position children as active agents in their own and each other’s learning and development, this will create more intergenerational civic engagement. This review demonstrates that while a commitment to children’s rights is often evidenced in international policy and curricula frameworks, a gap exists between policy rhetoric and the reality of children’s everyday experiences regarding their rights and active participation.

Children as Rights-holders and Active Participation

The UNCRC (1989) states that all children are rights holders, irrespective of age. The UNCRC (Committee) (2002) confirmed that this applies to all young children and recognises participation rights as one of the four general principles in the UNCRC (1989). Participation rights are evidenced by many Articles, most notably Article 12, children’s right to a voice in all matters that affect them and Article 31, children’s right to engage in play and participate freely. The UNCRC emphasised the child’s right to have their views sought and given due weight should be experienced by children individually and as a group (UN, 1989). It has previously been argued that ‘voice is not enough’ (Lundy, 2007), nor is children’s right to be heard “the gift of adults” (Lundy et al., 2021, p.281), rendering it optional. Likewise, implementing the best interest principle means that curriculum and policy must place children at the centre of decision-making, especially when it impacts children’s experience of other human rights. Despite the commitment of the UNCRC, the concept of voice is surprisingly absent in the available literature for the current review. This may be due, in part, to the time frame of search; the concept of voice appears to be more prevalent as an emerging trend in the opening decade of the 21st century. Rosen (2010) investigated children’s voices and perspectives on their role in curriculum development by interviewing children and early childhood educators in Canadian preschools. The findings suggest that children feel they play an active role in curriculum development and desire to do so. However, their ability to do so is often constrained by structural factors within and beyond the preschool, and

ultimately teachers have the final decision on curriculum implementation (Rosen, 2010). Despite the lack of available research on the centrality of children's voices, it is widely acknowledged that they should be listened to, heard, and acted on (Murray, 2019; Smith, 2019). Recent Irish policy positions children's voices as a critical component of research, pedagogy and practice (DCEDIY, 2021; GoI, 2018).

Children's participation is central to early childhood education as children's rights and facilitating these rights are deemed essential in democratic education (Smith, 2019; Woodhead, 2006). The curriculum for young children is highly participative and involves early childhood educators enabling children to participate in decision-making and listening to and acknowledging their actions (Clark, 2005; Sinclair, 2004). Focusing on children's participation leads to a deeper understanding of children's capabilities and lives to promote better educator decision-making (Brownlee & Berthelsen, 2009; Woodhead, 2006). While children's right to participate is pivotal for establishing a culture of democracy, social justice, and citizenship is not a new concept, its application remains a challenge (Correia et al., 2019). Active participation in learning experiences enables children to participate competently and with confidence in their groups and communities (Clark, 2005; Hedges, 2011), thus enhancing their sense of identity and belonging. In terms of pedagogical approaches, focusing on children's participation leads to a deeper understanding of children's capabilities and their lives to inform decision-making by educators (Dunphy, 2012; Brownlee & Berthelsen, 2009; Woodhead, 2006). Luff and Webster (2014) identify a series of participatory approaches adopted in early childhood settings to facilitate democratic education. They maintain that democratic dialogue embedded within a commitment and culture of listening to children is the basis for these approaches (Luff & Webster, 2014). They list creative, engaging, and meaningful approaches to capture and enable children's voice and participation, such as the Mosaic approach (Clark & Moss, 2011), Steiner Waldorf kindergartens, and the Reggio Emilia approach (Luff & Webster, 2014). Children's participation involves considering several factors, such as the level of participation and degree of power-sharing between teacher and child; the focus of decision-making affecting children; and the nature of the activity and the children involved (Sinclair, 2004).

From an Irish perspective, Dunphy (2012) argues that educators' knowledge and understanding of young children's perspectives of their early learning and the subsequent interpretations of how these can inform and shape pedagogy are critical in promoting children's participation rights. Drawing on Bruner's conceptualisation of pedagogy of

mutuality, Dunphy (2012) argues that pedagogy implies children's participation is central to effective teaching, for example, early literacy learning and pedagogy. Dunphy (2012) concludes her argument by maintaining that if children's participation rights are to be fully realised, educators need to be flexible in their approach to curriculum and pedagogy. This position aligns with what Alderson and Morrow (2011) describe as educators requiring "new attitudes towards their knowledge and status" (p.21) to ensure children's participation rights are enacted in the early childhood settings. Active participation in learning experiences enables children to participate increasingly effectively in their groups and communities (Hedges, 2011; Hedges, 2022). Active engagement and participation enhance children's sense of identity and belonging to 'become' active citizens. To illustrate this concept, Deans (2016) found that dance enabled participating children to engage in embodied thinking, playful, imaginative problem solving, and active decision making while developing a strong sense of individual and group agency. These findings resulted from an interest-based socio-constructivist dance curriculum where children's voices were expressed in multiple ways. This gives further evidence for a move towards funds of knowledge and co-constructed approaches in early childhood curricula.

Social Justice and Citizenship

Social justice refers to a recognition of undeserved privilege and unfair disadvantage, as well as the potential and possibility that cycles of oppression can be interrupted or challenged in ways that empower diverse identities, voices, and perspectives (Benavides et al., 2020; Hawkins, 2014; Lalvani & Bacon, 2019; Martens et al., 2015; Murray, 2012). Approaches that integrate social justice harness children's curiosity and social proficiency to explore difference, diversity, and dignity, supporting their understanding and attitude formation (Hawkins, 2014). Young children can distinguish differences and develop prejudice from a young age (Derman-Sparks et al., 2020; Hawkins, 2014; MacNevin, 2017). These studies suggest that not only are young children capable of exploring diversity, but they can develop an awareness and understanding of the experiences of others. Social justice pedagogies can encourage children to express and demonstrate empathy, appreciation and sensitivity. Early childhood curriculum can provide unique opportunities to support children's awareness and understanding of their identity and place within the world and that of their peers, family, and wider community members. A Participatory Action Research (PAR) study in Australia (Hawkins, 2014) described a pedagogy of teaching for social justice

that encouraged early childhood educators and children to respect and value the three Ds: Difference, Diversity, and Human Dignity. This small-scale study found that picture books successfully generated young children's discussion, exploration, and critical thinking on race, socio-economic deprivation, gender, and culture. This study also highlights that these experiences require early childhood educators to support and encourage children through active listening and respectful engagement with children's perspectives.

Children being recognised as citizens is a relatively new component in the sociology of children and childhoods. This has implications for young children and their educators and curriculum, pedagogy, and policy. The critical role of the school as a context for citizenship education has been reported (Fielding, 2011; Silva Dias & Menezes, 2013). Democracy and citizenship can be experienced in schools, as children are meaningfully involved in mutual dialogue and decision-making (Dahlberg et al., 1999; Lundy et al., 2021). As a concept, citizenship can be revealed as relational, the interaction between the citizen and the State or other citizens. For young children, their citizenship status, their right to participate, and the extent of this participation depend on their relationship with adults (Ailwood et al., 2011). Within these relationships, the subject of power emerges. Power, as a construct, is embedded in all actions and interactions (Foucault, 1979). For Foucault (1979), there is "no escaping power, that it is always-already present" (p.82). Lustick (2017) locates this Foucauldian concept in schools and identifies power at the transaction site between individuals. McCabe and Farrell (2021) build on this idea and position power as a determining construct for relationships in early childhood. Children's abilities to become citizens, agents of change, and active participants largely depend on connected relationships and relational pedagogy; it is critical to recognise the role of power dynamics within these relationships.

Another key component of children's citizenship is their ability to be agentic learners within a democratic setting. Icelandic society draws many parallels with Irish society in that it has become more diverse, multicultural, and multilingual, and early childhood pedagogy and curriculum need to reflect this. From a Nordic perspective, Karlsdottir and Einarsdottir (2020) seek to delineate how issues of democracy, social justice, and power relations come to the fore through learning stories of young boys with non-dominant cultural backgrounds. Their findings suggest that immigrant children struggle to participate in play and are sometimes marginalised within their preschool group. The research also indicates children's participation and agency emerged through their learning stories. Johansson (2009) positions world citizenship as critical content in the Swedish national preschool curriculum. Her research highlights the need to consider the moral dimensions in learning and "how moral

and democratic values are interconnected with the ideas of globalisation” (Johansson, 2009, p. 91). The research makes a strong case for building responsive curricula based on play and learning stories as key pedagogical sites for developing young children’s competencies, listening to, and hearing them.

Sustainability

The links between young children becoming active participants in change and sustainability are examined in Australian and Swedish contexts by Ärlemalm-Hagser and Davis (2014). Their analysis adopts a critical theory lens, noting that while both the Australian and Swedish curricula recognise content related to environmental, social, and cognitive domains (particularly natural environmental aspects), there is little discussion of political dimensions of human development; specifically, children as active agents with political agency (Ärlemalm-Hagser & Davis, 2014). They argue that children’s voices are not recognised as agents of change in these particular contexts, thus highlighting the need for deeper articulation of children’s agency in future policy documents (Ärlemalm-Hagser & Davis, 2014). A detailed critique of the education for sustainability in policy documents demonstrates that while environmental stewardship by children and educators is promoted, there is still room for improvement (Ärlemalm-Hagser and Davis, 2014).

Prince (2010) bridges the gap between policy and practice as she examines the importance of education for sustainability in New Zealand's early childhood curriculum regarding its inclusion in Te Whāriki. The key finding of the twelve-month data collection in early childhood centres is the need for education for sustainability to become an integral part of Te Whāriki. It should be incorporated as a core value within early childhood curricula to ensure it becomes a part of everyday practice (Prince, 2010); it involves indoor and outdoor provision. For example, greater use of natural materials, less plastic, and a focus on gardening, composting, and recycling. Other examples of education for sustainability (EfS) practice are evidenced in Australia with the exponential growth of ‘bush kinder’ or ‘forest preschool programs’ (Elliot, 2021; Elliott & Chancellor, 2014). Davis (2015) outlines the links between play in nature and EfS, and these offer a starting point for both informing and challenging ‘bush kinder’ pedagogy. Elliot (2021) elaborates on this pedagogy and identifies its features as: exploring affective knowing of nature; cognitive knowing about plants and animals; risk management skills and cultivating an ethical sustainable worldview. Elliot (2021) recognises bush kinder programs offer unique opportunities for implementing EfS,

where adults and children work together to make a difference; to move beyond the simple sensory encounters with nature and environmental stewardship and create the potential for transformative practice.

The evidence presented here (Ärlemalm-Hagser & Davis, 2014; Elliot, 2021; Johansson, 2009; Kim & Dreamson, 2020; Prince, 2010; Sandberg & Ärlemalm-Hagsér, 2011) argues that children, both individually and collectively, can become agents of change for sustainability while acknowledging culture as an essential dimension to the meaning of sustainability, within early childhood settings and beyond; these findings are consistent with Kim and Dreamson (2020) in the Australian and Korean contexts. Using critical documentary analysis, they analysed how the meaning of sustainability, children as agents of change for sustainability, and sustainability in young children's everyday lives are represented in their respective curricula. The analysis determined that culture is a critical factor that clarifies why different interpretations of sustainability appear in curricula. They conclude that adding a cultural dimension to curricula is critical for responding to a culturally diverse world and discovering emergent understandings (Kim & Dreamson, 2020). While *Aistear* currently refers to children's environment and sense of place, sustainability is more than children's interactions with their environment; it recognises children's ability to be agents of and for change, and early childhood education is recognised as a critical time to achieve sustainability goals (Mérida-Serrano et al., 2020). As such, sustainability should be embedded within ECEC curricula frameworks.

Aim 4: Children Will See Themselves as Capable Learners

Aistear positions babies, toddlers, and young children as competent individuals who can view themselves as capable learners. The emerging trends over the past decade reaffirm this construction of children and recognise a critical component of children's ability to view themselves as capable learners is that learning emerges from their interests, working theories, and funds of knowledge. The empirical and theoretical support for co-constructing curriculum in response to children's interests and funds of knowledge emerges strongly from this review (Chesworth, 2016; González et al., 2005; Hedges, 2011; Hedges et al., 2011; Reinhardt, 2018; Wood, 2014). The evidence (Hedges, 2011; Hedges et al., 2011) also indicates children's interests and funds of knowledge are stimulated by their active participation in group, family, and community experiences and provides an analytical framework to recognise children's interests and extend curriculum focus (Hedges et al.,

2011). Educators can plan the curriculum to build on interests, working theories, and funds of knowledge through child-initiated and adult-led activities. The current review identifies key trends concerning babies, toddlers, and young children's abilities to view themselves as capable learners: co-constructed learning experiences, funds of knowledge, children's interests, and working theories.

Co-constructed Learning Experiences

Enacting a pedagogy that values children's identity and sense of belonging to a group is grounded in learning experiences that encourage children to think, feel, and reflect. In New Zealand, Te Whāriki, the early childhood curriculum is grounded in respect for difference. Educators are supported to develop and promote learning experiences based on children's everyday learning experiences, drawing on special events within families and cultural communities (Ministry of Education, 2017). While celebrating and representing cultural and ethnic traditions are important practices, recent literature highlights that this alone is insufficient and can reinforce negative stereotypes and attitudes (Chan, 2019). Children, their families and communities have rich interests and funds of knowledge that can contribute to everyday practice through culturally responsive and inclusive learning experiences. Hedges has provided significant insight into how existing world knowledge and lived experiences can stimulate children's interest, engagement, and participation within their family, community, and culture (Hedges, 2015, 2021; Hedges et al., 2011). She provides examples of how children's interests and funds of knowledge can authentically influence an interest-based curriculum based on children's experiences, including: home language, food preparation, child-rearing practices, and relationships with extended family members. Likewise, Derman-Sparks emphasises supporting children to develop skills to thrive in a diverse world through play experiences and learning opportunities that respond to their natural curiosity and interests based on personal experiences and identities (Derman-Sparks et al., 2020). Research that explores the experiences of indigenous children highlights the importance of children drawing from their home lives and provides examples such as storytelling, riddles, stone-counting, and the use of traditional tools and equipment within early childhood settings to maintain cultural values and identity (Ebbeck et al., 2010; Halselth & Greenwood, 2019; Ukala & Agabi, 2017). These perspectives also link to beliefs about sustainability and the provision of natural materials for play and exploration. Mitchell and Bateman (2018) provide an example of ways to explore cultural values and practices that support a sense of belonging

for refugee children in New Zealand. The study used storytelling, reading and dance alongside warm greetings and recognition of families to help children and families develop a sense of identity and belonging.

Similarly, West-Burns and colleagues (2016) detailed how early childhood educators used student-family-home connections to explore children's lives and co-construct learning opportunities for Black children attending early childhood settings. These examples recognise and reinforce parents' important role as 'key informants' in planning for inclusive learning experiences. This thoughtful planning and pedagogy is likely to adapt to the needs of all children, including children with additional needs and physical disabilities, those that speak English/Irish as an additional language, and non-dominant ethnic or racial identities (Chan, 2019; Hedges & Cooper, 2014; Garrity et al., 2017; Macartney, 2012; West-Burns & Murray, 2016)

The early childhood curriculum provides an opportunity to embrace children's natural curiosity and sense of social justice to address misinformation, negative stereotyping and bias. Educators can guide children's awareness and understanding of difference to develop a sense of self and group identity that values all children's unique contexts. There is strong evidence to support the benefits of a culturally responsive curriculum that promotes nurturing environments, responsive relationships, and co-constructed learning experiences that welcome and value all children and involve families (Kintner-Duffy et al., 2021; Lalvani & Bacon, 2019; Luff et al., 2016; Reinhardt, 2018; Vandenbroeck, 2015).

Funds of Knowledge, Children's Interest & Working Theories

The rhetoric of co-constructing curriculum in response to children's interests, funds of knowledge, and working theories has been well established within early childhood discourses over the past decade (Chesworth, 2016; González et al., 2005; Hedges, 2011; Hedges, Cullen, & Jordan, 2011; Reinhardt, 2018; Wood, 2014). Funds of knowledge offer a conceptual framework for informing effective practice and are centred on the principle that the best way to learn about children's lives is through their everyday lived experiences (González et al., 2005). It is defined by the richness of experiences associated with children's active participation in multi-generational household and community activities (González et al., 2005). The principle of co-constructing curriculum emerges from the position that early learning experiences should be meaningful for children, relevant to their everyday lives (Carr et al., 2010), and should relate to children's funds of knowledge and interests. Chesworth

(2016) recognises that the term 'interest' is not agreed upon; rather, it emerges from young children's socially, culturally, and historically constructed perspectives and related pedagogy. She argues interpretations of children's interests have tended to focus on low-level interests, such as children's engagement with materials or activities within the play environments, and ought to centre on deeper, more meaningful interests (Chesworth, 2016). Hedges (2011) examines the nature of children's interests and views popular culture as funds of knowledge and proposes that teachers can engage meaningfully with children's interests, particularly in media-based culture. Hedges (2011) argues that by viewing popular culture as a fund of knowledge, early childhood educators can productively engage with technology-based interests, providing a rich source to extend children's knowledge and understandings. Hedges and colleagues (2011) extend the discourse by examining children's interests and teachers' engagement with these in curriculum interaction beyond play-based learning environments. Their evidence suggests children's interests were stimulated by their active participation in group, family, and community experiences. They conclude that funds of knowledge provide an analytical framework for teachers to recognise children's interests and extend teachers' curriculum focus (Hedges et al., 2011).

Children's interests and funds of knowledge often unfold their working theories as they seek to make meaning in their social worlds. Drawing on theories about funds of knowledge and communities of inquiry, Hedges and Jones (2012) understand children's interests emanating from their participation in their families and communities. They conceptualise learning as a dynamic process involving the co-construction of knowledge within children's peer cultures and with adults in the setting. Hedges and Jones (2012) draw on participatory learning theories, cognitive inquiry, and children's interests to propose that working theories represent the tentative, evolving ideas, and understandings formulated by children (and adults) as they participate in the life of their families, communities, and cultures, and engage with others to think, ponder, wonder, and make sense of the world to participate more effectively within it. Working theories result from deep thinking and inquiry, as children theorise about the world and their experiences. They are also the means of further cognitive development because children can use their existing understandings to create a framework for making sense of new experiences and ideas (Hedges & Jones, 2012).

Hedges and Cooper (2014) sought a deeper insight into educator practices around children's interests and working theories and built upon previous research (Hedges et al., 2011; Hedges & Jones, 2012). Working theories can be described as when children gain greater experience, knowledge, and skills, the theories they develop become more widely

applicable and have greater connections. As defined by the Ministry of Education in New Zealand, “working theories become increasingly useful for making sense of the world, for giving the child control over what happens, for problem-solving, and for further learning” (2017, p.44). The construct of working theories and funds of knowledge encourages teachers to look more deeply into and beyond everyday play events to make meaningful connections to children’s lives. Hedges and Cooper (2014) argue that funds of knowledge can connect homes and early childhood settings, providing a foundation for inquiring minds to thrive and for educators to meaningfully respond to children’s interests, inquiries, and working theories for more equitable and responsive learning experiences. Reinhardt (2018) suggests that a curriculum redesign rooted in funds of knowledge can also break down the power dynamics among children, parents, and teachers. In an ethnographic study of children’s interests, funds of knowledge, and working theories in free play, Hill and Wood (2019) identified three common trends in children’s working theories: human nature (to self-identity; to beliefs, values, religion; to rights and responsibilities; to relationships; to life and death); theories related to the social world (to the structures of human society, families, and communities; to organizations in society such as schools and workplaces; to the roles people play in these organisations); and theories related to the physical and natural world (to the physical and biological world; to scientific laws and principles; the animal and plant kingdoms). Hill and Wood (2019) argue that interests are the conceptual arena in which complex ideas (rather than basic developmental needs) are expressed, drawing on available cultural resources, materials, and technologies. Through these means, the outcomes of children’s interests and enquiries are knowledge exchange and knowledge building as they incorporate every day and scientific knowledge and understanding, moral reasoning, and ethical concern for relationships.

The evidence presented here emphasises the inclusion of children’s interests, inquiries, and working theories as fundamental to how children learn and the potential to make connections between their home and early childhood setting (Chesworth, 2016; González, Moll & Amanti, 2005; Hedges, 2011; Hedges et al., 2011; Hill & Wood, 2019; Reinhardt, 2018). These perspectives have important implications for early childhood learning environments, curriculum, and pedagogy. In curriculum redesign, the concept of funds of knowledge, as a theoretical framework for understanding and engaging with children’s interests, provides a positive way for early childhood teachers to acknowledge the richness of children’s lives and the diversity of their experiences. The Learning Goals currently associated with *Aistear* recognise children’s broad range of interests and

acknowledge that children should experience learning opportunities based on personal interests. This review affirms the inclusion of children's interests as a central component of Identity and Belonging. It positions funds of knowledge and working theories as significant aspects of early childhood curricula so children can view themselves as capable learners and engage in co-constructed learning experiences.

Concluding Comments

The current review offers contemporary understandings of how children's identities and sense of belonging are conceptualised in increasingly diverse social and cultural worlds. Curriculum frameworks reflect particular economic, cultural, political, and social epochs, and therefore capture a mere moment in time. Current literature and evidence-based studies of children's lives have the potential to guide and develop responsive pedagogies and practices to support children's early education and care experiences. The findings of this review affirm *Aistear's* Aims and Learning Goals for the Theme of Identity and Belonging and the importance of children's sense of self, group identity, and belonging. The available literature highlights the relevance and significance of culturally responsive practices and approaches for Ireland's multi-cultural, multi-lingual society. The studies highlighted the value of responding to children's unique contexts and lived experiences, acknowledging their rich funds of knowledge, working theories, and interests in the co-construction of knowledge and understanding. These rights-based approaches recognise and respond to children as active citizens and rights-holders, encouraging children's sense of self, others and wider society.

References

*Denotes literature included in the Mapping Table

- About, F. E., Tredoux, C., Tropp, L. R., Brown, C. S., Niens, U., & Noor, N. M. (2012). Interventions to reduce prejudice and enhance inclusion and respect for ethnic differences in early childhood: A systematic review. *Developmental Review, 32*(4), 307–336. <https://doi.org/10.1016/j.dr.2012.05.001>
- Acar, I. H., Acar, I. H., Veziroglu-Celik, M., Veziroglu-Celik, M., Garcia, A., Garcia, A., Colgrove, A., Colgrove, A., Raikes, H., Raikes, H., Gönen, M., Gönen, M., Encinger, A., & Encinger, A. (2019). The qualities of teacher–child relationships and self-regulation of children at risk in the United States and Turkey: The moderating role of gender. *Early Childhood Education Journal, 47*(1), 75–84. <https://doi.org/10.1007/s10643-018-0893-y>
- Agarwal-Rangnath, R. (2021). *Social studies, literacy, and social justice in the common core classroom: A guide for teachers*. Teachers College Press.
- *Agbenyega, J., & Klibthong, S. (2013). Whole school initiative: Has inclusive education gone astray? *International Journal of Whole Schooling, 9*(1), 3-22.
- Ahnert, L., Milatz, A., Kappler, G., Schneiderwind, J., & Fischer, R. (2013). The impact of teacher-child relationships on child cognitive performance as explored by a priming paradigm. *Developmental Psychology, 49*(3), 554–567. ERIC. <https://doi.org/10.1037/a0031283>
- *Ailwood, J., Brownlee, J., Johansson, E., Cobb-Moore, C., Walker, S., & Boulton-Lewis, G. (2011). Educational policy for citizenship in the early years in Australia. *Journal of Education Policy, 26*(5), 641-653.
- Ainsworth, M. D. S. (1963) The development of infant-mother interaction among the Ganda. In B. M. Foss (Ed.), *Determinants of Infant Behavior* (pp. 67 – 104). Wiley.
- Ainsworth, M. D. S. (1969). Object relationships, dependency, and attachment: A theoretical review of the infant-mother relationship. *Child Development, 40*, 969–1026.
- Alderson, P. (2008). *Young children's rights: Exploring beliefs*. Jessica Kingsley Publishers.
- Alderson, P., & Morrow, V. (2011). Respect for rights: privacy and confidentiality. In P. Alderson, & V. Morrow (Eds.), *The ethics of research with children and young people: A practical handbook* (pp. 31-48). Sage.

- Ang, L. (2018). A cross-disciplinary study of early childhood development and peacebuilding: New conceptualizations of early childhood for global sustainable development. *Pacific Early Childhood Education Research Association*, 12(1), 1–21. <https://doi.org/10.17206/apjrece.2018.12.1.1>
- *Ärlemalm-Hagsér, E., & Davis, J. (2014). Examining the rhetoric: A comparison of how sustainability and young children’s participation and agency are framed in Australian and Swedish early childhood education curricula. *Contemporary Issues in Early Childhood*, 15(3), 231–244. <https://doi.org/10.2304/ciec.2014.15.3.231>
- Barandiaran, A., Muela, A., de Arana, E. L., Larrea, I., & Vitoria, J. R. (2015). Exploratory behavior, emotional wellbeing and childcare quality in preschool education. *Anales de Psicología*, 31(2), 570–578. <https://doi.org/10.6018/analesps.31.2.171551>
- Barblett, L., Cartmel, Jennifer, Hadley, F., Harrison, L., Irvine, S., Bobongie-Harris, F., & Lavina, L. (2021). *National quality framework approved learning frameworks update literature review*. Australian Children’s Education and Care Quality Authority (ACECQA) <https://www.acecqa.gov.au/sites/default/files/2021-09/2021NQF-ALF-UpdateLiteratureReview.PDF>
- Barton, E. E., & Smith, B. J. (2015). Advancing high-quality preschool inclusion: A discussion and recommendations for the field. *Topics in Early Childhood Special Education*, 35(2), 69–78. <https://doi.org/10.1177/0271121415583048>
- Benavides, V., Ledda, R., & Mohammed, M. (2020). Never too young to champion a cause: Supporting positive identity development through social justice curriculum in preschool. *YC Young Children*, 75(5), 14–19.
- Blewitt, C., O’Connor, A., Morris, H., Nolan, A., Mousa, A., Green, R., Ifanti, A., Jackson, K., & Skouteris, H. (2021). ‘It’s embedded in what we do for every child’: A qualitative exploration of early childhood educators’ perspectives on supporting children’s social and emotional learning. *International Journal of Environmental Research and Public Health*, 18(4), 1530. <https://doi.org/10.3390/ijerph18041530>
- Bowlby, J. (1969). *Attachment and loss* (Vol. 1). New York: Basic Books. Brembeck, H., Johansson, B., & Kampmann, J. (Eds.) (2004). *Beyond the competent child: Exploring contemporary childhoods in the Nordic welfare societies*. Roskilde University Press.

- Brownlee, J., Berthelsen, D., & Segaran, N. (2009). Childcare workers' and centre directors' beliefs about infant childcare quality and professional training. *Early Child Development and Care, 179*(4), 453-475.
- Boyle, A., Flynn, M., & Hanafin, J. (2020). Optimism despite disappointment: Irish traveller parents' reports of their own school experiences and their views on education. *International Journal of Inclusive Education, 24*(13), 1389–1409. <https://doi.org/10.1080/13603116.2018.1530805>
- Bussye, V., & Hollingsworth, H. L. (2009). Program quality and early childhood inclusion: Recommendations for professional development. *Topics in Early Childhood Special Education, 29*(2), 119-128. <https://doi.org/10.1177/0271121409332233>
- Carr, M., Jones, C., Lee, W., Smith, A. B., Marshall, K., & Duncan, J. (2010). *Learning in the making: Disposition and design in early education*. Brill.
- *Chan, A. (2020). Superdiversity and critical multicultural pedagogies: Working with migrant families. *Policy Futures in Education, 18*(5), 560–573.
- *Chan, A. (2019). *Te Whāriki: An early childhood curriculum in a superdiverse New Zealand*. *New Zealand Journal of Educational Studies, 54*(2), 245–259. <https://doi.org/10.1007/s40841-019-00138-z>
- *Chapman, R. (2022). Moving beyond 'gender-neutral': Creating gender expansive environments in early childhood education. *Gender and Education, 34*(1), 1-16.
- Chesworth, L. (2016). A funds of knowledge approach to examining play interests: Listening to children's and parents' perspectives. *International Journal of Early Years Education, 24*(3), 294-308.
- Clark, A. (2005). Listening to and involving young children: A review of research and practice. *Early child development and care, 175*(6), 489-505.
- Clark, A., & Moss, P. (2011). *Listening to young children: The Mosaic Approach* (2nd ed.). National Children's Bureau.
- Correia, N., Camilo, C., Aguiar, C., & Amaro, F. (2019). Children's right to participate in early childhood education settings: A systematic review. *Children and Youth Services Review, 100*, 76-88. <https://doi.org/10.1016/j.childyouth.2019.02.031>
- Dahlberg, G., Moss, P., & Pence, A. R. (1999). *Beyond quality in early childhood education and care: Postmodern perspectives*. Psychology Press.

- Davis, J. (Ed.). (2015). *Young children and the environment: Early education for sustainability* (2nd ed.). Cambridge: University Press.
- *Deans, J. (2016). Thinking, feeling and relating: Young children learning through dance. *Australasian Journal of Early Childhood*, 41(3), 46-57.
- Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia*. University of Minnesota Press.
- DeNicolò, C. P., Yu, M., Crowley, C. B., & Gabel, S. L. (2017). Reimagining critical care and problematizing sense of school belonging as a response to inequality for immigrants and children of immigrants. *Review of Research in Education*, 41(1), 500– 530. <https://doi.org/10.3102/0091732X17690498>
- Department for Education (DfE) (2015). Citizenship Programmes of Study: Key Stages 3 and 4, National Curriculum in England. [Online]. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239060/SECONDARY_national_curriculum_-_Citizenship.pdf [Accessed April 4, 2022]
- Department of Children, Equality, Disability, Inclusion and Youth (DCEDIY). (2021). *National framework for children and young people's participation in decision-making*. DCEDIY.
- Department of Children and Youth Affairs (2016). *Annual report*. Government Publications.
- Derman-Sparks, L., Edwards, J. O., & Goins, C. M. (2020). Teaching about identity, racism, and fairness: Engaging young children in anti-bias education. *American Educator*, 44(4), 35–40.
- *Derman-Sparks, L., & Edwards, J. O. (2021). *Teaching about identity, racism, and fairness: Engaging young children in anti-bias education*. ERIC. <https://dialog.proquest.com/professional/docview/2526882188?accountid=15753>
- Dunkerly-Bean, J., & Bean, T. W. (2016). Missing the savoir for the *connaissance*: Disciplinary and content area literacy as regimes of truth. *Journal of Literacy Research*, 48(4), 448-475.
- *Dunphy, E. (2012). Children's participation rights in early childhood education and care: the case of early literacy learning and pedagogy. *International Journal of Early Years Education*, 20(3), 290-299.
- Ebbeck, M., Yim, H. Y. B., & Lee, L. W. M. (2010). Belonging, being, and becoming: Challenges for children in transition. *Diaspora, Indigenous, and Minority Education*, 4(2), 103–117.

- *Eek-Karlsson, L., & Emilson, A. (2021). Normalised diversity: Educator's beliefs about children's belonging in Swedish early childhood education. *Early Years*, 1–15. <https://doi.org/10.1080/09575146.2021.1951677>
- Elliot, S. (2021). Education for sustainability: Pedagogical provocations for education for sustainability in Bush Kinder. Accessed on 18/7/22: <https://earlychildhoodoutdoorlearning.weebly.com/education-for-sustainability---paper-by-dr-sue-elliott.html>
- Elliott, S., & Chancellor, B. (2014). From forest preschool to bush kinder: An inspirational approach to preschool provision in Australia. *Australasian Journal of Early Childhood*, 39(4), 45-53.
- *Emilson, A., Folkesson, A. M., & Lindberg, I. M. (2016). Gender beliefs and embedded gendered values in preschool. *International Journal of Early Childhood*, 48(2), 225-240.
- Evans, K. H. L. (2015). Reconceptualising dominant discourses in early childhood education: Exploring 'readiness' as an active-ethical-relation. *Complicity: An International Journal of Complexity and Education*, 12(1). <https://doi.org/10.29173/cmplct23144>
- Fanning, B., & Michael, L. (2018). Racism and anti-racism in the two Irelands. *Ethnic and Racial Studies*, 41(15), 2656–2672. <https://doi.org/10.1080/01419870.2017.140364>
- Fielding, M. (2011). Patterns of partnership: Student voice, intergenerational learning and democratic fellowship. In *Rethinking educational practice through reflexive inquiry* (pp. 61-75). Springer, Dordrecht.
- Fleer, M., Adams, M., & Gunstone, R. (2019). Transformative pedagogy: Dinka playgroups as spaces for cultural knowledge productions of Western science. *Cultural Studies of Science Education*, 14(4), 1045–1069. ERIC. <https://doi.org/10.1007/s11422-018-9908-7>
- Foucault, M. (1979). *Discipline and punish: The birth of the prison* (A. Sheridan, Trans.). Penguin.
- Ginner Hau, H., Selenius, H., & Björck Åkesson, E. (2020). A preschool for all children? – Swedish preschool teachers' perspective on inclusion. *International Journal of Inclusive Education*, 0(0), 1–19. <https://doi.org/10.1080/13603116.2020.1758805>

- *Garrity, S., Moran, L., McGregor, C., & Devaney, C. (2017). An informed pedagogy of community, care, and respect for diversity: Evidence from a qualitative evaluation of early years services in the West of Ireland. *Child Care in Practice*, 23(3), 305–321. <https://doi.org/10.1080/13575279.2017.1329707>
- Gonzalez, N., Moll, L.C. & Amanti, C. (2005). *Funds of knowledge: Theorising practices in households, communities and classrooms*. Routledge.
<https://doi.org/10.4324/9781410613462>
- Government of Ireland (GoI) (2018). *First 5: A Whole-of-Government Strategy for Babies, Young Children and their Families*. Government of Ireland Publications.
- Gould, S. (2017). Promoting the social inclusion and academic progress of Gypsy, Roma and Traveller children: A secondary school case study. *Educational Psychology in Practice*, 33(2), 126–148. <https://doi.org/10.1080/02667363.2016.1259996>
- Guralnick, M. J. (2001). A developmental systems model for early intervention. *Infants and Young Children*, 14(2), 1–18. <https://doi.org/10.1097/00001163-200114020-00004>
- Guralnick, M. J. (2020). Applying the developmental systems approach to inclusive community-based early intervention programs: Process and practice. *Infants & Young Children*, 33(3), 173–183. <https://doi.org/10.1097/IYC.0000000000000167>
- Halseth, R., & Greenwood, M. (2019). *Indigenous early childhood development in Canada: Current state of knowledge and future directions*. National Collaborating Centre for Aboriginal Health.
- Harris, K. I. (2015). Developmentally universal practice: Visioning innovative early childhood pedagogy for meeting the needs of diverse learners. *Early Child Development and Care*, 185(11–12), 1880–1893.
<https://doi.org/10.1080/03004430.2015.1028395>
- *Hawkins, K. (2014). Teaching for social justice, social responsibility and social inclusion: A respectful pedagogy for twenty-first century early childhood education. *European Early Childhood Education Research Journal*, 22(5), 723–738.
<https://doi.org/10.1080/1350293X.2014.969085>
- Haynes, A., Joyce, S., & Scheppe, J. (2021). The significance of the declaration of ethnic minority status for Irish Travellers. *Nationalities Papers*, 49(2), 270–288.
<https://doi.org/10.1017/nps.2020.28>

- Hedges, H. (2011). Rethinking Sponge Bob and Ninja Turtles: Popular culture as funds of knowledge for curriculum co-construction. *Australasian Journal of Early Childhood*, 36(1), 25-29.
- *Hedges, H., & Cooper, M. (2014). Engaging with holistic curriculum outcomes: Deconstructing ‘working theories’. *International Journal of Early Years Education*, 22(4), 395–408. <https://doi.org/10.1080/09669760.2014.968531>
- *Hedges, H., Cullen, J., & Jordan, B. (2011). Early years curriculum: Funds of knowledge as a conceptual framework for children’s interests. *Journal of Curriculum Studies*, 43(2), 185–205. <https://doi.org/10.1080/00220272.2010.511275>
- Hedges, H., & Jones, S. (2012). Children’s working theories: The neglected sibling of *Te Whāriki*’s learning outcomes. *Early Childhood Folio*, 16(1), 34–39.
- Hedges, H. (2022). *Children’s interests, inquiries and identities: Curriculum, pedagogy, learning and outcomes in the early years*. Routledge.
- Hill, M., & Wood, E. (2019). ‘Dead forever’: In an ethnographic study of children’s interests, funds of knowledge and working theories in free play. *Learning, Culture and Social Interaction*, 23, 1000292. <https://doi.org/10.1016/j.lcsi.2019.02.017>
- Husband, T. (2019). Using multicultural picture books to promote racial justice in urban early childhood literacy classrooms. *Urban Education*, 54(8), 1058-1084.
- Janssen, J., & Vandebroek, M. (2018). (De)constructing parental involvement in early childhood curricular frameworks. *European Early Childhood Education Research Journal*, 26(6), 813–832. <https://doi.org/10.1080/1350293X.2018.1533703>
- Jenkins, L. N., Mulvey, N., & Floress, M. T. (2017). Social and language skills as predictors of bullying roles in early childhood: A narrative summary of the literature. *Education & Treatment of Children*, 40(3), 401–417. <https://doi.org/10.1353/etc.2017.0017>
- Johansson, E. (2009). The preschool child of today—The world-citizen of tomorrow?. *International Journal of Early Childhood*, 41(2), 79-95.
- Johansson, E., & Puroila, A.-M. (2021). Research perspectives on the politics of belonging in early years education. *International Journal of Early Childhood*, 53(1), 1–8. <https://doi.org/10.1007/s13158-021-00288-6>
- Juvonen, J., Lessard, L. M., Rastogi, R., Schacter, H. L., & Smith, D. S. (2019). Promoting social inclusion in educational settings: Challenges and opportunities. *Educational Psychologist*, 54(4), 250–270. <https://doi.org/10.1080/00461520.2019.1655645>

- *Karlsdottir, K., & Einarsdottir, J. (2020). Supporting democracy and agency for all children: The learning stories of two immigrant boys. *Contemporary Issues in Early Childhood*, 21(4), 325-339.
- Karlsudd, P. (2021). Improving children's sense of belonging through group-orientated individualisation. *British Journal of Special Education*, 48(4), 417-437.
<https://doi.org/10.1111/1467-8578.12383>
- Kavanagh, A. M., & Dupont, M. (2021). Making the invisible visible: Managing tensions around including Traveller culture and history in the curriculum at primary and post-primary levels. *Irish Educational Studies*, 40(3), 553-569.
<https://doi.org/10.1080/03323315.2021.1932548>
- Kim, S., & Dreamson, N. (2020). Culturally inclusive early childhood education for sustainability: a comparative document analysis between Australian and Korean curricula. *European Early Childhood Education Research Journal*, 28(5), 712-730.
- *Kintner-Duffy, V. L., Scott-Little, C., & Smith, N. (2022). "I'm gonna teach them all the same way": Teachers' beliefs about, experiences of, and classroom practices with children of color. *Journal of Early Childhood Teacher Education*, 43(1), 127-147.
<https://doi.org/10.1080/10901027.2021.1902433>
- Knaus, M. (2015). 'Time for Being': Why the Australian early years learning framework opens up new possibilities. *Journal of Early Childhood Research*, 13(3), 221-235.
- Kyrönlampi, T., Uitto, M., & Puroila, A.-M. (2021). Place, peers, and play: Children's belonging in a preprimary school setting. *International Journal of Early Childhood*, 53(1), 65-82. <https://doi.org/10.1007/s13158-021-00285-9>
- *Lalvani, P., & Bacon, J. K. (2019). Rethinking 'We are all special': Anti-ableism curricula in early childhood classrooms. *Young Exceptional Children*, 22(2), 87-100.
- Luff, P., & Webster, R. (2014). Democratic and participatory approaches: Exemplars from early childhood education. *Management in Education*, 28(4), 138-143.
- *Luff, P., Kanyal, M., Shehu, M., & Brewis, N. (2016). Educating the youngest citizens- possibilities for early childhood education and care, in England. *Journal for Critical Education Policy Studies*, 14(3).
- Lundqvist, J., Allodi Westling, M., & Siljehag, E. (2016). Characteristics of Swedish preschools that provide education and care to children with special educational needs. *European Journal of Special Needs Education*, 31(1), 124-139.
<https://doi.org/10.1080/08856257.2015.1108041>

- Lundy, L. (2007). 'Voice' is not enough: Conceptualising Article 12 of the United Nations Convention on the Rights of the Child. *British Educational Research Journal*, 33(6), 927-942.
- Lundy, L., Byrne, B., Lloyd, K., Templeton, M., Brando, N., Corr, M. L., & Wright, L. H. (2021). Life under coronavirus: Children's views on their experiences of their human rights. *The International Journal of Children's Rights*, 29(2), 261-285.
- Lustick, H. (2017). Administering discipline differently: A Foucauldian lens on restorative school discipline. *International Journal of Leadership in Education*, 20(3), 297-311.
- McAnelly, K., & Gaffney, M. (2019). Rights, inclusion and citizenship: A good news story about learning in the early years. *International Journal of Inclusive Education*, 23(10), 1081–1094. <https://doi.org/10.1080/13603116.2019.1629123>
- *Macartney, B. C. (2012). Teaching through an ethics of belonging, care and obligation as a critical approach to transforming education. *International Journal of Inclusive Education*, 16(2), 171–183. <https://doi.org/10.1080/13603111003686218>
- MacNevin, M. (2017). The Black baby doll doesn't fit the disconnect between early childhood diversity policy, early child. *Early Child Development and Care*, 187(5–6), 827–839. <https://doi.org/10.1080/03004430.2016.1223065>
- *Martens, P., Martens, R., Doyle, M. H., Loomis, J., Fuhrman, L., Furnari, C., Soper, E., & Stout, R. (2015). Building intercultural understandings through global literature. *The Reading Teacher*, 68(8), 609–617. <https://doi.org/10.1002/trtr.1359>
- MacNaughton, G. (2000). *Rethinking gender in early childhood education*. Allen & Unwin
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396. <https://doi.org/10.1037/h0054346>
- McCabe, U., & Farrell, T. (2021). Play, pedagogy and power: a reinterpretation of research using a Foucauldian lens. *International Journal of Early Years Education*, 29(4), 358-370.
- McGinnity, F., Privalko, I., Fahey, É., O'Brien, D., & Enright, S. (2020). *Origin and integration: A study of migrants in the 2016 Irish Census*. ESRI and Department of Justice and Equality. <https://doi.org/10.26504/bkmnext392.pdf>
- McGregor, C., Dalikeni, C., Devaney, C., Moran, L., & Garrity, S. (2020). Practice guidance for culturally sensitive practice in working with children and families who are Asylum Seekers: Learning from an early years study in Ireland. *Child Care in Practice*, 26(3), 243–256. <https://doi.org/10.1080/13575279.2018.1555137>

- Meehan, C. (2016). Every child mattered in England: But what matters to children? *Early Child Development and Care*, 186(3), 382-402.
- Mérida-Serrano, R., González-Alfaya, M. E., Olivares-García, M. A., Rodríguez-Carrillo, J., & Muñoz-Moya, M. (2020). Sustainable development goals in early childhood education. Empowering young girls to bridge the gender gap in Science. *Sustainability*, 12(22), 9312.
- Ministry of Education (2017). *Te Whāriki: Early childhood curriculum*. Learning Media.
- *Mitchell, L., & Bateman, A. (2018). Belonging and culturally nuanced communication in a refugee early childhood centre in Aotearoa New Zealand. *Contemporary Issues in Early Childhood*, 19(4), 379–391. <https://doi.org/10.1177/1463949118781349>
- Moloney, M., & McCarthy, E. (2018). *Intentional leadership for effective inclusion in early childhood education and care: Exploring core themes and strategies*. Routledge. <https://doi.org/10.4324/9781315107219>
- Murray, C. (2012). A minority within a minority? Social justice for Traveller and Roma children in ECEC. *European Journal of Education*, 47(4), 569–583.
- Murray, J. (2019). Hearing young children’s voices. *International Journal of Early Years Education*, 27(1), 1-5.
- National Council for Curriculum and Assessment (NCCA). (2009). *Aistear: The early childhood curriculum framework*. NCCA.
- Neisser, U. (1985). The role of theory in the ecological study of memory: Comment on Bruce. *Journal of Experimental Psychology: General*, 114(2), 272–276. <https://doi.org/10.1037/0096-3445.114.2.272>
- *Neylon, G. (2014). An analysis of Irish pre-school practice and pedagogy using the early childhood environmental four curricular subscales. *Irish Educational Studies*, 33(1), 99–116. <https://doi.org/10.1080/03323315.2014.888237>
- Ng’asike, J. (2019). Indigenous knowledge practices for sustainable lifelong education in pastoralist communities of Kenya. *International Review of Education*, 65(1), 19–46. <https://doi.org/10.1007/s11159-019-09767-4>
- Ogletree, Q., & Larke, P. J. (2010). Implementing multicultural practices in early childhood education. *National Forum of Multicultural Issues Journal*, 7(1), 1-9.
- Osgood, J. (2020). Professionalism and performativity: The feminist challenge facing early years practitioners. In E. Wood (Ed.), *The Routledge reader in early childhood education* (pp. 271-284). Routledge.

- O'Sullivan, C., Maguire, J., Hayes, N., O'Sullivan, S., Corcoran, L., & McKenna, G. (2018). The wonder project: An early years arts education project with Traveller mothers and their children. *European Early Childhood Education Research Journal*, 26(5), 780–806. <https://doi.org/10.1080/1350293X.2018.1522773>
- Papadopoulou, E., & Gregoriadis, A. (2017). Young children's perceptions of the quality of teacher-child interactions and school engagement in Greek kindergartens. *Journal of Early Childhood Research*, 15(3), 323–335. <https://doi.org/10.1177/1476718X16656212>
- Papatheodorou, T. (2010). Being, belonging and becoming: Some worldviews of early childhood in contemporary curricula. *Forum on Public Policy*, 1-18. Retrieved from <https://files.eric.ed.gov/fulltext/EJ903475.pdf>
- Pascal, C., Bertram, T., & Rouse, L. (2019). Getting it right in the Early Years Foundation Stage: a review of the evidence. *Centre for Research in Early Childhood*. Retrieved from <https://early-education.org.uk/wp-content/uploads/2021/12/Getting-it-right-in-the-EYFS-Literature-Review.pdf>
- *Passmore, A. H., & Hughes, M. T. (2021). Exploration of play behaviors in an inclusive pre-school setting. *Early Childhood Education Journal*, 49(6), 1155–1164. <https://doi.org/10.1007/s10643-020-01122-9>
- *Phillips, L. G., Ritchie, J., & Adair, J. K. (2020). Young children's citizenship membership and participation: Comparing discourses in early childhood curricula of Australia, New Zealand and the United States. *Compare: A Journal of Comparative and International Education*, 50(4), 592–614. <https://doi.org/10.1080/03057925.2018.1543578>
- *Prince, C. (2010). Sowing the seeds: Education for sustainability within the early years curriculum. *European Early Childhood Education Research Journal*, 18(3), 423–434. <https://doi.org/10.1080/1350293X.2010.500082>
- Putnam, J. W., Putnam, D. E., Jerome, B. E., & Jerome, R. (2011). Cross-cultural collaboration for locally developed Indigenous curriculum. *International Journal of Multicultural Education*, 13(2), 1–18. <https://doi.org/10.18251/ijme.v13i2.400>
- Raabe, T., & Beelmann, A. (2011). Development of ethnic, racial, and national prejudice in childhood and adolescence: A multinational meta-analysis of age differences. *Child Development*, 82(6), 1715–1737.

- *Reinhardt, K. S. (2018). Discourse and power: Implementation of a funds of knowledge curriculum. *Power and Education*, 10(3), 288–300.
<https://doi.org/10.1177/1757743818787530>
- Rinaldi, C. (2004). *In dialogue with Reggio Emilia: Listening, researching and learning*. Routledge. <https://doi.org/10.4324/9780203317730>
- Ring, E., Grey, T., O’ Sullivan, L., Corbett, M., Sheerin, J., & Heeney, T. (2020). Universal design guidelines for early learning and care settings: Literature review (No. 1; p. 174). Government of Ireland. <https://aim.gov.ie/app/uploads/2021/05/universal-design-guidelines-for-elc-settings-literature-review-2.pdf>
- Roberts, J., & Callaghan, P. (2021). Inclusion is the ideal, but what is the reality? Early years practitioners perceptions of the access and inclusion model in pre-schools in Ireland. *European Early Childhood Education Research Journal*, 29(5), 780–794.
<https://doi.org/10.1080/1350293X.2021.1968465>
- Rochat, P., & Hespos, S. J. (1997). Differential rooting response by neonates: Evidence for an early sense of self. *Infant and Child Development*, 6(3-4), 105-112.
- *Rosen, R. (2010). ‘We got our heads together and came up with a plan’: Young children’s perceptions of curriculum development in one Canadian pre-school. *Journal of Early Childhood Research*, 8(1), 89–108. <https://doi.org/10.1177/1476718X09345517>
- *Sadownik, A. R. (2020). Superdiversity as a trajectory of diversity in Norwegian early childhood education and care: From a collection of differences to participation and becoming. *Contemporary Issues in Early Childhood*, 21(4), 284–296.
<https://doi.org/10.1177/1463949120966088>
- Sambaraju, R., & Minescu, A. (2019). ‘I have not witnessed it personally myself, but...’: Epistemics in managing talk on racism against immigrants in Ireland. *European Journal of Social Psychology*, 49(2), 398–412. <https://doi.org/10.1002/ejsp.2539>
- *Sandberg, A., & Ärlmalm-Hagsér, E. (2011). The Swedish national curriculum: Play and learning with fundamental values in focus. *Australasian Journal of Early Childhood*, 36(1), 44–50. <https://doi.org/10.1177/183693911103600108>
- *Selby, J. M., Bradley, B. S., Sumsion, J., Stapleton, M., & Harrison, L. J. (2018). Is infant belonging observable? A path through the maze. *Contemporary Issues in Early Childhood*, 19(4), 404–416. <https://doi.org/10.1177/1463949118793330>

- *Shaik, N., Martin, C. D., & Moodley, T. (2021). Reframing listening for belonging and participation in early childhood care and education settings: A case in South Africa. *Early Years, 0*(0), 1–14. <https://doi.org/10.1080/09575146.2021.1934818>
- *Silva Dias, T., & Menezes, I. (2013). The role of classroom experiences and school ethos in the development of children as political actors: Confronting the vision of pupils and teachers. *Educational & Child Psychology, 30*(1), 26–37.
- Sinclair, R. (2004). Participation in practice: Making it meaningful, effective and sustainable. *Children & Society, 18*(2), 106–118.
- Siraj-Blatchford, I. (1996). Values, culture and identity in early childhood education. *International Journal of Early Years Education, 4*(2), 63–69.
- Siraj-Blatchford, I., & Clarke, P. (2006). *Supporting identity, diversity and language in the early years*. McGraw-Hill Education.
- Slee, R. (2019). Belonging in an age of exclusion. *International Journal of Inclusive Education, 23*(9), 909–922. <https://doi.org/10.1080/13603116.2019.1602366>
- Smith, K. (2019). Children's voices and gender pedagogies for equity in and out of early childhood classrooms. In *Educating for Social Justice in Early Childhood* (pp. 34–45). Routledge.
- Souto-Manning, M., & Lanza, A. (2019). Pedagogical third spaces: Inclusion and re-presentation of LGBTQ communities in and through teaching as a matter of justice. *Theory Into Practice, 58*(1), 39–50. <https://doi.org/10.1080/00405841.2018.1536921>
- Stagg-Peterson, S. S., & Friedrich, N. (Eds.). (2022). *The role of place and play in young children's language and literacy*. University of Toronto Press.
- *Stratigos, T., Bradley, B., & Sumsion, J. (2014). Infants, family day care and the politics of belonging. *International Journal of Early Childhood, 46*(2), 171–186. <http://dx.doi.org/10.1007/s13158-014-0110-0>
- Sullivan, J., Wilton, L., & Apfelbaum, E. P. (2021). Adults delay conversations about race because they underestimate children's processing of race. *Journal of Experimental Psychology: General, 150*(2), 395–400. <https://doi.org/10.1037/xge0000851>
- *Sumsion, J., Harrison, L. J., & Bradley, B. (2018). Building a knowledge base about the impact of early learning frameworks for infants and toddlers. *Early Child Development & Care, 188*(6), 651–664. <https://doi.org/10.1080/03004430.2016.1226294>

- Sumsion, J., & Wong, S. (2011). Interrogating 'Belonging' in belonging, being and becoming: The early years learning framework for Australia. *Contemporary Issues in Early Childhood*, 12(1), 28–45. <https://doi.org/10.2304/ciec.2011.12.1.28>
- 't Gilde, J., & Volman, M. (2021). Finding and using students' funds of knowledge and identity in superdiverse primary schools: A collaborative action research project. *Cambridge Journal of Education*, 51(6), 673–692. <https://doi.org/10.1080/0305764X.2021.1906845>
- UNESCO (2015). *Global citizenship education: topics and learning objectives*. Available at: <http://unesdoc.unesco.org/images/0023/002329/232993e.pdf>
- United Nations Convention on the Rights of the Child (UNCRC)(1989). Available at: <http://www.cirp.org/library/ethics/UN-convention/> [Accessed April 7, 2022].
- United Nations General Assembly (2002). *A world fit for children*. UN/A/RES/S-27/2. (Geneva, United Nations).
- *Ukala, C. C., & Agabi, O. G. (2017). Linking early childhood education with Indigenous education using gamification: The case of maintaining cultural value and identity. *Journal of International Education Research*, 13(1), 17–26. <http://dx.doi.org/10.19030/jier.v13i1.9960>
- Vandenbroeck, M. (2007). Beyond anti-bias education: Changing conceptions of diversity and equity in European early childhood education. *European Early Childhood Education Research Journal*, 15(1), 21–35.
- Vandenbroeck, M. (2015). Supporting (super)diversity in early childhood settings. In L. Miller, C. Cameron, C. Dalli, & N. Barbour (Eds.), *The SAGE Handbook of Early Childhood Policy*. SAGE. <https://uk.sagepub.com/en-gb/eur/the-sage-handbook-of-early-childhood-policy/book245964>
- Vertovec, S. (2007). Super-diversity and its implications. *Ethnic and Racial Studies*, 30(6), 1024-1054 <https://doi-org.elib.tcd.ie/10.1080/01419870701599465>
- Walker, V. L., Lansey, K. R., & Kurth, J. (2021). Expert perspectives on the inclusion of students with significant disabilities in schoolwide positive behavioral interventions and supports. *Inclusion*, 9(4), 276–289. <http://dx.doi.org/10.1352/2326-6988-9.4.276>
- *Wastell, S. J., & Degotardi, S. (2017). 'I belong here; I been coming a big time': An exploration of belonging that includes the voice of children. *Australasian Journal of Early Childhood*, 42(4), 38–46. <https://doi.org/10.23965/AJEC.42.4.05>

- West-Burns, N., & Murray, K. (2016). Critical practitioner inquiries: Re-framing marginalized spaces for black students. *Penn GSE Perspectives on Urban Education*, 13(1), 60-64.
- Wood, E. (2014). Free choice and free play in early childhood education: troubling the discourse. *International Journal of Early Years Education*, 22(1), 4–18.
- Woodhead, M. (2006). Changing perspectives on early childhood: Theory, research and policy. *International Journal of Equity and Innovation in Early Childhood*, 4(2), 1-43.
- *Yoon, H. (2020). (Re)Fashioning gender play on the kindergarten stage: The complexities of shifting diverse identities from the margins to the social center. *Research in the teaching of English*, 55(2), 134–159.

Chapter Six: Communicating

Authors: Tara Concannon-Gibney, Fiona Giblin, Gillian Lake, Aisling Ní Dhiorbháin, Máire Ní Láimhín.

Abstract

The Literature Review took a systematic approach to identify, explore and map contemporary research on early childhood curricula that affirms *Aistear's* existing Aims and Learning Goals and identifies potential areas for enhancement aligned with contemporary literature. The search strategy used key terms and concepts from the Aims and Learning Goals of Communicating to search four databases (Education Research Complete, ERIC International, Web of Science, and PsycINFO) for peer-reviewed journal articles, book chapters and scholarly reviews published in English in the last eleven years (2010-2021). The search identified 653 articles that were reviewed to determine their relevance to early childhood curriculum frameworks. Fifty-five studies met the criterion and were considered alongside seminal works, grey literature, and recommendations from consultation with internationally recognised experts in early childhood. Across the four Aims and Learning Goals of Communicating, the topics and trends within contemporary literature broadly affirm the relevance of *Aistear's* existing Aims and Learning Goals, highlighting children's agency and interest in being communicators, social interactions, language use and language development, arts-based and playful experiences as communicative contexts. The search strategy focused on studies related to early learning frameworks and curricula. Arising from this, most studies focus on the communication of children aged 3-6 years in early childhood education settings, with fewer studies focusing on birth-3 years. The experiences of children aged birth to three, in the context of *Aistear's* Theme of Communicating, are discussed in Chapter Three. The selected studies reflect international research interests, policy implementation and funding commitments. There were key trends concerning socio-cultural communicative experiences of children (three to six years), children that speak English as an Additional Language (EAL), and the influence of digital technology on children's communicative practices and literacies.

Introduction

Aistear's Theme of Communicating considers “children sharing their experiences, thoughts, ideas and feelings with others with growing confidence and competence in a variety of ways and for a variety of purposes” (p. 34). Research on the development of children's

communicative competencies has historically focused on spoken language acquisition and early literacy (McPake et al., 2013). *Aistear* recognises that children communicate in multiple and many ways, not just through traditional ‘linguistic outputs’ speaking and listening, but through a wide range of communicative modes, including; movement, utterance, signalling, expression, gestures, imitation, sound, images and music (Deklerk, 2020; Kress, 2010). Multimodality expands our conceptualisation of communication beyond the limits of verbal and non-verbal communication to include all modes humans use when representing, interpreting and making meaning (Jewitt, 2013). This definition aligns with Finnegan’s (2013) description of communication in that the modes of human communication are interwoven, and when humans engage in social interaction, the modes rarely occur in isolation. This understanding of communication as multimodal frames the analysis presented in this chapter, whereby a mode is “a semiotic resource or sign for conveying meaning” (e.g. spoken word, smell, colour, gesture, sound, moving image). In contrast, medium refers to the “material form that carries that sign” (e.g. a digital device) (Sefton-Green et al., 2016, p. 21). Children’s early language and literacy include many ‘modes’ that hold meaning for children; these modes reflect their experiences, families, interactions and wider communities. Understanding that babies, toddlers, and young children’s communications are multimodal is crucial in ensuring that their communicative needs, interests, creative capacities and agentic abilities are nurtured and responded to in early childhood education. The recognition of multimodality presents greater opportunities to acknowledge every child’s communicative intent and skills and create an enriching and collaborative learning experiences and environments that respond to the different ways in which children learn and grow.

In addition to consideration of the diverse modes that hold meaning and allow children to express themselves, the Theme of Communicating also considers the importance of children’s social interactions and relationships with educators and peers within early childhood settings. The review highlighted the importance of enriching and accessible language environments and responsive relationships that present many opportunities and occasions for children to develop communication skills. This includes support for emergent literacy experiences, arts-based and playful activities, social interaction with adults and peers and opportunities and occasions to experience the joy of books through shared reading.

Aim 1: Children will use Non-verbal Communication Skills

Aistear's Communicating Theme currently refers to non-verbal communication skills. The Learning Goals focus on the importance of multiple forms of communication by which children share their interests, needs and understanding. Within the current literature, the term 'non-verbal' does not align with broader conceptualisations of communication is understood as multimodal, whereby modes rarely occur in isolation (Jewitt, 2013; Finnegan, 2013; Kress, 2010). It is argued that describing children's communication as 'non-verbal' or 'verbal' detracts from the importance and validity of early communicative acts and intentions. This may inhibit educator sensitivity to the powerful communication tools of gesture, posture, expression, tone and eye-gaze that signal children's interest, engagement and communicative intent. A focus on children's multiple and preferred modes and mediums for communication encourages responsive care that nurtures and respects the innovative and creative ways babies, toddlers and young children communicate and make meaning. Children will choose to use many modes of communication for various purposes and should be enabled to demonstrate their agency in their communicative experiences.

Increased emphasis on multimodality is likely to promote greater inclusion and an appreciation of the "system of interaction of agents in the socio-cultural space based on the processes of creation, exchange, storage and translation of cultural values" (Antopolskaya et al., 2017, p.637) while developing communication skills. Antopolskaya et al. (2017) draw attention to the association between the social communication of preschool children (aged 6-7 years) and their ability to interact and engage in two-way conversations. Children were encouraged to develop social interaction skills through a programme of experiences that encouraged a reflection on 'the secret of my own self' and 'me and the other' (p. 638). The programme highlighted the importance of emotion, feelings, gesture, expression and individuality in supporting children's social skills and communication. The study highlights the importance of children's social and emotional intelligence, the ways in which children can interpret the needs, interests and feelings of others, and how this socio-communicative development, that is often reliant on modes such as expression, gesture and signalling, contributes to children's interactions and development. The study suggests that in order to promote social communication, children require interesting and engaging environments that encourage and promote free-play, socio-dramatic play, mutual play that creates opportunities for joint-attention and pedagogical approaches that are attuned to children's interests and skills. The literature affirms *Aistear's* focus on non-verbal communication skills and the

emphasis on body movement. Greater emphasis on the variety of modes of communication is recommended.

Supporting Additional Language Acquisition

Sensitivity and attunement to children's diverse modes of communication are relevant across early childhood (birth to six years), particularly for children in the process of second language acquisition in early childhood settings. The current review and search strategy generated seven studies that considered children's second language acquisition and bilingualism in early childhood settings (Bauer et al., 2017; Martín-Bylund, 2018; Concannon-Gibney, T, 2021; Harju, & Åkerblom, 2020; Wedin, 2010; Yazic et al., 2010). These studies consider the needs of bi/multilingual children in early childhood settings and the learning environments, experiences and interactions that support their communication. A key consideration in second language acquisition is an awareness of children's listening and receptive language skills and the intention to communicate through multimodal means (Guilfoyle & Mistry, 2013). Within wider literature on second language acquisition, there is an acceptance that children take time to observe and grow, and this has previously been referred to as the 'silent period' (Tabors and Snow, 1994). The silent period does not mean passivity or lack of agency since the silent child uses many modes of communication (Tabors, 2008). The child may also begin to rehearse the new language silently until they have the confidence to begin speaking. During this period, young EAL learners must experience positive interactions, reassurance and encouragement. However, it is argued that the use and acceptance of the term 'silent period' can be detrimental to children's sense of communicative agency, intent and confidence in new language use (Harris, 2019; Siraj-Blatchford & Clarke, 2000). It is therefore imperative that second language learners in early childhood settings be immersed in highly responsive, positive, plurilingual environments that are open to their native language and provide opportunities to communicate using multiple modes and means until they are confident in the use of the language of the setting (Martin-Bylund, 2018). Children's existing funds of knowledge and socio-cultural resources can be harnessed to maximise language learning and should be reflected in planning, using culturally appropriate resources and interactions (Bennett et al., 2018; Drury, 2013). Responsive pedagogies of observing, listening and responding to different modes and means of expression create positive environments in which children feel valued and agentic in their native tongue, which will be an important foundation for subsequent communication and language learning. This is also true for young children learning Irish in an immersion setting

(Mhic Mhathúna, 2018; 2012). If children emerge from the silent period, they mostly move into the early production stage of language acquisition, where they are motivated to make their first attempts to speak in the target language (Akhavan, 2014). Recognising these stages is valuable because they can provide a framework for documenting children's progress and identifying appropriate language learning experiences (Tabors, 2008).

It is recommended that the Updated *Aistear* further recognise and support...recognise and support children's multimodal communication skills, paying close attention to the many modes and mediums that children use to express their thoughts, feeling and interests. It is also recommended that consideration be given to highlighting the importance of supporting and encouraging children to interpret and respond to the intentions, signals and social communication of others, as these are important skills in social development and communicative development, particularly for second and additional language learners.

Children's Agency and Influence

Antopolskaya et al. (2017) argue that pedagogical conditions facilitate the enhancement of children's social communication; this includes; environments that promote independent choice and personal contribution, interactions with peers and joint activities. Children demonstrate agency when deciding whether to accept or reject inter-personal communication and interaction. The climate and curriculum within an early childhood setting can support or inhibit children's sense of communicative agency. Children can use communication cues not based on language to initiate a response in adults, and this has a direct effect on the social communication development of toddlers and babies (Ferraz Almeida Neves et al., 2020; Monaco & Pontecorvo, 2010; Salamon, 2017; White et al., 2015). Important agentic communicative interactions are visible when very young children are interacting with their peers. A case study by Ferraz Almeida Neves et al. (2020) in a Brazilian early childhood setting described how very young children use their awareness of the setting, alongside gesture, gaze, grasp and expressions, to communicate and create meaning. The case study describes two toddlers interacting through a pacifier as an artefact that showed that by working together, they produced a semantic field, i.e. meaning in their actions through a common artefact. Their bodies, emotions and intellects worked together; they pursued their actions but made meaning together at an unconscious level and were aware of each other and their pursuits. By observing the infants in action, the educators working

with them developed a greater sense of the children's intention and what they were communicating without productive language (Ferraz Almeida Neves et al., 2020). The case study is an example of children's competence in understanding and labelling items and artefacts (pacifiers), as well as the capacity of children to communicate ideas about belonging, ownership and comfort. In this study, young children are seen as aware of themselves and others, communicating in multiple modes, including eye gaze, expression and movement. The study reinforces the need for educators to be attuned to children's preferences and communicative intent and to develop practices and pedagogies to observe, interpret and respect children's agency and influence (Ferraz Almeida Neves et al., 2020). Ferraz Almeida Neves et al. (2020) remind us to "carefully embrace and follow infants' ways of meaning creation, allowing time and space for such creation, even when, at a first look, it seems that their interactions are just very simple and short-lived" (p.567).

An updated *Aistear* could make explicit children's communicative agency, ensuring that their multiple ways of being, knowing and communicating are noticed and responded to. This could include experiences, environments and relational pedagogies that support attunement and responsivity (Antopolskaya et al., 2017; Kultti & Pramling, 2015; Reese, 2021; Pursi, 2019).

Social Interactions and Everyday Experiences

Interactions within positive relationships strongly affect children's social competence and multimodal communication (Salamon et al., 2017; White et al., 2015; Monaco & Pontecorvo, 2010). Recent research shows that the youngest children (infants and toddlers) have a more agentic or active role in this interaction than was previously evidenced. Salamon and colleagues (2017) found that infants can modulate and control their behaviour within contingent relationships. Their research showed that infants' emotional communications seem grounded in a 'bank' of contingent experiences, understandings and expectations that adults will respond in particular ways to particular stimuli. Salamon et al. concluded that infants of 6-12 months appear to be able to adjust their expectations of a particular response within the different contingent social-political arrangements. They can demonstrate legitimate competence by actively drawing on emotional capital. They can purposefully express negative and positive affect to connect with adults (Salamon, 2017). Even infants as young as four months old in White et al.'s study in New Zealand (2015) can use a look as a mode of communication to decrease the response delay from an educator. White et al.'s

results showed that a look from an infant coupled with a verbal utterance generated a quicker response from an educator than a look and non-verbal utterance and no verbal utterance. The look from the infant also served to increase the duration of the infant's interaction with the adult (White et al., 2015). This multimodal communicative experience from the child facilitates social interaction. The agentic communicative disposition to engage in interactions is mirrored in slightly older infants. Monaco and Pontecorvo (2010) argue that during interactions, infants of 20-40 months demonstrate different participation levels and communicative roles, from initiator to uptaker. Monaco and Pontecorvo argue that even the mere role of being an audience member is considered participation. The researchers found that by the end of the second year of life, toddlers can find an implicit intersubjective agreement about 'how' they co-construct interactional exchanges and organise their participation, showing the capacity to accept and promote changes and re-adaptations of interaction; this has implications for the educators who work with such young children. Tuning into the young child's communication cues allows for a more reciprocal communicative relationship, allowing communication to flourish. These studies suggest the importance of young children's communicative intent and multimodal cues in interacting with peers and educators. Educators are positioned as an observer, watching and waiting for the active initiation of the communication through many communicative modes of the child.

Everyday experiences and routines are important learning sites that support children's social interactions and communication. Kultti & Pramling (2015) argue that mealtimes are an excellent example of a daily routine that offers plentiful opportunities for multimodal interaction and communication. Mealtimes are a mutual activity when children are seated, facing one another. Children bring important funds of knowledge in terms of mealtimes, and responses to taste, sounds, and smells create opportunities for gesture, expression and signalling that supports children's expression and interpretation of the experiences of others.

There is increasing evidence that children's social interactions can be influenced and, in some cases, enhanced through digital technologies, including digital gaming, apps and devices. Research tells us that children as young as six months old engage with digital devices, so children present with funds of knowledge and experiences of digital technology use (Holloway et al., 2015). Digital play can afford children opportunities for language development and learning, particularly in digital games within social contexts, i.e. multiplayer games where children interact to solve problems (Cunningham et al., 2016; Danby et al., 2018; Edwards, 2016). Danby et al.'s (2018) study of children aged 3-8 years in

home, preschool and afterschool in Australia, Norway, and Sweden focuses on children's situated language use and assemblage of multimodal resources in their social activities, including digital gameplay. They found that young children's interactions with digital games occur in social contexts where children interact with others to problem solve, share strategies and collaboratively participate while demonstrating agency in their social communication. Multimodal interactions created opportunities for peer and sibling learning without the presence of an adult. Within early childhood settings, there are opportunities to harness children's existing funds of knowledge, interest and engagement with digital technologies to promote turn-taking and collaboration.

The review also highlighted the importance and value of play-based approaches in supporting young children's social communication development and interaction. The relationship between children's play and language is well established, focusing on children's socio-dramatic and symbolic play and spoken language (Hall et al., 2013; Honig, 2007; Quinn et al., 2018). While *Aistear* is a play-based curriculum, it recognises educators' important role in supporting, guiding, and sometimes leading children's learning experiences (NCCA, 2009). Pursi (2019) reported that when adults play alongside children, they can promote communication as prosocial collaborators. Play is seen as a form of intersubjective understanding between adults and children in which communication can achieve goals. The adult is acting very much as a partner in the child's social communication development, implicitly impacting the child's language initiations and responses. Pursi (2019) found that just having the educator nearby during play positively affected the number of verbal and nonverbal responses of children under three years. 'Up-close relationships' and ready access to educators or other adults correlated to increased responses from children. Peer-to-peer responses were also sustained when the key educator was in proximity. The study offers important insights into how adult participation in children's play can promote participation, engagement and joint activity, supporting interactions and communication.

The current literature, particularly studies that consider children's early and emerging forms and modes of communication, highlights the importance and value of multimodal approaches. This includes educator sensitivity to children's expressions, gestures, gaze and engagement, demonstrating communicative agency and understanding. Children, including infants and toddlers, have important funds of knowledge that are reflected in their use of gestures, symbols and expression, and communication is supported and enhanced by sensitivity to these existing ways of knowing and being. The literature notes children's rights to be heard, have a voice, be agentic, and influence communication and interactions.

Fulfilment of these rights requires sensitivity to children's communicative intent and preferred modes and mediums for communication. This is particularly important for young children and second and additional language learners. Finally, while *Aistear* is a play-based holistic curriculum framework, the current review highlights the importance and validity of guided play and learning approaches, suggesting that adult participation enhances and encourages children's interactions, utterances and responses to others and support in play.

Aim 2: Children will use Language

Children's early experiences of oral language are foundational for emergent literacy and later language and literacy skills (Honig, 2007; Pascal et al., 2019). Early childhood educators have unique opportunities to engage children and promote linguistic experiences that spark joy, excitement, engagement and interest that foster the development of rich oral language skills (Whorrall & Cabell, 2016). *Aistear's* promotion of children's use of language to interact with others, give and receive information, and become confident and positive about their home language and the languages of others is endorsed in the literature. Across the Theme of Communicating, the term 'language' focuses on the linguistic mode of communication with a focus on social interactions, exploring sounds and oral language that is encouraged and facilitated by enriching environments and play. Cresham (2021) suggests that *Aistear's* 'social context' provides children with opportunities "to play with language, to learn from each other and use new vocabulary in appropriate ways" (p.24). Within the current review, the importance of play in children's communication and language acquisition was prevalent. This included cooperative and guided-play with peers and adults and socio-dramatic play experiences.

Play-based experiences to support language and literacy

Within the current review, three studies highlighted the importance of children's play on social interaction, communication, oral language, emergent literacy and social competence (Cavanaugh et al., 2017; Nicolopoulou et al., 2010; Pursi, 2016). Play, in its many forms and modes of communication, allows children to use their imagination, create, negotiate and interact with others on shared goals and problem-solving (Cavanaugh et al., 2017; Edwards, 2017; Nicolopoulou et al., 2010). In the current review, the literature that was relevant to the Theme of Communicating in the context of early childhood curricula focused on the role of the adult, including adults as collaborators (Pursi, 2016), literacy-rich guided-play episodes

(Cavanaugh et al., 2017) and story dictation and dramatization (Nicolopoulou et al., 2015). Cavanaugh et al. (2017) explored the impact of the designated time for guided play-based literacy activities for 41 children attending Kindergarten classes. Whilst the literature does emphasise the notion of guided play, a note of caution is required, this type of play is appropriate for older children (five -six years). The play sessions were adult-led, offering children toys and objects to sort and practice initial letter sounds. Children were then encouraged to create their own ‘sound games’, and the educators were available to ‘coach’ children in generating ideas for the game. After three weeks of guided play intervention of 15 minutes per day, children in the experimental group had a statistically significant advantage in standardised assessment of early literacy skills. In addition, children were reported to be highly motivated and engaged, improving their storytelling skills, use of new vocabulary and phonological awareness. The study, again, relevant to older children does provide important evidence demonstrating children’s engagement and motivation to participate in guided-play experiences. The study adds to a growing number that highlight the value of goal setting and intentional pedagogies in early childhood contexts (Kennedy, 2014; Kirkby et al., 2018; Lewis et al., 2019).

Nicolopoulou et al.’s (2015) study examined the impact of story-telling and socio-dramatic play practices on children’s narrative, oral language and emergent literacy skills for children aged 3-4 years. The children’s activity included narrative story-telling and socio-dramatic play using approaches developed by Paley (1990), whose work recognised children’s innate capacity to collaborate and create, along with adults, becoming part of a “community of storytellers” (Paley, 1990, p.12). In the current study (Nicolopoulou et al., 2015), children in early childhood settings could choose (during free play /choice time) to ‘dictate’ a story to an educator. These stories were then shared among the whole group while the child and author encouraged other children to ‘act out’ the story. While the educator facilitates writing the child’s narrative, the activity is child-initiated and spontaneous. The findings from the study suggest that children who are afforded opportunities and encouraged to engage in story-telling and socio-dramatic play see modest improvements in narrative comprehension, print and vocabulary awareness and social competence. These findings align with Dennis and Stockall (2015), who assert that educators play an important role in intentionally planning and preparing play-based experiences that refine children’s social competence, and early literacy skills, particularly for children experiencing language delays.

While the studies in the current review focus on guided and intentional play experiences, there is also an established body of evidence to support the benefits of non-

teacher-directed play experiences in supporting children's oral language and communication skills. Through high-quality interactions and everyday conversations, educators can build on children's interest to extend, inquire and reflect on their language and learning (Ecalte et al., 2015; Honig, 2007; Whorrall & Cabell, 2016).

Promoting Language Use and Development

Research from the last ten years advocates for the sharing of books to support children's language and learning, but also for the enjoyment they provide in and of themselves. Sharing books positively impacts 4-5-year-old children's language ability and related literacy (van Druten-Frietman et al., 2016; Van der Wilt, 2019; Nevo et al., 2018). Children's vocabulary, morphology, phonological awareness, and print concepts skills can be enhanced through embedded activities and acting out of stories (Nicolopoulou et al., 2015). Van der Wilt (2019) concluded that interaction during a storybook reading session positively impacted on language ability. Nevo et al.'s (2018) interactive storybook-reading intervention programme, which kindergarten teachers delivered to 30 Hebrew-speaking kindergarten children, showed improvements for the intervention group in vocabulary, morphology, phonological awareness and print concepts on language and print-concept skills. A short intervention programme using stories and embedded activities can enhance language and print concepts in kindergarten children.

Nevo and colleagues reported that motivation to read is equally important in developing children's language and literacy abilities. This active participation of children, where children are encouraged to talk about a language through dialogic interaction in shared reading activities, can enhance children's language use (van Druten-Frietman et al., 2016). Furthermore, acting out of the stories can also support children's narrative comprehension. Nicolopoulou et al.'s (2015) study in the USA facilitated children acting out and sharing/telling their own stories. The literature endorses *Aistear's* focus on using language. In that context, repeated sharing of children's stories with groups, has been shown to increase narrative comprehension and some emergent literacy skills (phonological awareness, syllable and word awareness). The way the book is shared and the experiences that follow are important supports for language development. Justice et al. (2015) too found that children with language impairment benefited more from print-focused read-aloud. Results of that study suggest that educators should employ print-focused read-aloud in their classrooms to improve children's early literacy skills and reduce future risk for reading problems. Given the benefits of shared reading for infants' current and future

language development, every infant must have the opportunity to participate in frequent, sustained, language-rich interactions with their educators (Torr, 2019). Campbell (2021) emphasises in their study that sharing a book enables the child to develop a broader understanding of literacy and that sharing a book is a fun and stimulating exercise in and of itself. Educators need to ensure they allow for sustained dialogue so that children can interact and ask questions to clarify thinking (Cohrssen et al., 2016).

Sharing books in culturally responsive and inclusive ways can support language development in young children (Taylor & Leung, 2020; Brookes et al., 2016; Justice et al., 2015). Shared reading and dialogic multi-media reading are effective in developing the language skills of young EAL learners (Fitton, McIlraith, & Wood, 2018; Maureen et al., 2018) and in Irish (Bosma et al., 2020; Stenson & Hickey, 2019) when carefully scaffolded by the adult (Harris & O'Duibhir, 2011; Yang, 2016). Yang (2016) found that young EAL children's oral narrative skills could be improved by implementing dialogic reading of multi-media stories. Children can be encouraged through dialogic interaction during a read-aloud /shared book experience to use language to clarify and ask questions (Cohrssen et al., 2016) in a sustained way that is customised to suit the local setting.

Similarly, assessment contexts can provide opportunities for language development. Reese (2021) suggests that learning stories (a means of documenting assessment) can initiate interactions that foster dyadic language development opportunities, endorsing *Aistear's* emphasis on learning stories. Reese's study in New Zealand showed that when the learning stories were shared via a book reading style with children, they were exposed to more complex speech and longer conversational turns. The role of the adult in supporting language development is not contested in recent research, which corroborates *Aistear's* emphasis on reciprocal adult-child interactions. However, research on the nature of the impact of peers on children's language development is not as pervasive. Kohl et al. (2022) have called for more observational research with more homogenous groups to focus on the effects of the quality of peer talk. Evidence of the positive impact of peer-to-peer interaction on language development is not as clear-cut for older children. Kohl et al. (2022) examined the effect of peers' receptive vocabulary on children's receptive vocabulary development. Findings revealed no links between peers' vocabulary skills and individual children's vocabulary gains, neither for all children nor depending on children's prior vocabulary skills. There was a negative association between the percentage of dual language learners in the classroom and

children's vocabulary gains for children with lower prior skills. Kohl and colleagues (2022) call for more research of an observational nature with more homogenous groups of children and a lesser focus on the quantity of peer talk. They argue for the quality of the talk to be foregrounded. As there are different effects on the quality of language in children with different linguistic abilities, perhaps a universal approach to promote language development, should be used with caution in ECEC.

Learning Other Languages

Aistear acknowledges that children will become proficient users of at least one language and have an awareness and appreciation of other languages, thus promoting inclusive participation and citizenship in their social environments and interactions. Aguiar et al.'s (2020) analysis of 78 interventions with children (3-12 years) from ethnic minorities and low socioeconomic status across eight European countries noted that 79% of the interventions targeted language skills, with 32% considering children's heritage language. They argue for recognising the foundational nature of language for learning, communication, and belongingness and the need to value and support all languages (and cultures) equally. In doing so, the family's role and involvement in children's language use are highlighted. Notably, most interventions targeting ECEC included explicit family involvement activities, but the same did not occur in interventions targeting children attending primary school. Findings from this study suggest that further development of interventions targeting equity and belongingness may be pursued through family-school partnerships. With this in mind, family involvement is endorsed in *Aistear* in terms of being positive about children's home language(s), with parents to be encouraged to use the mother tongue in the home and to understand the importance of the mother tongue in learning the second language (Yazici et al., 2010).

To learn a new language, it needs to be 'comprehensible' for the learner (Krashen, 1985). Movement, gestures, and facial expressions can make new vocabulary and language structures comprehensible to young EAL learners (Greenfader et al., 2014). Total Physical Response (TPR) is an approach that involves children using their bodies and minds to demonstrate understanding. It is particularly useful for children in the silent period again, as the focus is on receptive rather than productive language (O'Duibhir & Cummins, 2012). Multimodal learning incorporating speech, gesture and expression can have 'significant cognitive and social benefits from the engaging, interactive and meaningful learning' (Moses, 2013, p.74). Early years settings and primary schools should develop a positive, plurilingual

environment that promotes linguistic awareness and multiple modes of expression (Brevik & Rindal, 2020; Aguiar et al., 2020; Jun, 2013; Little & Kirwan, 2019). Young children learning an additional language need literacy-rich environments that provide a safe, risk-free place to produce and explore a new language (Guilfoyle & Mistry, 2013). This is referred to in second language acquisition theory as the ‘affective filter’ (Krashen, 1985). Cummins’ (2016) linguistic interdependence hypothesis emphasises the importance of connecting a child’s home language to the language of instruction in vocabulary development. This theory is referred to as translinguaging in practice and promotes a positive learning environment for language learning (Brevik & Rindal, 2020; Aguiar et al., 2020; Yazici et al., 2010). Translinguaging can be understood as both a practical theory of language and an approach to plurilingual learning (Wei, 2018). It is important to note that a ‘one space, one language’ practice can stifle children’s development across languages (Bengochea & Gort, 2020, p.1). In contrast, a plurilingual approach focuses on language as a process for meaning-making and expression. This encourages a ‘value added’ perspective toward additional language learners and emphasises children’s skills and agency rather than deficit assumptions about language learning (Drury, 2013; Harju & Åkerblom, 2020). Therefore, EAL learners’ linguistic assets should be central to interactions in a diverse setting. Translinguaging can also encompass the different ways that users adopt language to communicate. This pedagogic approach reflects the concept of ‘the hundred languages of children’ adopted by Reggio Emilia preschools, where children are encouraged to express themselves in multiple ways (Alamillo, Yun, & Bennett, 2017).

Bauer et al (2017) found that the use of peer interaction in early writing practices where home languages were valued and translinguaging was encouraged had a positive effect on EAL learners’ literacy development. As already indicated earlier, sociodramatic play also presents as an ideal forum for young children to interact with peers and explore innovative meaning-making language practices (García & Wei, 2014). Classrooms that value and encourage these norms allow translinguaging to be explored in its full complexity which can illustrate EAL learners’ agency. Some studies have also demonstrated that particular discourse functions in sociodramatic play can encourage greater language production and extension of language use for EAL children (Galeano, 2011). Other studies have explored how children use their plurilingualism (switching between languages) in play- to gain access or to negotiate toy sharing (Piker, 2013) or to create fictional narratives (Bengochea et al., 2018) or by adopting cultural roles (Alexrod, 2014). An environment that promotes

plurilingualism will enable EAL children to move through the stages of language acquisition in an appropriate manner.

As indicated in this Theme, repetition is important in learning a language, including a second language. Opportunities to encounter new vocabulary on multiple occasions is an important aspect of learning a new language (Bland, 2015). Using a thematic approach across learning experiences can enable EAL learners to interact with the same key vocabulary in multiple contexts across the day which can develop their confidence in interacting with peers and adults (Herrera & Murry, 2015). Lawson-Adams & Dickinson's (2020) study also found that gestures, pictures, and sounds can help support word learning (Rowe et al., 2013) and that this approach is particularly effective when applied to the learning of academic vocabulary (Townsend et al., 2012). Similarly, Concannon-Gibney (2021) found that nursery rhymes offer an effective forum to explore a wide range of vocabulary and grammar knowledge in a repetitive manner that is comprehensible to EAL pupils by using gestures, visuals, and props to support oral language development. Nursery rhymes also contain formulaic chunks of language that can be useful in an EAL pupil's development of syntax, grammar and vocabulary (Kersten, 2015). The emphasis on rhythmic enunciation can aid correct pronunciation of new vocabulary words while making movements while saying the rhyme can help to physically define the phrase as a language chunk (Greenfader et al., 2014) and enable vocabulary development. These approaches can be complemented through an understanding of 'comprehensible input' discussed earlier. While the development of a child's vocabulary is referenced, reference to how they might encounter vocabulary across contexts is not mentioned. Content and Language Integrated Learning (CLIL) provides rich opportunities for contextualised language use in Irish and other languages in the early years and is not mentioned in *Aistear* (Harris & Ó Duibhir, 2011; Ioannou-Georgiou & Pavlov, 2011) despite its potential to enhance language development.

There is potentially scope to reference native speakers of Irish, with differentiated pedagogies to support children's language for L1 speakers and L2 learners of Irish (Hickey & de Mejía, 2014, Department of Education, 2016). Language use for L1 speakers of Irish in the early years should focus on language enrichment, language maintenance and setting a strong foundation in L1 literacy skills in Irish (Department of Education and Skills 2016, Péterváry et al., 2014). Educator input, interaction and dynamic scaffolding are vital for children to develop language in Irish and to support children's socialisation through Irish (Andrews, 2018; Mhic Mhathúna, 2012, 2018). The environment can also support language skills in Irish – establishing routines, small groups, time to talk etc. (Mhic Mhathúna, 2012,

2018). In a minority language context, children need educator input and careful scaffolding in the minority language (Mhic Mhathúna, 2018; Péterváry et al., 2014). Planning for language use is essential as young children will use the majority language as the language of socialisation and language of play (Andrews, 2018; Hickey, 2021; Mhic Mhathúna, 2018). For example, using language to imagine and recreate roles and experiences through a minority language requires extra support for L1 speakers of Irish and L2 learners of Irish (Andrews, 2018; Mhic Mhathúna, 2018). Code-mixing where children mix languages should be supported with a gradual move to use of the target language (Mhic Mhathúna, 2018). Teaching of key words and phrases is important. Children will use their L1 initially and as a resource to support L2 learning and educators should react positively to this and gradually build towards use of the Irish (Andrews, 2018; Mhic Mhathúna, 2018).

This Theme focuses on children's linguistic experiences that spark joy, excitement, engagement and interest that foster the development of rich oral language skills such as playing with language, story-telling and socio-dramatic play. *Aistear's* focus on the use of language is endorsed. Sharing books in a culturally inclusive way is a key context for babies, toddlers and young children's use of language particularly if there is frequent, sustained, language-rich interactions with their educators. Learning stories can support language use and high quality talk should be emphasised. Family involvement is particularly important in the context of children from ethnic minorities and low socioeconomic status. Children learning an additional language need literacy-rich environments that provide an emotionally safe, place to produce and explore a new language. Children's home language should be connected to the language of instruction in vocabulary development, with both languages being used. Repetition of language through rhyme is important. Language use for L1 speakers of Irish in the early years could focus on language enrichment, language maintenance and setting a strong foundation in L1 literacy skills in Irish.

Aim 3: Children will broaden their understanding of the world by making sense of experiences through language

As Aim 3 indicates, children will broaden their understanding of the world through meaning-making experiences; and an approach to contemporary communication argues for expression of understanding and knowledge through various multiliteracies (Kalantzis et al., 2016), which goes beyond making sense of experiences through language only. This is exemplified by Haggerty and Mitchell (2010) who explore the affordances offered by a range

and combination of modes that facilitate the representation and communication of 3-and 4-year-olds in a New Zealand kindergarten. In a collaborative list-writing activity to present turn-taking on red and blue bikes, the children write their names in two columns. However, using colour coding and the act of striking out their own hand written names in each column, the children combine verbal, visual and spatial-motoric modes in order to make meaning of the multimodal literacy activity. In the same study, a child communicates his knowledge of motorcross bike riding in his body movement and use of space in his physical play outdoors in the kindergarten setting. It is through educator-parent conversations that the child's home experiences and interest in bikes comes to light. The child's 'funds of knowledge' (Moll et al., 1992) lead to increased opportunities for social interactions and his enactment of "multiliterate communicative competencies" (p.337). Haggerty and Mitchell (2010) argue for the need for early childhood educators to approach children's literacies as modes of communication and meaning-making, so that children's preferred modes may be noticed, nurtured and extended.

Children use many ways of representing, interpreting and making meaning to broaden their understanding and knowledge of the world. These communicative modes, processes and language used are integral to children's participation and development across all areas of early learning. This is evidenced by Ramsook et al. (2020) who investigated the relative contribution that children's vocabulary, in addition to the ability to use language appropriately in social contexts, impacts on later academic achievement. A longitudinal study followed 164 four-year-old children, from economically disadvantaged families, from pre-school to kindergarten. The connection between the amount of vocabulary a child has and school functioning has been widely accepted (Ramsook et al, 2020). What has not been so evident is children's social communication skills, which may also be critical. In the study, academic achievement in kindergarten related to emergent literacy and math skills and self-regulation. Ramsook et al. found that vocabulary and social communication skills children displayed at the start of the preschool year continue to predict reading and math achievement. Growth in vocabulary from preschool to kindergarten did not predict reading achievement, however, findings from the study suggest that vocabulary facilitates understanding of basic numeracy skills (quantity and counting). Interventions that advance vocabulary growth during prekindergarten can incrementally impact kindergarten math performance. This finding highlights vocabulary growth as an important ongoing target for ECEC interventions. The social communication skills measured by Ramsook et al., included initiating and maintaining verbal interactions with adults and peers and asking for academic support or

clarification when needed. Such skills were found to facilitate children's abilities to participate effectively in group discussions and group-based learning activities. Social communication skills emerged as the unique predictor of self-regulation (Ramsook et al., 2020, p.795). These findings suggest that social communication skills, along with vocabulary development, should be a focus of intervention efforts across all curriculum areas, enabling children to make sense and co-construct knowledge and self-regulate (Ramsook et al., 2020).

Exposure to a Variety of Texts in Multiple Formats and Mediums

A recent study by Orr et al. (2021) found that repeated sharing of books can support children's development of colours vocabulary and body parts i.e. discipline specific vocabulary. The intervention improved the children's vocabulary scope in all domains and moderated the negative impact of lower socioeconomic status, low print exposure, and family size. This change in discipline specific vocabulary was found in Nevo et al.'s (2018) study that examined the effectiveness of a literacy intervention programmes that supported joint, interactive reading of informational science texts. Changes in scientific vocabulary was positively related with improvements in morphological awareness, print concepts, and listening comprehension. This early exposure to informational science texts broadens young children's understanding of the world. Early childhood educators should be encouraged to expose children to a wide variety of informational texts. Sharing of informational texts that are discipline specific with young children can support their broader understanding of the world. The evidence is stronger in particular for scientific texts and when children are repeatedly exposed to the texts (Nevo et al; 2018; Orr et al 2021). While book reading is referenced in *Aistear*, this could be expanded to reference a wider range of texts. It could also take account of the need for comprehensible input and repetition for EAL learners discussed earlier in the Chapter. Lastly, there is an acknowledgement in the literature that sharing of books should be for fun in and of itself (Torr, 2019; Campbell, 2021; Cahrssen et al., 2016).

There is a need for a multimodal approach now to the sharing of books as children come to ECEC with a range of meaning-making experiences (Satriana et al., 2021). For example, digital storytelling is emerging in the literature as having a positive effect on children's literacy skills (Maureen et al., 2018). These differing experiences necessitate the use of a culturally responsive approach. This is centred on a socio-cultural approach in which educators interpret and respond to non-verbal communication by young children (Taylor & Leung, 2020). Approaching children's literacies through a multimodal

lens gives early childhood educators the opportunity to see how different communication modes help children to express more engaging and interesting stories (Wessel-Powell et al., 2016). Evidence is emerging now of the successful use of non-typical approaches which through participation and engagement, support children's communication development, e.g. Abecedarian strategies in Brookes et al. (2016). The Abecedarian Approach includes guided and intentional multimodal literacy experiences including games, shared reading and reciprocal interactions. The current literature highlights the benefits of responsive and guided literacy experiences that create an expectation of attention, response and encouragement for children's language experiences. Consideration could be given to broadening intentional approaches to supporting children's early literacy and language within *Aistear* in order to observe and respond directly to the cues that are being delivered by the children to support the development of multiliteracies.

Playing with Symbols

Aim 3 currently makes reference to opportunities for early mark-making materials in enjoyable and meaningful contexts, which is endorsed in the literature. Young children benefit from daily opportunities for mark making and should be enabled to experiment with a variety of interesting materials at various stages during the day (Byington & YaeBin Kim, 2017; Rowe & Neitzel, 2010). Early years educators should strategically place a variety of writing materials throughout the setting and scaffold children's use of these materials (Pool & Carter, 2011). Magnusson (2021) recommends the use of aesthetic materials, artefacts of interest and digital technology to stimulate children's interest in communicating through writing. Materials should be carefully chosen as research has shown that children's interest in the materials may influence the amount of time they are engaged in writing activities (Rowe & Neitzel, 2010).

Toddlers begin with scribbles and simple drawings to communicate ideas in a symbolic fashion (Dennis & Votteler 2013; Rowe & Neitzel 2010). This is the beginning of a series of stages that children progress through as they learn to write. Emergent writing refers to the gradual emergence of writing skills and practices that can be supported by an adult (Byington & YaeBin Kim, 2017), it is 'an interactive process of skills and context rather than a linear series of individual components' (Rohde, 2015, p.1) that begins long before a child recognises letters or words. Instead, it has its foundations in the child understanding that writing (in any form) can be a mode of communication. It is important to consider the time and space provided for children to develop these skills and to consider it as a means of social engagement, while also valuing all stages of children's emergent writing. Writing is

developmental and this needs to be communicated clearly to educators and parents and all attempts to communicate through writing should be recognised in an early years' setting (Hall et al., 2019). As a child begins to associate writing as a means to communicate, they can be seen to move through a series of stages (Gentry, 2000; Rodhe, 2015):

- Drawing
- Scribbling
- Wavy scribbles/mock letters
- Letter-like forms/mock letters, seemingly random letter strings
- Transitional writing (groups of letters that resemble words or words copied from the environment)
- Invented spelling (semi-phonetic/phonetic)
- Beginning word/phrase writing
- Transitional spelling (uses sophisticated phonic knowledge and visual strategies to spell with more accuracy)
- Conventional spelling

Attention to fine motor activities can complement children's interest in attempting to write particular meaningful symbols to create messages (Byington & YaeBin Kim, 2017). Generative knowledge refers to children's attempts and experiences of early writing that expresses their thoughts in 'writing' to convey meaning. Children's writing has its foundation in oral expression and is supported by interactions between adults, children and their peers (Puranik & Lonigan 2014). In practice, the three domains will overlap and writing can support oral interactions that extend storytelling and play scenarios (Wood & Hall, 2011). Indeed, Wright (2010, 2011) contends that the act of drawing and writing can help children organise their thoughts in a manner that is useful not just for current interactions and play purposes but also in a way that supports future understandings of more formal literacy and numeracy (Coates & Coates, 2016). Children should be encouraged to use a variety of cultural symbols as part of meaningful activities and their play.

Kalantzis et al. (2016) argues that educators need to extend the range of literacy pedagogy so that it does not unduly privilege alphabetical symbolic representations, but brings into the classroom multimodal representations, particularly those typical of digital media, and enables mode switching. This is illustrated in Bers (2019) study of 172 preschool children that found that integrating coding using robotics into curricular activities promoted positive behaviours such as communication, collaboration and creativity in the classroom settings. By playing in a way that requires young children to manipulate physical objects with symbolic

meaning, computational thinking through coding and programming can be viewed as an expressive process that allows for a new literacy to communicate ideas, which provides scope for enhancement of such approaches within *Aistear*'s Aims and Learning Goals. Where possible, the curriculum should recognise digital playful experiences as fertile contexts for children to be inventive in their symbolic representations to communicate and be literate; as well as opportunities for educators to integrate more complex symbolic thinking and abstract reasoning across the early childhood curriculum. Digital technologies can expand the range of opportunities for children to learn about the world around them and develop their communicative abilities (Decat et al., 2019).

Awareness of children's funds of knowledge enable them to engage in meaningful and preferred ways of communicating e.g. physical body movement. Language is one mode that children may use to broaden their experiences, endorsing *Aistear*'s focus on language. Children's vocabulary, in addition to the ability to use language appropriately in social contexts, impacts on later academic achievement in reading and mathematics. A focus on social communication skills is warranted in ECEC settings. The sharing of joint, interactive reading of informational science texts broadens children's understanding of the world and should be for fun in and of itself. Digital storytelling is emerging in the literature as having a positive effect on children's literacy. A variety of interesting and aesthetic materials and digital technologies enhance children's mark making and enable children to make meaning through symbols.

Aim 4: Children will express themselves creatively and imaginatively

In respecting the many modes children use to communicate or the 'hundred languages' (Edwards et al., 2012), *Aistear*'s Aim 4 gives credence to the communicative potential of creative and imaginative opportunities for children to share their feelings, thoughts and ideas and respond to these experiences. Arts-based and playful experiences enable all children to communicate through multiple modes and mediums to share what they know, and to think about or understand the world around them. There is strong association with the arts and "the symbiosis of creativity and play" in terms of fostering children's exploration, creativity, imagination, self-expression with access to open-ended resources, including digital technologies to promote agency in their symbolic representations (Leung et al., 2020, p. 532). By adopting a balanced approach to learning *in* and learning *through* visual arts, music, drama and play (Hayes et al., 2017; Philips et al., 2010), children are afforded

opportunities to co-construct and transform symbols and meanings and make sense of previous experiences and knowledge and communicate new understandings through a variety of multimodal contexts such as creative, language and pretend play, using a range of artefacts, cultural tools and a variety of mediums (John et al., 2016; Papandreou, 2014; Mullen, 2012; Cohen & Uhry, 2011).

In considering play, *Aistear* recognises the importance of creative play, noting that “creative play involves children exploring and using their bodies and materials to make and do things and to share their feelings, ideas and thoughts” (NCCA, 2009, p. 54). There is strong association with creative play and arts-based teaching and learning experiences as they can engage children’s representational, communicative, expressive and social capacities that can stimulate new shifts in their awareness, perception and thought (Philips et al., 2010). In highlighting the links between creativity, play and art, Wright (2014) explains that “during the children’s art-based play, aesthetic decisions are being made on the selection, execution, framing and reframing of their ideas in relation to these textual features” (p. 526). An arts-based, playful pedagogy should foster children’s exploration, creativity, self-expression with access to open-ended resources, including digital technologies. In their study of 113 kindergarten classrooms (4-5 years) in Singapore, Bautista et al. (2018) noted that 2D visual arts, singing and movement were more commonly observed than 3D visual arts and dance and that these art forms were more frequently used in integrated learning activities, with the content pertaining to several subject matters and the instructional approach was product-oriented. This approach reflects the notion of learning through the arts, where the arts are utilised as a way for the teaching of other learning areas. However, the opportunity for individual creativity and expression were minimal with limited accessibility to art activities and materials due to the rigidity of schedules. Hayes et al. (2017) and Philips et al. (2010) propose adopting a balanced approach in ECEC as a way of achieving literacy and numeracy learning by active engagement and participation with high-quality arts experiences. An Updated *Aistear* could give consideration to various forms of 2D and 3D representations and expressions that facilitate children’s creative and agentic tendencies, while simultaneously supporting learning and development across the early childhood curriculum.

Arthur et al. (2010) report that “Through interactions...young children learn to use, understand and respect many ways of communicating. These may include drawing, constructing, composing music, and performing, as well as speaking, reading and writing in community languages and/or English. The arts (music, dance, drama, visual arts and media) provide powerful ways to communicate” (p.2). Arts-based and playful activities offer

opportunities for the dialogic interactions that were referred to earlier in this chapter, as they involve sustained shared thinking about the children's creative expressions that can support language development. The significance of engaging children directly in creating and exploring new materials and extending dialogue and conversation about their arts-based experiences was reported by Hayes et al. (2017). Based on an 'artist in(formed) residency' arts education programme that was delivered in two community crèches) in two urban disadvantaged localities in Ireland, 50 children (3-5 years) were provided with art-based experiences to enhance children's emergent early literacy and numeracy skills. An improvement in language and social skills development, such as turn-taking and listening to peers' contributions, was commonly reported by all participating early years teachers. Chang & Cress's (2014) study of 4 children (3-4 years) at home noted that adults' pedagogical strategies of linguistic scaffolding, listening and observing can support and advance the development of young children's oral language competencies while they draw. These strategies encourage children's agency and participation in conversations at a higher level than children could otherwise do on their own but also provide much information about the meaning of their drawings to communicate young children's social, cultural and intellectual views. Therefore, given that 2D visual arts, such as mark making, drawing, painting hold meaning (Papandreou, 2014), drawing cannot merely be viewed as a precursor to writing (Penn, 2020; Kress 1997) but rather that visual arts provides a multimodal context for children to communicate their knowledge and make sense of their worlds.

The Arts

Visual Arts. The affordances and materiality of visual arts can enable children to express themselves cognitively, aesthetically and creatively through their use and creation of semiotic resources and various media, including digital. Penn (2020) proposes that rather than deeming writing and drawing as solely a pre-literacy activity, young children's drawing and their drawings can be an embodied experience of the 'intraaction' of visual, verbal and gestural modes. In a study of 12 children in a USA kindergarten, there was a sense of performativity, play, fantasy that children enacted in their emergent drawing which contributed to the communicative and meaning-making process. Papandreou (2014) too supports the notion of drawing as a socially situated activity in terms of the process that empowers young children from mark makers into meaning makers. She notes how 20 children 4-6 yrs used drawing to communicate with others, as they often combined it with other ways of meaning making to improve their communication. Papandreou (2014) credits

the collaborative interactions to assist the children to co-construct and transform symbols and meanings and make sense of previous experiences and knowledge and develop new understandings.

Music. John et al. (2016) reiterate music as a distinct and essential form of communication that manifests naturally from birth to early childhood, when children are engaged in musical play regardless of their cultural or linguistic backgrounds. Music may provide two different roles for communication: (a) music as an expressive and/or communication tool, or (b) musical activities provide the experiences in which communication occurs (Kim, 2017). John et al. (2016) argue that to understand the critical and culturally mediated processes of music making that draw on the social and emotional tools of learning, the potential for musical communication can be linked to a sense of belonging through musical play. That is, musical play was found to promote psychosocial behaviors such as the ability to be calm, to focus, attend to others, as well as enhance or facilitate self-regulation and co-regulation with others. In their study of 4-6 year old children in two early childhood culturally diverse music classes in Canada, John et al. (2016) highlight the potential for creative musical play. In particular to enhance musical communication as it nurtures children's capacities to communicate and relate to each other, which is akin to the 4 C's of critical thinking, creativity, collaboration, and communication that Kim (2017) credits to music education. Creative musical play differs from music activities associated with rituals or guided musical play; as it involves free exploration, spontaneous improvisation, and guided composition utilizing graphic scores that children performed after being introduced by the music teacher. From a multimodal perspective, creative musical play draws on young children's abilities "to signal emotionally, understand the emotional signaling of others, and enables the ability to be self-aware" (John et al., 2016, p. 32), which is especially significant when attending to the communicative needs and interests of children from diverse linguistic and cultural backgrounds. This is also evident in Cominardi's (2014) research conducted in 2 Italian kindergartens with 65 children. Of these children, 14 were immigrant children from various countries. The findings of this study infer that effective communication processes may lie in the sensory-perspective elements of which music mirrors and that children have an extraordinary capacity for creativity with music which they can communicate independent of cultural differences. Additionally, Mullen (2017) advocates the versatility of nursery rhymes in supporting multiple domains of child development including the skills required to communicate needs and wants in socially appropriate ways, symbolic use of language and

storytelling. She relates the rhythmic and action-orientated characteristics of nursery rhymes to language play, which offers children to make sense of words, numbers and concepts in a playful way.

Drama. To further support children's language development, the strong association with drama and theatre activities provide tangible, language-rich, social contexts for decontextualized language, in which children are introduced to new language structures and vocabulary, and are offered opportunities to use and combine communication modes to actively engage and interact with adults and peers. This type of multimodal communication within a socio-cultural context may be particularly effective for preschool children, as they develop the reading skills necessary to use books and other forms of text as a medium to develop their language, perspective-taking, and imaginative abilities (Mages, 2018). The intersection with arts-based activities and playful experiences have been alluded to in the contexts of visual arts, music and drama. The concept of drama includes socio-dramatic play and has been discussed previously. While *Aistear's* Aim 4 identifies the context of drama in terms of supporting children's creative and imaginative expression, this review of research identified play as the more dominant medium for children to communicate, than drama.

Play

. An Updated *Aistear* should consider making explicit reference to play as a context for children's communication, meaning-making and expression. Also, the full potential of creative and imaginative experiences of play, story, poetry, music, art, movement and drama in developing children's communicative competence would be better understood, if responding and creating involved the notion of multiliteracies. Through playful engagement and interaction with toys, artefacts and other cultural tools, including digital, children experiment with these resources to represent the world in many forms of literacy and so play provides a meaningful context for children to participate and negotiate the communicative experiences. Kultti & Pramling (2015a) study of 41 children (aged 1-5 years) in an Australian child care centre illustrates that play activities support communication before children have developed productive language skills and that certain types of tools facilitate both individual play and joint activity. They note that the toys provide ways of participating in tool-mediated activity together with other children when there is a

common artefact within the activity. This resonates with Cohen & Uhry's (2011) study which investigated the levels and frequency of symbolism that 4 year old children produce and communicate meaning in their play with blocks. They argue that block play is a multimodal early literacy practice which affords children to be 'literate' when they "make meaning through the creation of signs that are themselves made through the multimodal form of block play" (p. 80).

The strong association with children's pretend play in developing children's creativity, communication, collaboration and critical thinking (Vogt & Hollenstein, 2021); and its interconnected relationship with early literacy development is well established in early childhood education (Bluiett, 2018). As already inferred to earlier in this chapter, within a multimodal approach to communication and literacy, Yelland (2007) contends that any consideration of play needs to incorporate various modes of representation including "technology as play, playing with ideas in multimodal ways, and storytelling as play" (p. 49). This is exemplified in Decat et al.'s (2019) study which explored how touch technology provided a new modality of representation for young children in the pre-kindergarten classroom. The findings suggest that storytelling enhanced children's communication, and touch technology functionality went beyond traditional literacy skills. Taking into account the presence and use of digital toys and games, as well as other domestic digital devices in children's home environment, early childhood educators should attend, build on and respond to their already developing communicative practices as McPake et al. (2013) argue that digital technologies have the potential to expand young children's communicative and creative repertoires. For example, the multimodality of digital technologies afforded to children's storytelling and play is further explored by Rhoades (2016), Fleer (2018) and Leung et al. (2020). Framed by Bird et al.'s (2014) digital play framework, Leung et al.'s (2020) intervention examined how nine children, aged 5-8 years, in Hong Kong incorporated video-making tools in their play to create a digital representation of their stories. Through exploratory engagement with the digital tools, the children displayed ludic behaviours in their digital play as a means of cultural sense making and inclusive communicative practice (Edwards, 2013).

A responsive and inclusive pedagogy should draw on variety of communication contexts and representations, utilising a more holistic and integrated teaching and learning approach facilitated by art-based and playful experiences. Arts-based pedagogy should foster children's exploration and access to resources, creativity and self-expression, and their confidence to utilise certain art forms more often, whereby promoting choice and agency to

make meaning through a diversity of modes and media such that they might choose those that were most apt given the circumstances and content of the communication. Early childhood educators need to attend and respond to the child's multimodal expressions to determine the appropriate pedagogical strategies to employ so as to develop children's language and content learning, whereby working creatively together with mutual trust and respect. There must be a recognition of the rich contribution that the arts offer when 'words' are not sufficient to express the thoughts and ideas of young children. Arts-based activities and playful experiences cannot merely be viewed as a precursor to writing but rather there is a need for early childhood educators to take a broad view of literacies as modes of communication, conceptualisation and meaning-making, so that educators can notice, support and expand children's favoured modes. Children should have access and choice to interact and play with a range of toys (including open-ended and digital), artefacts and cultural resources that promote creativity in terms of modes, mediums and media of expression.

Concluding Comments

The Literature Review took a systematic approach to identify, explore and map contemporary research on early childhood curricula that affirms *Aistear's* existing Aims under the Theme of Communicating and identifies potential areas for enhancement aligned with contemporary literature. Understanding that communication is multimodal is a requisite for educators when considering the influence of children's diverse 'funds of knowledge' (Moll et al., 1992) on early learning and development experiences and in valuing the communicative abilities of culturally and linguistically diverse children. Multimodal pedagogy can provide inclusive opportunities for all learners, wherein every child's participative right to communicate is supported by using and favouring various modes and mediums to express themselves (Coogler et al., 2021). The United Nations Convention on the Rights of the Child (UNCRC) (1990) guaranteed children's rights to be heard (Article 12) which requires a related UNCRC right, to have freedom of expression. Multimodality underpins UNCRC's (Article 12) description of freedom of expression which they have defined as children having the right to communicate "either orally, in writing or in print, in the form of art, or through any other media of the children's choice" (Article 13). This gives way to an inclusive and responsive approach to early childhood education which places the ethical and equity relation at the centre; and promotes children's rights, choice and agency in

pedagogical contexts to support multimodal communication (Heydon et al., 2017; Haggerty & Mitchell, 2010).

A key point that emerged from this review includes the understanding that young children communicate in different contexts. This diversity highlights the importance of multimodal communication skills at all ages and across languages and emphasise the role of the adult in modelling and responding to multimodal communication so as to ensure understanding and language development (including the Irish language). The Communicating Theme in *Aistear* could now be widened to assimilate the multimodal approach children take to communication.

Secondly, adults play an essential role in scaffolding language learning and providing an emotionally safe environment where communication can flourish. The Theme of Communicating is about empowering young children to use their agency to give, receive and make sense of information through multimodal channels that incorporate their cultural capital and serve their social needs. The adult's role is to create an environment where communication can thrive, where translanguaging is encouraged and where young children are comfortable expressing themselves in a variety of ways. The adult should be enabled to carefully scaffold and nurture a child's language development, valuing every attempt to speak, draw, write or use non-verbal or digital means of expression.

Thirdly, communication should be viewed as an important social tool for children which enables the sharing of cultural funds of knowledge. This may take the form of writing with peers or engaging in dialogic interaction through the sharing of a book. An Updated *Aistear* should continue to allow children to engage with a wide variety of texts, symbols and experiences in order to widen their understanding of their worlds.

Lastly, child agency in communication should be considered essential from babies through to older children. Children should have opportunities to illustrate this agency to communicate through linguistic, visual, gestural, aural and spatial modes. An Updated *Aistear* should continue to include arts-based and playful experiences, digital modes, mark-making and writing.

This review has considered the literature in relation to the concept of young children as multimodal communicators and meaning-makers and clearly points to the importance of valuing 'the hundred languages of children' (Edwards et al., 2012), from a plurilingual and multimodal perspective.

References

*Denotes literature included in the Mapping Table

- *Aguiar, C., Silva, C. S., Guerra, R., Rodrigues, R. B., Ribeiro, L. A., Pastori, G., ... & ISOTIS research team. (2020). Early interventions tackling inequalities experienced by immigrant, low-income, and Roma children in 8 European countries: a critical overview. *European Early Childhood Education Research Journal*, 28(1), 58-76.
- Akhavan, N. (2014). Key principles and additive teaching strategies for language learning K-2. In S. Taberski & J. Burke (Eds.), *The Common Core companion: The standards decoded*, (pp. xxiii – xxvi). Thousand Oaks
- Alamillo, L., Yun, C. & Bennett, L. (2017). Translanguaging in a Reggio-Inspired Spanish dual-language immersion programme. *Early Child Development and Care*, 187 (3-4), 469–486.
- Andrews, A. (2018). *Support material for CCEA preschool curricular guidance. Irish medium early years immersion education*. Altram.
- *Antopolskaya, T. A., Zhuravleva, S. S., & Baybakova, O. Y. (2017). Social communication as the means of preschool children education: Research and development opportunities. *European Journal of Contemporary Education*, 6(4), 636-644.
- Axelrod, Y. (2014). ‘Ganchulinas’ and ‘Rainbowli’ Colors: Young multilingual children play with language in head start classroom. *Early Childhood Education Journal*, 45(1), 103–110.
- *Bauer, E. B., Presiado, V., Colomer, S. (2017). Writing through partnership: Fostering translanguaging in children who are emergent bilinguals *Journal of Literacy Research*, 49(1), 10-37.
- *Bautista, A., Moreno-Núñez, A., Bull, R., Amsah, F., & Koh, S. F. (2018). Arts-related pedagogies in preschool education: An Asian perspective. *Early Childhood Research Quarterly*, 45, 277-288.
- Bengochea, A., Sembianto, S. F., & Gort, M. (2018). An emergent bilingual child’s multimodal choices in sociodramatic play. *Journal of Early Childhood Literacy*, 18(1), 38–70. doi.org/10.1177/1468798417739081

- Bengochea, A. & Gort, M. (2020): Translanguaging for varying discourse functions in sociodramatic play: an exploratory multiple case study of young emergent bilinguals, *International Journal of Bilingual Education and Bilingualism*, Ahead of print, 1-16.
- Bennett, S.V., Gunn, A.A., Gayle-Evans, G. Estanislado, S., Barrera, V. & Leung. B. (2018). Culturally responsive literacy practices in an early childhood community. *Early Childhood Education Journal*, 46, 241–248.
- *Bers, M. U., González-González, C., & Armas–Torres, M. B. (2019). Coding as a playground: Promoting positive learning experiences in childhood classrooms. *Computers & Education*, 138, 130-145.
- Björklund, S., Mård-Miettinen, K., & Savijärvi, M. (2014). Swedish immersion in the early years in Finland. *International Journal of Bilingual Education and Bilingualism*, 17(2), 197–214. <https://doi.org/10.1080/13670050.2013.866628>.
- Bland, J. (2015). Grammar templates for the future with poetry for children. In J. Bland (Ed.), *Teaching English to young learners: Critical issues in language teaching with 3 – 12 year olds* (pp. 147-166). Bloomsbury Publishing PLC.
- Bluiett, T. (2018). Ready or not, play or not: Next steps for sociodramatic play and the early literacy curriculum: A theoretical perspective. *Reading Improvement*, 55(3), 83-88.
- Bosma, E. & Blom, E. (2020). Language activities in a minority–majority language context: book-reading at home is more important for Frisian than for Dutch. *Journal of Child Language*, 47, 289–308. doi:10.1017/S030500091900002.
- Bower, K., Coyle, D., Cross, R. and Chambers, G. (2020). Curriculum integrated language teaching: CLIL in Practice. Cambridge University Press. <https://doi-org.dcu.idm.oclc.org/10.1017/9781108687867>
- Brevik, L.M., & Rindal, U. (2020). Language use in the Classroom: Balancing target language exposure with the need for other languages. *TESOL Quarterly*, 55(1), 129.
- *Brookes, I., & Tayler, C. (2016). Effects of an evidence-based intervention on the Australian English language development of a vulnerable group of young Aboriginal children. *Australasian Journal of Early Childhood*, 41(4): 4-15.
- Byington, T.A. & YaeBin Kim, Y. (2017). Promoting preschoolers’ emergent writing. *Young Children*, 72(5), 74-82.

- Byrnes, J. P. & Wasik, B. A. (2019). *Language and literacy development: What educators need to know* (2nd ed.). Guilford Press.
- *Campbell, S., (2021). What's happening to shared picture book reading in an era of phonics first? *The Reading Teacher*, 74(6), 757-767.
- Cavanaugh, D. M., Clemence, K. J., Teale, M. M., Rule, A. C., & Montgomery, S. E. (2017). Kindergarten scores, storytelling, executive function, and motivation improved through literacy-rich guided play. *Early Childhood Education Journal*, 45(6), 831-843.
- *Chang, N., & Cress, S. (2014). Conversations about visual arts: Facilitating oral language. *Early Childhood Education Journal*, 42(6), 415-422.
- Coates, E., & Coates, A. (2016). The essential role of scribbling in the imaginative and cognitive development of young children. *Journal of Early Childhood Literacy*, 16(1), 60–83. <https://doi-org.dcu.idm.oclc.org/10.1177/1468798415577871>
- *Cohen, L., & Uhry, J. (2011). Naming block structures: A multimodal approach. *Early Childhood Education Journal*, 39(1), 79-87.
- *Cohrssen, C., Niklas, F., & Tayler, C., (2016). "Is That What We Do?" Using a conversation-analytic approach to highlight the contribution of dialogic reading strategies to educator-child interactions during storybook reading in two early childhood settings, *Journal of Early Childhood Literacy*, 16(3), 361-382.
- *Cominardi, C. (2014). From creative process to trans-cultural process: Integrating music therapy with arts media in Italian kindergartens: A pilot study. *Australian Journal of Music Therapy*, 25, 3-14.
- *Concannon-Gibney, T. (2021). 'Teacher, teacher, can't catch me!' Teaching vocabulary and grammar using nursery rhymes to children for whom English is an additional language. *The Reading Teacher*, 75(1), 41-50. <https://ila.onlinelibrary.wiley.com/doi/epdf/10.1002/trtr.2013>
- Coogle, C.G, Storie, S., & Rahn, N. L. (2021). A framework for promoting access, Increasing participation, and providing support in early childhood classrooms. *Early Childhood Education Journal*, 50, 867-877.

- Cresham, E. (2021). *Aistear: The social context of play and language development*. *REACH: Journal of Inclusive Education in Ireland*, 34(2).
- Cummins, J. (2016). The cross-lingual dimensions of language proficiency: Implications for bilingual education and the optimal age issue. *TESOL Quarterly*, 50(4), 940. doi:10.1002/tesq.339.
- Cummins, J. (2021). Rethinking the education of multilingual learners: A critical analysis of theoretical concepts. Volume 19 of *Linguistic Diversity and Language Rights: Multilingual Matters*.
- Cunningham, B. J., Washington, K. N., Binns, A., Rolfe, K., Robertson, B., & Rosenbaum, P. (2017). Current methods of evaluating speech-language outcomes for preschoolers with communication disorders: A scoping review using the ICF-CY. *Journal of Speech, Language, and Hearing Research*, 60(2), 447–464. doi.org/10.1044/2016_JSLHR-L-15-0329
- Curdt-Christiansen, X. L. (2018). Family language policy. In M. Pérez-Milans, & J. W. Tollefson (Eds.), *The Oxford handbook of language policy and planning* (pp. 420– 441). Oxford University Press.
- Cussen, G., Mhic Mhathúna, M. agus Ní Bhroin, C. (2018). *Tumoideachas sa Naíonra*. Gaeloideachas.
- *Danby, S., Evaldsson, A. C., Melander, H., & Aarsand, P. (2018). Situated collaboration and problem solving in young children's digital gameplay. *British Journal of Educational Technology*, 49(5), 959-972.
- *Decat, E., Damjanovic, V., Branson, S., Blank, J., & Berson, I. R. (2019). Using touch technology to foster storytelling in the preschool classroom. *Journal of Inquiry and Action in Education*, 10(2), 1.
- De Houwer, A. (2017). Bilingual language input environments, intake, maturity and practice. *Bilingualism: Language and Cognition*, 20(1), 19–20 <https://doi.org/10.1017/S1366728916000298>.
- Dennis, L. R., & Stockall, N. (2015). Using play to build the social competence of young children with language delays: Practical guidelines for teachers. *Early Childhood Education Journal*, 43(1), 1-7.

- Dennis, L. R., & Votteler, N. K. (2013). Preschool teachers and children's emergent writing: Supporting diverse learners. *Early Childhood Education Journal*, 41, 439–446.
- Department of Education & Skills (DES). (2016). *Polasaí don oideachas Gaeltachta 2017-2022*. Department of Education. Available at: <https://www.gov.ie/ga/eolas-polasaithe/polasai-don-oideachas-gaeltachta-20172022/>
- Department of Education & Skills (DES). (2019). *Primary Language Curriculum*. DES.
- Department of Education (2021). Guide for Gaeltacht Primary Schools: Strengthening links between primary schools and early-learning and care (ELC) settings. Department of Education: Dublin. <https://www.gov.ie/en/publication/15288-guide-for-gaeltacht-primary-schools-strengthening-links-between-primary-schools-and-early-learning-and-care-elc-settings/>
- Drury, R. (2013). How silent is the 'Silent Period' for young bilinguals in early years settings in England? *European Early Childhood Education Research Journal*, 21(3), 380-391.
- Ecalte, J., Labat, H., Le Cam, M., Rocher, T., Cros, L., & Magnan, A. (2015). Evidence-based practices to stimulate emergent literacy skills in kindergarten in France: A large-scale study. *Teaching and Teacher Education*, 50, 102-113. 10.1016/j.tate.2015.05.002.
- Edwards, C. P., Gandini, L., & Forman, G. (2012). *The hundred languages of children: The Reggio Emilia approach to early childhood education*. Santa Barbara.
- Edwards, S. (2013). Digital play in the early years: A contextual response to the problem of integrating technologies and play-based pedagogies in the early childhood curriculum. *European Early Childhood Education Research Journal*, 21(2), 199–212.
- *Ferraz Almeida Neves, V., Katz, L., Mafra Goulart, M. I. & de Fátima Cardoso Gomes, M. (2020). Dancing with the pacifiers: infant's perizhivanya in a Brazilian early childhood education centre. *Early Child Development and Care*, 190(4), 558-569, DOI: 10.1080/03004430.2018.1482891.
- Fitton, L., McIlraith, A. L., & Wood, C. L. (2018). Shared book reading interventions with English learners: A meta-analysis. *Review of Educational Research*, 88(5), 712–751.
- Finnegan, R. (2013). *Communicating: The multiple modes of human communication* (2nd ed.). Routledge.

- *Fleer, M. (2018). Digital animation: New conditions for children's development in play- based setting. *British Journal of Educational Technology*, 49(5), 943-958.
- Galeano, R. (2011). Scaffolding productive language skills through sociodramatic play. *American Journal of Play* 3(3), 324–355.
- García, O., & Wei, L. (2014). *Translanguaging: Language, bilingualism and education*. Palgrave Macmillan.
- Gentry, R. J. (2000). A retrospective on invented spelling and a look forward. *The Reading Teacher*, 54(3), 318-332.
- Gersten, R., Baker, S.K., Haager, D., & Graves, A.W. (2005). Exploring the role of teacher quality in predicting reading outcomes for first-grade English learners: An observational study. *Remedial and Special Education*, 26(4): 197–206.
- Greenfader, C.M., Brouillette, L., Farkas, G. (2014). Effect of a performing arts program on the oral language skills of young English learners. *Reading Research Quarterly*, 50(2), 185–203.
- Guilfoyle, N. & Mistry, M. (2013). How effective is role play in supporting speaking and listening for pupils with English as an additional language in the Foundation Stage?, *Education 3-13*, 41(1), 63-70. DOI: 10.1080/03004279.2012.710101
- *Haggerty, M., & Mitchell, L. (2010). Exploring curriculum implications of multimodal literacy in a New Zealand early childhood setting. *European Early Childhood Education Research Journal*, 18(3), 327-339.
- Hall, A. H., Simpson, A., Guo, Y., & Wang, S. (2015). Examining the effects of preschool writing instruction on emergent literacy skills: A systematic review of the literature. *Literacy Research and Instruction*, 54(2), 115–134.
- Hall, A.H., White, K.M., Guo, Y., & Emerson, A. (2019). Who counts as a writer? Examining child, teacher, and parent perceptions of writing. *Early Child Development and Care*, 189(3), 353-375. doi: 10.1080/03004430.2017.1399884
- *Harju, A. Åkerblom, A. (2020). Opening up new spaces for languaging practice in early childhood education for migrant children. *International Journal of Early Years Education*, 28(2), 151-161.

- Harris, R. (2019) Re-Assessing the place of the “silent period” in the development of English as an additional language among children in early years settings. TEANGA the *Journal of the Irish Association for Applied Linguistics*, 10, 77-93. DOI: 10.35903/teanga.v10i0.71
- Harris, J. & Ó Duibhir, P. (2011). Effective language teaching: A synthesis of research. National Council for Curriculum and Assessment.
https://ncca.ie/media/2060/effective_language_teaching_a_synthesis_of_research.pdf
- *Hayes, N., Maguire, J., Corcoran, L., & O’Sullivan, C. (2017). Artful dodgers: An arts education research project in early education settings. *Irish Educational Studies*, 36(2), 203-219.
- Henderson, K. and Palmer, D. (2015). Teacher scaffolding and pair work in a bilingual pre-kindergarten classroom. *Journal of Immersion and Content-Based Language Education*, 3(1), 77–101. doi 10.1075/jicb.3.1.04hen issn 2212–8433/ e-issn 2212– 8441.
- Herrera, S.G. & Murry, P. (2015). Mastering ESL/EFL methods: Differentiated instruction for culturally and linguistically diverse students. Pearson
- *Heydon, R., Zhang, Z., & Bocazar, B. (2017). *Ethical curricula through responsive, multimodal literacy and pedagogy: Illustrations from a Kindergarten classroom curriculum*. In Ethics, Equity, and Inclusive Education. Emerald Publishing Limited.
- Hickey, T. M. (2021). Heritage language early years’ immersion: Irish-medium preschools in Ireland. In M. Schwartz (Ed.), *Handbook of early language education*. Springer International Handbooks of Education.
https://doi.org/10.1007/978-3-030-47073-9_15-1.
- Hickey, T. M., & de Mejía, A.-M. (2014). Immersion education in the early years: A special issue. *International Journal of Bilingual Education and Bilingualism*, 17(2), 131–143. <https://doi.org/10.1080/13670050.2013.866624>
- Holloway, D. J., Green, L., & Stevenson, K. (2015). Digitods: Toddlers, touch screens and Australian family life. *M/C Journal*, 18(5). <https://doi.org/10.5204/mcj.1024>.
- Honig, A. (2007). Oral language development. *Early Child Development and Care*, 177(6 & 7), 581–613.

- Ioannou-Georgiou, S., & Pavlou, P. (2011). (Eds.). *Guidelines for CLIL implementation in primary and pre-primary education*. Council of Europe.
- Jewitt, C. (2013). Multimodality and digital technologies in the classroom. In I. De Saint-Georges & J. Weber (Eds.), *Multilingualism and multimodality* (pp. 141-152). Brill Sense.
- *John, B. A., Cameron, L., & Bartel, L. (2016). Creative musical play: An innovative approach to early childhood music education in an urban community school of music. *Action, Criticism & Theory for Music Education*, 15(3), 21-36.
- Jun, L. (2013). Principles of effective English language learner pedagogy. Research in Review, 2012-3, College Board.
- *Justice, L. M., Logan, Jessica A. R., Kaderavek, J. N., & Dynia, J. M. (2015). Print-focused read-alouds in early childhood special education programs, *Exceptional Children*, 81(3), 292-311, <https://doi-org.dcu.idm.oclc.org/10.1177/0014402914563693>.
- Kalantzis, M., Cope, B., Chan, E., & Dalley-Trim, L. (2016). *Literacies*. Cambridge University Press.
- Kennedy, V. (2014). Critical, cultural and multimodal approaches to using song as literature in language learning. *Libri et liberi: časopis za istraživanje dječje književnosti i kulture*, 3(2), 295-310.
- Kersten, S. (2015). Language development in young learners: the role of formulaic language. In J. Bland (Ed.), *Teaching English to young learners: Critical issues in language teaching with 3 – 12 year olds* (pp. 129-145). Bloomsbury Publishing PLC.
- Kim, J. (2017). Transforming music education for the next generation: Planting ‘four cs’ through children’s songs. *International Journal of Early Childhood*, 49(2), 181-193.
- Kirkby, J., Keary, A., & Walsh, L. (2018). The impact of Australian policy shifts on early childhood teachers’ understandings of intentional teaching. *European Early Childhood Education Research Journal*, 26(5), 674-687. doi: 10.1080/1350293X.2018.1522920
- *Kohl, K., Bihler, L., Agache, A., Leyendecker, B., & Willard J. A. (2022). Do peers matter? Peer effects on young children's vocabulary gains in German classrooms. *Journal of Educational Psychology*, 114(1), 161-176. DOI: 10.1037/edu0000522.

- Kolomiychenko, L. V. (2015). *Dorogoyu dobra: Concept and program of social and communicative development and social education of preschool children*. TC Sfera, Moscow.
- Krashen, S. (1985). *Language acquisition and language education*. Hayward, CA: Alemany Press.
- Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication*. Routledge.
- Kress, G. (1997). *Before writing: Rethinking the paths to literacy*. Routledge.
- Kukk, A., Õun, T., & Ugaste, A. (2014) Readiness for school of children having attended language immersion kindergarten in their teachers' and parents' opinions, *International Journal of Early Years Education*, 22(2), 156-168. DOI: [10.1080/09669760.2014.900475](https://doi.org/10.1080/09669760.2014.900475)
- *Kultti, A., & Pramling, N. (2015). Limes and Lemons: Teaching and Learning in Preschool as the Coordination of Perspectives and Sensory Modalities. *International Journal of Early Childhood*, 47, 105-117 <https://doi.org/10.1007/s13158-018-0230-z>.
- *Kultti, A., & Pramling, N. (2015a). Bring your own toy: Socialisation of two-year-olds through tool-mediated activities in an Australian early childhood education context. *Early Childhood Education Journal*, 43(5), 367-376.
- Lawson-Adams, J.; Dickinson, D.K. (2020). Building lexical representations with nonverbal supports. *Reading Research Quarterly*, 56(3), 603-622.
- LeMaster, B., & Monaghan, L. (2004). Variation in sign languages. In A. Duranti (Ed.), *A companion to linguistic anthropology* (pp. 141–165). Basil Blackwell.
- *Leung, S. K., Choi, K. W., & Yuen, M. (2020). Video art as digital play for young children. *British Journal of Educational Technology*, 51(2), 531-554.
- Little, D.G. & Kirwan, D. (2019). *Engaging with linguistic diversity: A study of educational inclusion in an Irish primary school*. Bloomsbury Academic. <https://doi.org/10.5040/9781350072053>

- *Mages, W. K. (2018). Does theatre-in-education promote early childhood development?: The effect of drama on language, perspective-taking, and imagination. *Early Childhood Research Quarterly*, 45, 224-237.
- *Magnusson, L. (2021). 'Look, my name! I can write' - Literacy events and digital technology in the preschool atelier. *Journal of Early Childhood Literacy*, 0(0), 1-23.
- *Martín-Bylund, A. (2018). The matter of silence in early childhood bilingual education. *Educational Philosophy & Theory*, 50(4), 349-358.
- *Maureen, I. Y., van der Meij, H., & de Jong, T. (2018). Supporting literacy and digital literacy development in early childhood education using storytelling activities. *International Journal of Early Childhood*, 50, 371-389.
- *McPake, J., Plowman, L., & Stephen, C. (2013). Pre-school children creating and communicating with digital technologies in the home. *British Journal of Educational Technology*, 44(3), 421-431.
- Mhic Mhathúna, M. (2008). Supporting children's participation in second-language stories in an Irish-language pre-school. *Early Years: Journal of International Research and Development*, 28(3), 299-309.
- Mhic Mhathúna, M. (2012). Child language in the early years. In M. Mhic Mhathúna & M. Taylor (Eds.), *Early Childhood Education and Care. An Introduction for Students in Ireland* (pp. 214-228). Gill & Macmillan.
- Moll, L., Amanti, C., Neff, D. & Gonzalez, N. (1992) Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory Into Practice*, 31(2): 132-141, DOI: 10.1080/00405849209543534
- Molloy, G., Murtagh, L., & McAvinue, L. P. (2016). An examination of the oral language competence of junior infant pupils attending DEIS and Non-DEIS schools. *Irish Educational Studies*; 35(2), 213-231. DOI: 10.1080/03323315.2016.1146159.
- *Monaco, C., & Pontecorvo, C. (2010). The interaction between young toddlers: constructing and organising participation frameworks. *European Early Childhood Education Research Journal*, 18(3), 341-371. doi: 10.1080/1350293X.2010.500075.
- Moses, L. (2013). Viewing as a cultural tool in the construction of meaning with expository texts for young bilinguals. *Journal of Language & Literacy Education*, 9(2), 72 - 93.

- Mullen, G. (2017). More than words: Using nursery rhymes and songs to support domains of child development. *Journal of Childhood Studies*, 42-53.
- National Council for Curriculum and Assessment (NCCA). (2009). *Aistear: the Early Childhood Curriculum Framework*. NCCA.
- *Nevo, E., & Vaknin-Nusbaum, V. (2018). Joint reading of informational science text versus narrative stories: How does each affect language and literacy abilities among Kindergarteners? *Reading Psychology*, 39(8), 787-819.
- *Nevo, E., & Vaknin-Nusbaum, V. (2018). Enhancing language and print-concept skills by using interactive storybook reading in kindergarten. *Journal of Early Childhood Literacy*, 18(4), 545-569.
- *Nicolopoulou, A., Schnabel Cortina, K., Ilgaz, H., Brockleyer Cates, C., & de Sa, A. B. (2015). Using a narrative- and play-based activity to promote low-income preschoolers' oral language, emergent literacy, and social competence. *Early Childhood Research Quarterly*, 31, 147–162. doi:10.1016/j.ecresq.2015.01.006.
- Ó Duibhir, P. & Cummins, J. (2012). *Towards an Integrated Language Curriculum in Early Childhood and Primary Education (3 – 12 years)*. NCCA.
https://www.ncca.ie/media/2467/towards_an_integrated_language_curriculum_in_early_childhood_and_primary_education.pdf
- *Orr, E., Kasperski, R., Caspi, R., & Hay, S. (2021). Improving children's oral vocabulary with a dynamic intervention programme. *The Educational and Developmental Psychologist*, 38(1): 47-63. DOI: 10.1080/20590776.2020.1839882.
- Paley, V. G. (1990). *The boy who would be a helicopter*. Harvard University Press
- *Papandreou, M. (2014). Communicating and thinking through drawing activity in early childhood. *Journal of Research in Childhood Education*, 28(1), 85-100.
- Pascal, C., Bertram, T., & Rouse, L. (2019). *Getting it right in the Early Years Foundation Stage: a review of the evidence*. Centre for Research in Early Childhood.
- Pelatti, C. & Piasta, S. & Justice, L. & O'Connell, A. (2014). Language- and literacy-learning opportunities in early childhood classrooms: Children's typical experiences and within-classroom variability. *Early Childhood Research Quarterly*, 29. 10.1016/j.ecresq.2014.05.004.

- *Penn, L. R. (2020). Room for monsters and writers: Performativity in children's classroom drawing. *Contemporary Issues in Early Childhood*, 21(3), 208-223.
- Péterváry, T., Ó Curnáin, B., Ó Giollagáin, C. & Sheahan, J. (2014). *Iniúchadh ar an gcumas dátheangach: An sealbhú teanga i measc ghlúin óg na Gaeltachta*. COGG.
- *Phillips, R. D., Gorton, R. L., Pinciotti, P., & Sachdev, A. (2010). Promising findings on preschoolers' emergent literacy and school readiness in arts-integrated early childhood settings. *Early Childhood Education Journal*, 38(2), 111-122.
- Piker, R. A. (2013). Understanding influences of play on second language learning: A microethnographic view in one head start preschool classroom. *Journal of Early Childhood Research*, 11(2), 184-200.
- POBAL. (2021). Annual early years sector profile report 2019 / 2020. Department of Children, Equality, Disability, Integration and Youth: Ireland.
- Pool, J.L., & Carter, D.R. (2011). Creating print-rich learning centers. *Teaching Young Children*, 4(4), 18-20.
- Puranik, C. S., Lonigan, C. J., & Kim, Y.-S. (2011). Contributions of emergent literacy skills to name writing, letter writing and spelling in preschool children. *Early Childhood Research Quarterly*, 26, 465-474. doi:10.1016/j.ecresq.2011.03.002.
- *Pursi, A. (2019). Play in adult-child interaction: Institutional multi-party interaction and pedagogical practice in a toddler classroom. *Learning Culture and Social Interaction*, 21, 136-150.
- Quinn, S., Donnelly, S., & Kidd, E. (2018). The relationship between symbolic play and language acquisition: A meta-analytic review. *Developmental Review*, 49, 121-135. 10.1016/j.dr.2018.05.005.
- *Ramsook, K. A., Welsh, J. A., & Bierman, K. L. (2020). What you say, and how you say it: Preschoolers' growth in vocabulary and communication skills differentially predict kindergarten academic achievement and self-regulation. *Social Development*, 29(3), 783-800.
- *Reese, E., Gunn, A., Bateman, A., & Carr, M. (2021). Teacher child talk about learning stories in New Zealand: A strategy for eliciting children's complex language. *Early Years*, 41(5), 506-521. doi: 10.1080/09575146.2019.1621804.

- *Rhoades, M. (2016). “Little Pig, Little Pig, Yet Me Come In!” Animating the three little pigs with preschoolers. *Early Childhood Education Journal*, 44(6), 595-603.
- Rohde, L. (2015). The comprehensive emergent literacy model: Early literacy in context. *Sage Open*, 5(1), 1-11. <https://doi.org.dcu.idm.oclc.org/10.1177/2158244015577664>
- Rowe, D. Shimizu, A. Y., Davis, Z.G. (2022). Essential practices for engaging young children as writers: Lessons from expert early writing teachers. *Reading Teacher*, 75(4), 485-494
- Rowe, D.W., & C. Neitzel. (2010). Interest and agency in 2- and 3-year-olds’ participation in emergent writing. *Reading Research Quarterly*, 45(2), 169–95.
- Rowe, L. W. (2018). Say it in your language. *The Reading Teacher*, 72(1), 31-38.
- *Salamon, A., Sumison, J., & Harrison, L. (2017). Infants draw on ‘emotional capital’ in early childhood education contexts: A new paradigm. *Contemporary Issues in Early Childhood*, 18(4), 362-374.
- *Satriana, M., Heriansyah, M., & Maghfirah, F. (2021). The use of shared reading books in Indonesian early childhood. *Education*, 50(6), 3-13. doi: 10.1080/03004279.2021.1912134.
- Sefton-Green, J., Marsh, J., Erstad, O., & Flewitt, R. (2016). *Establishing a research agenda for the digital literacy practices of young children*. A White Paper for COST Action IS1410.
- Siraj-Blatchford, I. & Clarke, P. (2000). *Supporting identity, diversity and language in the early years*. Open University Press.
- Stenson, N., & Hickey, T. M. (2019). Understanding Irish spelling: A handbook for teachers and learners. COGG. <https://www.cogg.ie/wp-content/uploads/Understanding-Irish-Spelling.pdf>
- Tabors, P. O. (2008). *One child, two languages. A guide for early childhood educators of children learning English as a second language*. Brookes Publishing.
- Tabors, P., & Snow, C. (1994). English as a second language in preschools. In F. Genesee (Ed.), *Educating second language children: The whole child, the whole curriculum, the whole community* (pp. 103-125). Cambridge University Press

- Taylor, S. V., & Leung, C. B. (2020). Multimodal literacy and social interaction: young children's literacy learning. *Early Childhood Education Journal*, 48(1): 1-10.
- The New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review*, 66(1), 60-92.
- *Torr, J. (2019). Infants' experiences of shared reading with their educators in early childhood education and care centres: An observational study. *Early Childhood Education Journal*, 47(5), 519-529.
- Townsend, D., Filippini, A., Collins, P., & Biancarosa, G. (2012). Evidence for the importance of academic word knowledge for the academic achievement of diverse middle school students. *The Elementary School Journal*, 112(3), 497–518.
<https://doi.org/10.1086/663301>
- United Nations. (1989). *Convention on the rights of the child*. UN Office of High Commissioner for Human Rights (OHCHR). Retrieved from [HTTPS://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx](https://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx).
- van Dongera, R., van der Meer, C. and Sterk, R., (2017). *Research for CULT Committee - Minority languages and education: best practices and pitfalls - study*. European Parliament, Policy Department for Structural and Cohesion Policies. [pdf]
[http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU\(2017\)585915](http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU(2017)585915)
- *van Druten-Frietman, L., Strating, H., Denessen, E., & Verhoeven, L. (2016). Interactive storybook-based intervention effects on Kindergartners' language development. *Journal of Early Intervention*, 38(4), 212-229.
- *van der Wilt, F., Boerma, I., van Oers, B., & van der Veen, C. (2019). The effect of three interactive reading approaches on language ability: an exploratory study in early childhood education. *European Early Childhood Education Research Journal*, 27(4), 566-580. doi: 10.1080/1350293X.2019.1634242.
- *Vogt, F., & Hollenstein, L. (2021). Exploring digital transformation through pretend play in kindergarten. *British Journal of Educational Technology*, 52(6), 2130-2144.

- *Wedin, Åsa. (2010). Classroom interaction: Potential or problem? The case of Karagwe. *International Journal of Educational Development*, 30(2), 145-150. doi: 10.1016/j.ijedudev.2009.03.007.
- Wei, L. (2018). Translanguaging as a practical theory of language, *Applied Linguistics*, 39(1), 9–30. <https://doi.org/10.1093/applin/amx039>
- *Wessel-Powell, C., Kargin, T., & Wohlwend, K. E. (2016). Enriching and assessing young children's multimodal storytelling. *The Reading Teacher*, 70(2), 167-178.
- *White, E. J., Redder, B., & Peter, M. (2015). The work of the eye in infant pedagogy: A dialogic encounter of 'seeing' in an education and care setting. *International Journal of Early Childhood*, 47(2), 283–299. <https://doi.org/10.1007/s13158-015-0139-8>
- *White, E. J., & Redder, B. (2015). Proximity with under two year-olds in early childhood education: a silent pedagogical encounter. *Early Child Development and Care*, 185(11-12), 1783-1800. doi: 10.1080/03004430.2015.1028386.
- Whorrall, J., & Cabell, S. (2015). Supporting children's oral language development in the preschool classroom. *Early Childhood Education Journal*, 44, 335-341. doi:10.1007/s10643-015-0719-0.
- Wood, E. & Hall, E. (2011). Drawings as spaces for intellectual play. *International Journal of Early Years Education*, 19, 267–281.
- Wright, S. (2011). Meaning, mediation and mythology. In D. Faulkner & E. Coates (Eds.), *Exploring children's creative narratives* (pp. 157-176). Routledge.
- Wright, S. (2014). The voice of art: Understanding children's graphic-narrative-embodied communication. In D. Machin (Ed.), *Visual communication* (pp. 515–534). De Gruyter.
- *Yang, S. (2016). Supporting oral narrative development of kindergarten English language learners using multimedia stories. *Journal of Interactive Learning Research*, 27(4), 381-397.
- *Yazici, Z, Genç İltar, B. & Glover, P. (2010). How bilingual is bilingual? Mother-tongue proficiency and learning through a second language. *International Journal of Early Years Education*, 18(3), 259-268. doi: 10.1080/09669760.2010.521297

Yelland, N. (2007). *Shift to the future. Rethinking learning with new technologies in education*. Routledge.

Chapter Seven: Exploring and Thinking

Authors: Cora Gillic, Grainne McKenna, Sandra O’Neill

Abstract

The Literature Review took a systematic approach to identify, explore, and map contemporary research on early childhood curricula that affirms *Aistear’s* existing Aims and Learning Goals and identifies potential areas for enhancement aligned with contemporary literature. The search strategy used key terms and concepts from the Aims and Learning Goals of Exploring and Thinking to search four databases (Education Research Complete, ERIC International, Web of Science, and PsycINFO) for peer-reviewed journal articles, book chapters, and scholarly reviews published in English in the last eleven years (2010-2021). The search identified 348 articles that were reviewed to determine their relevance to early childhood curriculum frameworks. Twenty-three studies and articles met the criterion and were considered alongside seminal works, grey literature, and recommendations from consultation with internationally recognised experts in early childhood. Across the Theme of Exploring and Thinking, the topics and trends within contemporary literature broadly affirm the relevance of *Aistear’s* existing Aims and Learning Goals, highlighting children’s innate curiosity, creativity, and cognitive competence. Six key areas emerged that reflect trends, interests, and discourse concerning the Theme of Exploring and Thinking: Sustainability, Science, Technology, and Engineering and Mathematics (STEM), Funds of Knowledge, Dispositions, Working theories, Purposeful Pedagogies, Digital Childhoods, and Risky Play. The literature considered reflects greater research interest in children’s digital lives and virtual worlds; this reflects international interest and policy commitments to STEM in educational research in the last decade.

Introduction

Aistear recognises and affirms children as competent, confident, capable learners and the Theme of Exploring and Thinking recognises children’s natural curiosity, creativity, and enquiry. The curriculum framework promotes the creation of environments, learning experiences, and interactions that encourage infants, toddlers, and young children to explore and make sense of objects, people, and places through play, investigation, and enquiry (NCCA, 2009). This recognition of children as agentic, and capable of influencing aspects of their lives and the environments in which they live and play is well established (James & Prout, 1997). Children’s capacity for problem-solving, deep thinking, and active exploration

is embedded across international examples of early childhood curricula and learning frameworks, including: New Zealand, Finland, Scotland, England, Belgium, Minnesota, and Washington (Barblett et al., 2021). Across these curricula, children are identified as social, relational, and sensorial learners, constructing working theories based on their experiences (Hedges & Cooper, 2014). They are recognised and valued as “natural scientists and engineers” (Tippett & Milford, 2017, p. 67), curious, creative, risk-takers, ready to explore their worlds (DeJarnette, 2018; Simoncini & Lasen, 2018).

The current review considered contemporary literature and studies aligned with the Aims and Learning Goals of Exploring and Thinking. The search terms (Chapter Two) resulted in the selection of 23 articles that provide insights into current trends and conceptualisation of children as explorers and deep thinkers. The selected literature broadly affirms the existing Aims and Learning Goals but also highlights a growing recognition of children’s digital lives and experiences of Science, Technology, and Engineering and Mathematics (STEM) in early childhood that is not overt in the current iteration of *Aistear*. In the last five years, STEM education has become a policy focus in Ireland. The STEM Education Policy and Implementation Plan (Department of Education and Skills, 2017) and updated Early Years Education Inspection Tool (DES Inspectorate, 2018) highlight the importance of STEM education in early childhood. The review highlights the importance of children’s discovery through well-planned learning experiences that respond to children’s interests, funds of knowledge, and dispositions.

Aim 1: Children Will Learn About and Make Sense of the World Around Them

Aistear recognises young children as active, agentic citizens that “engage, explore and experiment in their environment” (NCCA, 2009, p. 44). The Aims and Learning Goals of Exploring and Thinking consider experiences and opportunities that support children in engaging, exploring, and making sense of the world around them. The current review consistently highlighted children’s natural curiosity and sense of wonder and the value and importance of playful experiences to encourage these dispositions, deep-thinking, and inquiry-based learning (Bjorklund, 2014; Byrnes et al., 2018; Edwards, 2016; Samarapungavan et al., 2011). The available literature highlighted how playful experiences engage children and the benefits and rich potential of guided play and intentional pedagogies that facilitate learning and development in play-based practice in early childhood contexts (Edwards, 2017; Kidd et al., 2018; Pyle et al., 2019; Pyle & Alaca, 2018). The Learning

Goals of Exploring and Thinking also emphasise children's rights and responsibilities as members of their community and their important role in caring for themselves and their environment. The current literature aligns with *Aistear*'s focus on rights-based approaches that provide children with learning experiences that support them to respect others, live peacefully, and protect the environment (United Nations, 1989).

Sustainability

The conceptualisation of children as active participants, community members, and stewards of their immediate and wider environments in *Aistear* is aligned with recent studies of children's environmental rights and their role in sustainable development (Engdahl, 2015; Havu-Nuutinen et al., 2021; Makuch et al., 2019). In the current review, 'sustainability' was a trend emerging from the literature across all four Themes of *Aistear*, particularly concerning Exploring and Thinking. Increasingly, young children are positioned as citizens, with rights and responsibilities to support the future sustainability of people and places in their immediate, local, and global environments (Havu-Nuutinen et al., 2021). Children now enter a world with serious environmental, social, and economic sustainability concerns (Engdahl, 2015; Pollock et al., 2017). The literature highlights the inter-connectedness, interactions, and relationships between humans, culture, society, and the natural world, emphasising the importance of sustainable development practices for our present and future (Edwards & Cutter-Mackenzie, 2013; Prince, 2010). The current review noted that a significant proportion of the literature focuses on environmental sustainability and children's engagement with and protection of the natural world. Sustainability is often synonymous with environmental education and stewardship; however, a growing body of work focuses on sustainable development goals. Education for Sustainable Development (EST) aims to contribute to global development by familiarising young children with an awareness of social, economic, and environmental conditions that impact survival, health, well-being, and opportunities. These approaches aim to develop skills and abilities and can help children understand the issues for sustainable development and develop empathic attitudes and respect (UNICEF, 2020; Yan & Fengfeng, 2008).

Children require multiple and many opportunities to develop a conceptual understanding of economic, social, and environmental sustainability, including an awareness and understanding of their immediate environment, as well as a growing knowledge and appreciation for ways of living that respect the earth and all that live on it (Bahtić & Višnjić Jevtić, 2020; Benner et al., 2017; Hedefalk et al., 2015). Despite reservations that young

children should be shielded from such real issues (Duhn, 2012), early childhood education has been positioned in both research and policy as a site for young children to pose questions and think critically about the consequences of human action and interaction with the environment (Prince, 2010; Engdahl, 2015).

Internationally, multiple early childhood curricula and curricular frameworks explicitly reference sustainability practices and environmental education, with specific goals relating to sustainability and environmental education (Barblett et al., 2021). This focus is particularly evident in the Swedish preschool curriculum, where environmental education and sustainability have been written into the core values of the curriculum framework. Early childhood is an important stage where knowledge and understanding of economic, social, and environmental sustainability lay the foundations for children's interest and responsibilities as citizens and their participation in civic life for sustainable development (Swedish National Agency for Education, 2018). *Aistear* also refers to concepts of sustainability and sustainable practices. Exploring and Thinking promotes children's opportunities and experiences to "engage, explore and experiment in their environment" (NCCA, 2009, p. 44) and to demonstrate an awareness of themselves and others within their community. These Aims align well with contemporary literature that advocates for children's ability to interpret and understand the importance of sustainable living practices (Engdahl, 2015; Edwards & Cutter-Mackenzie, 2013). The current review suggests that young children are not only interested in the state of the natural world, but they are also aware of wider issues of sustainability and capable of engaging with such important issues critically (Engdahl, 2015). While there is a growing body of literature and discourse in early childhood about the importance of children's awareness and understanding of sustainability and sustainable practices, there is no defined consensus on 'how' this can be achieved (Edwards & Cutter-Mackenzie, 2013).

Edwards and Cutter-Mackenzie (2013) examined how playful pedagogies can engage young children in exploring biodiversity issues, a component of sustainability education. Across 16 settings, they observed different play-based approaches to bio-diversity topics and experiences: open-ended play, modelled play, and purposefully framed play. The study suggests that a purposefully-framed approach to play supported children's learning outcomes more than other forms of play (i.e. free play or discovery learning). The study indicates that environmental sustainability education requires a delicate pedagogical balance of knowledge, values, and action and the development of pro-environment values and associated actions. Edwards and Cutter-Mackenzie (2013) assert that children's learning in environmental

education needs more than a series of experiences, but rather playful opportunities and experiences grounded in and built upon knowledge and understanding of the natural world.

Pollock and colleagues (2017) suggest that the most effective early childhood sustainability education programmes adopt a holistic or community approach, including the children, their educators, and caregivers in discussions on waste management and our environmental responsibility. Pollock and colleague's (2017) study found that environmental explorations and knowledge shared between early childhood settings and home learning environments positively affected children's engagement with sustainable living processes such as waste management. The study suggests that early childhood educators play a critical role in engaging children in sustainable living discourses and enabling young children to think critically about how their actions impact the environment. Despite this, Engdahl (2015) noted that early childhood educators are not always aware of or underestimate children's knowledge, competencies, and interest in environmental issues. Engdahl (2015) asserts that educators can strengthen children's voices and promote their interests through integrated thematic-oriented teaching approaches and purposeful, conscious listening to children's ideas and understanding of sustainable development and environmental issues.

Prince (2010) highlighted the importance of connecting with children's home learning environments to promote and develop learning activities on topics related to sustainability. The study espoused the value of embedding concepts of sustainability, and environmental learning within early childhood curricula to promote awareness of the issues increases among children and staff, parents, guardians, and the local community. This approach is aligned with the focus on environment and community in *Exploring and Thinking*. However, the current literature would suggest a further prioritisation of individual and community responsibilities aligned with sustainable development, including social, cultural, and economic development and protection and stewardship of the natural world.

Physical Skills and Risky Play

Aistear pays particular attention to the many ways in which children learn and develop through active learning, play, and hands-on experiences (NCCA, 2009). A significant body of contemporary literature provides evidence for the value and benefits of play-based approaches to learning (Kinkead-Clark, 2018; Pyle et al., 2017; Taylor & Boyer, 2020). Contemporary literature recognises and promotes play as instrumental to learning; this is embedded across multiple examples of international early childhood curricula (Alcock, 2013; Barblett et al., 2021; Brogaard-Clausen et al., 2022; Chicken, 2020; Grieshaber et al.,

2021). Despite broad agreement on the positive impact of play-based activities on learning and development, there remains ongoing discussion as to definitions of play, perspectives, and practices on types of play, and the role of adults in facilitating and supporting children's learning and development (Alcock, 2013; Edwards, 2017; Pyle & Alaca, 2018). Concepts and commitments to play-based learning are embedded across *Aistear*; however, children's experience of play, in terms of exploration, physical skill, and resilience, are particularly relevant to the Theme of Exploring and Thinking.

Within the Aims, there is a focus on experiences that ensure children engage, explore, and experiment in their environment. In particular, it focuses on the importance of physical skills, including "skills to manipulate objects and materials" (NCCA, 2009, p. 44). The Learning Goals also refer to experiences that support children to learn about the natural environment and develop a sense of time, space, and shape. These Learning Goals are particularly relevant to studies on children's physical skills and risky play experiences in early childhood settings and contexts. Risky play is positively associated with increased well-being, involvement, and physical activity, suggesting that risky play benefits young children's holistic development. Sando and colleagues (2021) suggest that the inclusion of risky play in early childhood settings far outweighs the threat of potential injuries asserting that this self-selected, often autonomous activity supports children's intrinsic motivation, mastery, and sense of accomplishment (Sando et al., 2021). Sandseter (2010) found that children experience positive feelings of achievement and accomplishment due to taking risks and extending their skills during risky play, particularly outdoors. It was found that children increased the height and pace at which they worked and took greater physical risks in exploring their environments and capabilities. More recent studies have echoed these findings that highlight children's increased capacity, competency, and exploration when engaging in risky play, particularly in outdoor environments (Harper & Obee, 2021; Kleppe, 2018; Obee et al., 2021; Sandseter et al., 2021).

In 2020, Sandseter and colleague's video observation study of 80 Norwegian children in ECEC Settings (3-5 years) across eight ECEC institutions documented children's engagement in risky play indoors and outdoors when they are free to choose what to play. The study considered different forms of risky play, including play with great heights, high speed, dangerous tools, dangerous elements, rough and tumble, exploring alone, and play with "impact", i.e. crashing into objects (p. 307). Play categorised as 'risky' was registered in 20% of all the observations, and the mean time spent engaged in risky play (as a percentage of children's free play time) was 10.3%. The average time spent on risky play in outdoor

spaces was 13.2% and 7.2% of the free-play time during indoor play; this suggests that while children are more likely to engage in risky play outdoor, they also have an interest and engagement in risk within indoor environments. Children's time spent on risky play was comparable to the time spent engaged in symbolic play but less than time spent on constructive play (30%) or physically active play (23%) (Sandseter et al., 2021; Storli & Sandseter, 2019). The study did not note any significant gender difference and that rough and tumble play, in particular, occurs in both genders. Of all the play types observed, play with great height was most commonly observed (4.1%), followed by play with great speed (2.9%), rough and tumble play (2.7%), play with dangerous tools (0.4%), and play with impact and vicarious play both being observed 0.2% of the time. Findings also showed that as children's age increases by one year, engagement with risky play increases by 2.5%. The findings from this study cannot necessarily be generalised to Irish settings as there are cultural differences in attitudes toward outdoor and risky play and differences in the physical environment and materials available to children in early childhood settings. In this study, each outdoor space included fixed playground equipment like swings, slides, sandpits, climbing equipment, and play materials like tricycles, buckets, toy trucks, cups, and spades.

The availability of rich and well-resourced learning environments for risky play emerges as a key trend within current literature and contemporary curriculum approaches from Norway, Australia and New Zealand (Barblett et al., 2021; Harper & Obee, 2021; Little & Stapleton, 2021; Sandseter et al., 2021). Providing adequate space, equipment, clothing, and materials encourages and enables children to explore and experiment in their natural environments (Sandseter et al., 2021). Children's access to outdoor environments throughout the year also supports their understanding of the concept of change, as natural environments change in response to the weather, time, usage and care (Kleppe, 2018). A study by Kleppe (2018) of environments that afford elements of risky play for 1-3-year-olds found that to provide a broad and diverse range of age-appropriate risky experiences for toddlers, early childhood settings need to furnish indoor and outdoor spaces with items that afford the risk, e.g. slides, swings, and varied surfaces. Settings should also facilitate the mixing of ages so that toddlers can observe older children engaging in risky play and experience the activity through others. Findings also suggest that in centres that provide more opportunities for risky play, children's play was more varied as they experienced a wider variety of opportunities for potential risk and challenges. Toddlers should be able to demonstrate agency and change their environments and move objects around to suit their play. Combining loose parts and natural

surfaces facilitates higher levels of exploration, risk-taking, and development of children's ability to deal with the unexpected and encounter "realistic risks" (Kleppe, 2018, p. 270).

In addition to enriching indoor and outdoor environments, risky play is best facilitated and supported by "knowledgeable and competent ECEC teachers" that have positive attitudes toward opportunities for risk-taking and exploration (Sando et al., 2021, p. 1447). Sandseter and colleagues (2020) note that if parents and early childhood staff are averse to risk, this can negatively impact young children's engagement with risky play activities. Sandseter and colleagues (2020) international study of 32 ECEC educators and 184 parents showed that cultural differences exist in young children's engagement with risky play. Parents in Northern Europe were more supportive of risky play experiences than their counterparts in Southern Europe. However, Gunderson and colleagues (2016) showed that Norwegian children are not playing outdoors as much as they did in the past. McFarland and Laird (2018) noted cultural differences in attitudes towards risky outdoor play among Australian and US early childhood educators. Australian educators viewed risky play as fundamental to children's holistic development, while those in the US were less open to facilitating risky play in their settings. The paper suggests that this might be due to fear of litigation resulting from child injury (Harper & Obee, 2021; Obee et al., 2021). Given the influence of educators on children's engagement with risky play experiences, the review suggests that curriculum frameworks can promote awareness and understanding of the benefits of risky play in supporting children's sense of competency, mastery, achievement and well-being. Positive adult attitudes towards the facilitation of risky play for young children are paramount for the opportunities for risky play in early childhood environments (McFarland & Laird, 2018; Sandseter et al., 2019), with adults needing to balance the benefits of risky play to children's holistic development against safety issues (Sandseter et al., 2021). *Aistear* references these key concepts and ideas, but the existing Aims and Learning Goals of Exploring and Thinking do not explicitly refer to the concept of 'risk'.

Mathematical Skills and Concepts

Children's capacity for reasoning, problem-solving, and deep thinking begins in infancy and is supported and enhanced by children's everyday application of mathematical and scientific concepts. Sarama and Clements (2009; 2017; 2021) have consistently highlighted children's often underestimated potential and capacity to access and understand mathematical concepts that are complex, deep, and broad. Within an Irish context, Dooley and colleagues (2014) argue that mathematical proficiency emerges in early childhood and is

supported by pedagogical practices that engage children in high-quality experiences afforded by enriching environments, responsive relationships, and playful learning experiences. Children's natural curiosity and ability to explore and understand mathematical concepts such as matching, comparing, ordering, and sorting are highlighted in *Exploring and Thinking* (NCCA, 2009).

Studies considered as part of the current review attest to young children's ability to master mathematical concepts and assert that this is supported by high-quality mathematical learning experiences and opportunities in early childhood and before formal schooling commences (Dunphy et al., 2014; Knaus, 2017; Moss et al., 2015). In particular, they suggest that early mathematics education should engage children in sustained interactions and experiences that allow for exploration of key concepts and ideas such as: sets, number sense, counting, operations, pattern, measurement, and shape. A deep and broad understanding of these foundational mathematical concepts facilitates early childhood educators' noticing, interpreting, and enhancing young children's engagement with mathematical ideas (Dockett & Goff, 2013; Lee, 2017). These learning experiences occur within mathematically rich environments (Linder et al., 2013) and are aligned with children's interests, dispositions, and play preferences. The development of knowledge and understanding is supported by adults trained in mathematical content and associated playful pedagogies (Linder et al., 2013; Cohrssen et al., 2013; Knaus, 2017).

Within an Irish context, it has been suggested that early childhood educators are not provided extensive training in mathematics content and pedagogical knowledge (DES, 2017a). Similar findings from studies in the USA and England indicate that early childhood educators receive less pre- and in-service training in mathematics, comparable to literacy (Cohrssen et al., 2013; Melhuish, 2016). Knaus (2017) noted the positive impact of two professional development sessions that promoted children's experiences of mathematical concepts and everyday experiences and opportunities for supporting emergent mathematical skills and understanding. The study found that educators had increased confidence in engaging with the subject's mathematical content with young children following these support sessions. While short training sessions can be useful, Linder and Simpson (2018) identified that professional development using a workshop format is insufficient and that long-term PD programmes are more beneficial. Early childhood educators require further training focusing on mathematical skills and concept development aligned with children's capacity and curiosity. Linder and colleagues (2013) present strategies to strengthen early mathematics education in early childhood settings and suggest approaches and pedagogical

practices that encourage children to explore, compare, sort, match, and order. Drawing from the Reggio Emilia approach, the study presents opportunities for exploring concepts, places, and objects through project work, such as a community vegetable garden. The article describes how one photograph of a vegetable market presents multiple opportunities for “correspondence, sequencing, size comparison, direction, predicting, and other mathematical processes” (Linder et al., 2013, p. 32). These experiences are supported through engagement, participation, and discourse with educators acting as facilitators, asking open-ended questions, and supporting children’s exploration as they work collaboratively to explore mathematical concepts through meaningful tasks (Linder et al., 2013).

Within current studies on early childhood curriculum, there was little reference to the early mathematical experiences of infants and young children; this is in keeping with the findings of a recent systematic review of mathematics education for children under four (MacDonald & Murphy, 2021). Despite awareness and recognition of young children’s capacity, there is a shortage of studies supporting understanding mathematical learning experiences for babies and toddlers. A small but significant body of research on mathematics education with infants and toddlers suggests that mathematical awareness and competence commence in early infancy, and these skills and dispositions should be recognised and responded to with high-quality environments and learning experiences that promote and nurture mathematical ideas (de Hevia, 2016; Johnston & Degotardi, 2020; Wang & Feigenson, 2019).

Chen and colleagues (2017) identified four ‘precursor mathematical concepts’ they consider important for babies and toddlers to engage with attribute, comparison, pattern, and change. These precursor concepts come before more defined mathematical ideas, such as numbers or measurements, but influence the development of more sophisticated math skills. These concepts are necessary for developing several foundational early math concepts. Chen and colleagues (2017) propose that educators who work with children birth-3 engage in the Carefully Attend Intentionally Respond (CAIR) approach when engaging very young children with mathematical concepts. There are similarities between the CAIR approach and intentional teaching as educators respond to children’s mathematical explorations through mathematical talk and labelling. Franzén (2015) observed that, for toddlers, mathematical experiences are firmly rooted in everyday occurrences, and educators must be open and attuned to interpreting and extending children’s learning. The research contends that educators require additional training to foster emergent mathematical understanding in infants and toddlers (Chen et al., 2017).

There are multiple references to mathematical concepts in Exploring and Thinking, including number, measure, time, space, and shape. These key concepts support foundations of understanding and knowledge that stimulate mathematical exploration and thinking (Clements & Sarama, 2016). The current review affirms the importance of a curriculum that promotes opportunities for infants, toddlers, and young children to engage in learning experiences that promote mathematical competencies. These opportunities are best supported by enriching environments and confident early childhood educators equipped with knowledge, skills, strategies, and positive attitudes that support mathematical learning opportunities (MacDonald & Murphy, 2021).

Children are naturally curious, using their bodies, senses, and mind to explore and develop an understanding of the world around them. Experiences in early childhood lay important foundations for how children come to engage with their environment and community. The current review highlights the importance of experiences that recognise and respond to children's rights and responsibilities regarding sustainable practices and stewardship of the natural world. The literature validates *Aistear*'s focus on hands-on, physical experiences that support children's exploration and engagement with nature and highlights the importance, value, and joy that risky-play experiences offer young children. Children's skills, abilities and interests are present from early infancy, particularly curiosity and competencies in various mathematical concepts and processes. Updating *Aistear* presents an opportunity to embed principles of sustainable development within and across the curriculum, highlighting children's capacity and capabilities to explore, understand, and influence the environment and their communities.

Aim 2: Children Will Develop and Use Skills and Strategies for Observing, Questioning, Investigating, Understanding, Negotiating, and Problem-solving, and Come to See Themselves as Explorers and Thinkers.

Early childhood is recognised as a critical period in which children begin to establish an understanding of themselves, others, and the world around them, and experiences of early childhood education influence, support, and enhance this process (Desouza, 2017; Havu-Nuutinen et al., 2021; Salehjee, 2020; Samarapungavan et al., 2011). Contemporary views of children as competent and capable enquirers and problem-solvers permeate multiple international early childhood curricula, including: Australia, New Zealand, Norway, Sweden, Japan, Korea, and Ireland. In their book 'How babies think: The science of childhood', Gopnik and colleagues (2000) assert that from early infancy, children "consider evidence,

draw conclusions, do experiments, solve problems and search for truth” (p. 13). The development process is described as scientific discovery and inquiry as children explore, consider, revise, and build upon their experiences, knowledge, and understanding to make sense of the world. Within this critical period, children require access to people and places that facilitate thinking, exploration, problem-solving, and learning. *Aistear* promotes the development of skills and strategies for “observing, questioning, investigating, understanding, negotiating, and problem-solving, and come to see themselves as explorers and thinkers” (NCCA, 2009, p. 44). This promotion of opportunities to engage with scientific concepts and ideas is aligned with international approaches that advocate for engagement in scientific inquiry through experiences of science, technology, engineering, and math (STEM) to provide meaningful opportunities for all children to explore, investigate, and see themselves as learners (Fleer, 2013, 2018; Havu-Nuutinen et al., 2021; McClure et al., 2017; Tao et al., 2012).

Science, Technology, Engineering, and Mathematics (STEM)

Contemporary literature recognises children as “natural scientists” (Larimore, 2020, p. 706) whose curiosity and motivation to explore and understand supports confidence and competence in science, technology, engineering, and math (STEM) (McClure et al., 2017). Howitt and Blake (2010, as cited in Campbell et al., 2021) state that “where there is a child there is curiosity and where there is curiosity there is science” (p. 3). *Aistear* highlights opportunities and experiences that develop skills and strategies to explore and experience the world around them by “capturing children’s interest and curiosity” (NCCA, 2009, p. 34). The potential of ‘science’ to excite, enthuse, and engage children and promote skills and strategies for life and learning has resulted in the prioritisation of science across international early childhood curricula and policy. This interest has resulted in a flurry of research within the broader theme of STEM (science, technology, engineering, and mathematics) education in the last decade. These studies were prevalent within the current review. The studies highlighted the potential and possibilities offered by STEM education, particularly the dispositions and content knowledge required to provide children with opportunities to engage in STEM experiences (Clements & Sarama, 2016).

While it is recognised that children are “inherently curious and equipped with basic capacities and dispositions to make sense of the world around them” (Spaepen et al., 2017, p. 13), these skills do not persist without appropriate support, encouragement, and experiences that sustain children’s interest and investigation. Internationally, a shared recognition of

children's innate competence and confidence in exploring, questioning, investigating, and negotiating is reflected in policy that promotes STEM education in early childhood (Park et al., 2017). However, there are limited examples of specific references to STEM knowledge and skills across international early childhood curricula and frameworks. In a comparison of Finnish and Australian frameworks, despite wider policy commitments to STEM, the curriculum focuses on general learning skills and dispositions (Havu-Nuutinen et al., 2021) and the educator's role in science education is not clearly defined. The educator is positioned as a guide to learning, a manager and a gatekeeper of STEM learning environments and equipment. Educators are positioned to support children's attitudes and dispositions rather than guide the development of scientific skills such as problem-solving and critical thinking (Havu-Nuutinen et al., 2021). It has been suggested that a lack of specific learning goals and STEM practice guidance in curricular frameworks may inhibit children's opportunities to participate in meaningful scientific activity and learning in early childhood settings (Havu-Nuutinen et al., 2021).

A key trend emerging from the current review was the importance of recognising and naming STEM experiences, critical thinking, and logic in daily life, and using these to plan and prepare for learning experiences that extend and consolidate children's knowledge (Tingle Broderick et al., 2021). Several studies suggest that children learn best when they use their everyday experiences and unique contexts to make connections and associations between what they already know and new information (Havu-Nuutinen et al., 2021; Larimore, 2020; Salehjee, 2020; Samarapungavan et al., 2011). This includes a recognition of everyday science experiences related to physical, chemical, biological, and environmental science that are part of children's natural and observable phenomena in everyday life; a bowl that floats, playground shadows, plants, and animals (Roychoudhury, 2014). Saçkes et al. (2011) found that children's experiences of participation in cooking activities in early childhood were correlated with later science achievement, highlighting the long-term impact of science activity through everyday activities and contexts in early childhood environments. This approach places less emphasis on specialised equipment, facts, and skills but on developing appropriate and relevant content knowledge that reflects children's everyday lives and unique contexts (Spaepen et al., 2017). Rather than presenting children with science 'tricks', the Early Childhood STEM Working Group from Erikson Institute and UChicago STEM Education recommend drawing children's attention to 'big ideas' in science, engineering, and mathematics. For example, in the Engineering theme, children will understand that materials have properties through exploring, sorting, describing and

comparing everyday items such as sandpaper, felt, plastic, and wool (Spaepen et al., 2017). The literature emphasises the important role of the educator in recognising and responding to STEM content areas and promoting ‘big ideas’ through knowledge of scientific content and processes that influence teaching and learning experiences.

Studies emerging from Fler’s Conceptual PlayLab focus on play-based models and approaches to STEM teaching and learning for young children that respond to children’s natural desire to play while intentionally deepening their explorations to support science learning (Colliver & Fler, 2016; Fler, 2021). A practice emerging from the Conceptual PlayLab is Engineering PlayWorld (Fler, 2021), a form of play practice where children create and develop imaginary play scenarios that require engineering concepts and practices to solve a personally meaningful problem. The study highlighted the critical role of teachers in creating motivating conditions in play-based settings to promote and extend engineering education. The study proposes a model of practice and pedagogy that is purposefully aligned with play-based settings, promoting ‘big ideas’ and problem-solving through games, role-play, imaginary play, and physical movement. The approach recognises children’s choices, interests, and natural dispositions for play as central to “raising the consciousness of engineering concepts” (p. 596). PlayWorld also pays close attention to the pedagogical practices that support learning, such as goal setting, planning, researching, team work, and reflection.

Clements and Sarama (2016) suggest that children are not always afforded opportunities to engage with playful STEM learning during their preschool years because of a lack of attention to STEM concepts and strategies for inquiry (Clements & Sarama, 2016). They propose ‘learning trajectories’ as a tool to support young children’s engagement with and learning STEM concepts. Learning trajectories have three components: a learning goal, a developmental progression for a particular concept, and instructional activities. The trajectories are supported by the educator, who either responds to a child’s interest in suggesting a learning ‘goal’ or area of understanding and then supports the progression through questioning, investigating and problem-solving, which is supported by defined tasks and experiences to support STEM learning (Clements & Sarama, 2016). The current review highlighted the powerful learning experiences that can result from guided and instructional approaches that identify a learning object or goal and through a process of scaffolding, feedback, prompting, and encouragement to further children’s concept development and knowledge (Bjorklund, 2014; Clements & Sarama, 2016; McLaughlin & Cherrington, 2018).

Intentional Teaching and Purposeful Pedagogies

A key theme to emerge from the literature, particularly concerning STEM learning and early childhood curriculum, is the concept of Intentional Pedagogy, also referred to as Intentional Teaching (Kilderry, 2015; Leggett & Ford, 2013; McLaughlin & Cherrington, 2018). Intentional pedagogy can be defined as a responsive adult intervention with a purpose, i.e. intentional pedagogical interactions to support the achievement of a learning goal (Grieshaber et al. 2021, citing Epstein, 2007). Internationally, this responsive, purposeful, and intentional pedagogy has gained prominence and recognition (Barblett et al., 2021). Björklund (2014) contends that intentional teaching is a ‘powerful teaching strategy’ when engaging young children in activities with pre-determined learning goals that support children’s conceptual understanding. Intentional interactions such as these have been proven to increase engagement and lead to higher-order thinking and conceptual understanding (Fisher et al., 2013; Weisberg et al., 2013).

The concept can be misinterpreted despite evidence demonstrating the learning and development outcomes of intentional teaching approaches, and in wider discourse in early childhood, it remains a contested concept (Grieshaber et al., 2021). Edwards (2017) notes that an intentional pedagogy agenda can appear at odds with the familiar, well-established play pedagogy prevalent in many early childhood approaches. However, current studies highlight the important role of educators in facilitating, modelling, provoking inquiry, offering solutions, and questioning problem-solving strategies to support and encourage children’s understanding and exploration of new ideas (Kirkby et al., 2018; Leggett, 2017; Lewis et al., 2019; McLaughlin & Cherrington, 2018). It is argued that effective intentional pedagogies require early childhood educators to be equipped with subject knowledge and skills that encourage and promote goal-oriented activity that nurtures children’s curiosity, creativity and playful nature to promote learning and development (Leggett, 2017; Weisberg et al., 2013).

Educators' understanding of what it means to teach intentionally influences pedagogical decisions and interactions. Kennedy (2014) suggests that intentional teaching in early childhood is purposeful and is not interchangeable with a more formal approach to education. Edwards (2017) asserts that intentional teaching requires deliberate pedagogical actions by educators who are required to adopt different roles, at different times, with different children; these roles include play partnership, facilitation of free-play and exploration, and intentional approaches that connect and extend content knowledge and build dispositions for learning and being social (Kennedy & Barblett, 2016; Pascal et al., 2019). Pyle and Danniels (2017) suggest that educators require a range of practices to facilitate

learning and development in play-based learning, including: sustained shared thinking (Siraj-Blatchford, 2009), modelling, questioning, and direct adult-led learning experiences (Kirkby et al., 2018).

Grieshaber and colleagues' (2021) scoping review of 101 studies exploring intentional teaching in early childhood education highlighted the effectiveness of intentional teaching practices in early literacy development. It was noted that relatively few studies explored intentional pedagogical strategies for other areas such as numeracy or science, and this is an area that requires further development and consideration. Contemporary studies, particularly in the field of STEM and oral language, offer evidence-based insight into the potential of intentional pedagogies as powerful strategies for early learning and development and that careful consideration should be given within curricula framework and guidance to the articulation and conceptualisation of intentionality and proactive engagements both by educators and children (Barblett et al., 2021; McLaughlin & Cherrington, 2018)

Funds of Knowledge

Across the Literature Review, funds of knowledge emerged as a key trend in early childhood curricula and frameworks for early learning. The importance of children's social, cultural, and historical contexts, lived experiences, and the knowledge, ideas, and beliefs that contribute to early learning were relevant across all four of *Aistear's* Themes. The context of Exploring and Thinking, seeks to support children to "make connections between new learning and what they already know" and to use their experiences and knowledge "to explore and develop" working theories about how the world works (NCCA, 2009, p. 44). Young children, including infants, draw on previous experience, existing bodies of knowledge and understanding of the world as they learn, explore, and develop. The concept of funds of knowledge is an example of participatory pedagogy that recognises children's learning identity resulting from their unique developmental and socio-cultural context. This responsive pedagogical approach supports children's learning and knowledge building through recognition and respect for their social and cultural contexts and lived experiences. This approach recognises the critical value of children's highly individualised contexts and uses existing ways of knowing and being from lived experiences to support children's learning and development (Chesworth, 2016; Hedges et al., 2011; Karabon, 2017; 't Gilde & Volman, 2021).

The current review highlighted the importance of utilising the tacit knowledge, skills, and resources children bring to early childhood settings. When preparing for a new learning

experience, children draw on existing understanding and knowledge to make sense of the world. Funds of knowledge amassed from everyday experiences of the home, their digital lives, the classroom, and the wider community influence how they collaborate with others, approach problem-solving and experience, and explore their world (Chesworth, 2016; Hedges et al., 2011). Socio-cultural theories, theories of children's interests, funds of knowledge, and converged play can combine to generate a more responsive curriculum that responds to children's interests and supports new connections and understanding (Wood et al., 2019). The challenge for early childhood educators is the recognition of children's funds of knowledge as demonstrated in their engagement in everyday practices, play preferences, interpersonal skills, and relationships and child-initiated activities (Chesworth, 2016). Children's differing ways of being and knowing can be supported or inhibited by the 'accepted' cultural practices and norms of the setting, preferences, or existing funds of knowledge that may not always align, influencing children's voice, agency, and experience. The selection of specific knowledge and interests as 'appropriate' or 'inappropriate' by educators can exclude children and exacerbate power relations within play, especially for those in the minority (Chesworth, 2016). This implicit curriculum can potentially inhibit children's recognition of themselves as competent and capable explorers and thinkers. Therefore, educators must be open to new and different ways of understanding and responding to children's unique interpretations and differing experiences. This creates opportunities for children and educators to work collaboratively to co-construct meaning, extending strategies for exploring, investigating, negotiating, and understanding. Within the literature, funds of knowledge are considered alongside other socio-cultural approaches such as children's working theories and dispositions.

Within Exploring and Thinking, there is a focus on children's innate curiosity and the process of making connections between current understanding and new knowledge. The framework encourages educators to support the development of skills and strategies for inquiry, observation, problem-solving, negotiating, and exploring. These key concepts align with current research interests and policy commitments to children's early STEM experiences. The literature indicates that an Updated *Aistear* could integrate science, technology, engineering, and mathematics learning to a greater extent.

Aim 3: Children Will Explore Ways to Represent Ideas, Feelings, Thoughts, Objects, and Actions Through Symbols.

There is a significant body of work and theoretical conceptualisation of children's representation of their ideas, feelings, and understanding dating back to the early work of Piaget (1962), Bruner (1966), and Vygotsky (1978). This seminal work offers much in terms of the purpose, function, and meaning of children's representations, and the diverse ways in which children express and symbolise multi-faceted ways of being and knowing. Contemporary literature focuses on children's documentation of their experiences and understanding through their interactions, narrative account, drawings, play, and photo documentation, particularly in the field of emergent literacy, mathematics, and science (Lehrer & Schauble, 2012; Monteiro et al., 2022; Samuelsson, 2018). Within the current review, children's representations were a key trend. These are discussed in Chapter Six, Communicating; this includes multi-modal representations such as mark-making, storytelling, play, and digital and symbolic representations. Within the context of Exploring and Thinking, the current review highlighted the relevance and importance of integrating children's experiences and representations of their digital lives and virtual worlds; this repeatedly emerged as an area where educators are likely to benefit from curricular guidance and support (Aldhafeeri et al., 2016; Bohnert & Gracia, 2021; Edwards, 2016; Enochsson & Ribaeus, 2021).

Children's Digital Lives and Virtual Worlds

Children have important knowledge and lived experiences of popular culture, digital technologies, and media that influence their play and learning. Despite recognising children's digital lives and virtual worlds, the literature suggests discord between children's experiences of digital play in their home lives and curriculum in EC settings (Nuttall et al., 2019). There are limited examples of how children's existing skills, knowledge, and understanding from their home lives are applied to learning experiences in early childhood settings. Early childhood curricula can offer guidance on responding to young children's experiences using digital technologies, media, and popular culture to harness their interests, skills, and understandings within early childhood settings (Edwards et al., 2020; Nuttall et al., 2015).

Young children represent their ideas, feelings, and thoughts in multi-modal ways through conversation, drawing, play, conversation, and model-making. Children increasingly use digital technology to represent ideas, feelings, and understanding through drawing, painting, photography, and video recording apps. As a result of this increase in children's use

of and interest in the use of digital technology, a focus on children's digital play/use of devices and their interest in digital technologies is warranted (Edwards, 2016; Edwards et al., 2019). Such interests garnered from home and community can be viewed as children's 'funds of knowledge' (Chesworth, 2016) and need to be welcomed in early childhood educational settings as well as opportunities planned for their use and integration in planned play activities. Early childhood curricula documents must be responsive rather than reproductive of past practices and beliefs about children and curriculum (Fleer, 2011); *Aistear's* Themes should reflect technology's impact on children's lives.

The use of digital technologies with and by young children is now ubiquitous. Since 1997, time spent engaged with technology in early childhood has increased by 32% (Goode et al., 2020). Technology has become a cultural tool in children's lives, enabling them to participate in entertainment and leisure activities, find information, create, communicate, and learn (Fleer, 2011; Joint Research Centre (European Commission) et al., 2018). The literature findings suggest that technology can benefit children's prosocial skills, enhance the curriculum and pedagogy, and support children's identity and belonging. For example, Ralph (2018) found that when compared to other activities observed, incidents of prosocial behaviours (sharing, comforting, helping, and cooperation) occurred more often than non-social or antisocial behaviours when using iPads.

Similarly, Rhoades (2016) found that using digital technology by children enabled both networked and collaborative learning. Students worked in organic groups, rotating as the main technology user, with watchers actively engaged in questions, suggestions, or directions. The use of digital technology can enhance preschool practices by providing a variety of complementary opportunities to enrich and transform existing curricula (Fleer, 2019; Mantilla & Edwards, 2019; Masoumi, 2015). Using the internet, apps, and programs can enhance the quality of teaching and learning activities and enrich pedagogy and curricula (Masoumi, 2015). The use of digital tools has been found to increase children's motivation and interest in topics and activities (Ralph, 2018). Investigations into the use of digital technologies by young children demonstrate the transformative and powerful agentic possibilities created when children have access to digital tools (Danby et al., 2018). Emerging digital pedagogical practice in early childhood can lead to digitally amplified practice enriching children's play experiences (Fleer, 2019). In addition, new technologies have been found to enhance children's cultural awareness mediating cultural literacy by providing access to other lives, cultures and languages. Masoumi (2015) found that technology can support children's second language acquisition and use. Evidence suggests

that technology, such as tablets, can mediate and encourage longer, more complex talk, and enhance immigrant children's language fluency, simple coding, and robotics (Masoumi, 2015).

Despite the recognised value of digital experiences and technologies, early childhood teachers can be “concerned and challenged” by children's desire to play with digital technologies (Schriever et al., 2020, p.351). The potential for learning that digital media, technologies, and popular culture generate is yet to be harnessed in early childhood educational contexts (Wood et al., 2019). To do so requires careful consideration of the benefits of these experiences, recognising young children's digital play practices and adapting curriculum and pedagogical approaches to incorporate digital technologies, digital media and popular culture (Fleer, 2011; Masoumi, 2015; Wood et al., 2019).

Aim 4: Children Will Have Positive Attitudes Toward Learning and Develop Dispositions Like Curiosity, Playfulness, Perseverance, Confidence, Resourcefulness, and Risk-taking.

High-quality early childhood education and care experiences have positive outcomes for children and wider societal benefits (Heckman, 2012; Nix et al., 2016; Sylva et al., 2004). There has been much discussion about how children's early cognitive and affective development and approaches to learning can be supported and enhanced in early childhood settings (Bashford & Bartlett, 2011; Claxton & Carr, 2004; Davitt & Ryder, 2018). Exploring and Thinking pays attention to the processes that support children's approaches to and positive dispositions for learning, such as: “playfulness, perseverance, confidence, resourcefulness, and risk-taking” (NCCA, 2009, p. 44). *Aistear* asserts that children are competent and capable, with a natural inclination for independence and autonomy. Young children can experience feelings of failure and frustration and require high levels of adult support to develop skills that welcome challenges and encourage them to keep trying; this includes the ability to take risks and be open to new ideas and uncertainty. Hedges (2021) asserts that children's exploration of new ideas and concepts depends on “a variety of knowledge, skills and dispositions towards learning” (p.1058). Hedges (2011, 2021) advocates for pedagogical approaches underpinned by socio-cultural theoretical perspectives that value and respond to children's fluid and dynamic learning trajectories. Within the current review, participatory approaches such as funds of knowledge and dispositions were aligned with the Learning Goals.. Participatory approaches and pedagogies are also

referred to in Chapter Four: Well-being ,Chapter Five: Identity and Belonging and Exploring and Thinking.

Dispositions

In early childhood education, ‘dispositions’ refers to attitudes and behaviours, the innate tendencies and inclinations that influence how children learn, behave and express themselves in different contexts (Claxton & Carr, 2004, 2004; Hedges et al., 2011). The concept of dispositions is aligned with the aims and goals of a holistic curriculum and participatory approaches to learning that highlight both the content (knowledge) and process (skills and attitudes) of children’s learning. This conceptualisation of learning is embedded in many early childhood curricula and frameworks, including; Australia, New Zealand and England (Barblett et al., 2021; Claxton & Carr, 2004; Hedges et al., 2011; Pascal et al., 2019). Children’s personalised patterns of preference and dispositions for learning can be observed in their play, interactions, exploration and engagement in learning experiences. Because dispositions are grounded in children’s familiar lived experiences, their endurance and evolution depend on their context, routines, opportunities and the response of others to their expression, particularly the response of early childhood educators (Barblett et al., 2021). *Aistear* encourages the promotion of children’s positive attitudes to learning and development and considers the importance and function of dispositions, knowledge, skills and attitudes that support children’s learning and development. Within the current literature and international curricula frameworks, there is no defined group of dispositions for learning; however, there are areas of commonality and overlap with key concepts including; autonomy, creativity, curiosity, engagement, imagination, risk-taking, resilience, persistence and problem-solving (Bashford & Bartlett, 2011; Claxton & Carr, 2004; Cooper et al., 2014; Hedges, 2021; Hedges et al., 2011).

The searches for children’s dispositions resulted in several papers focusing on children’s experiences of science, mathematics and risky play (Byrnes et al., 2018; Havu-Nuutinen et al., 2021; Siry & Kremer, 2011). The studies suggest that the dispositions necessary for scientific inquiry include curiosity, creativity, and imagination, alongside skills such as problem-solving, hypothesizing, and experimentation (Havu-Nuutinen et al., 2021). Exposure to scientific concepts, appropriate methods, positive dispositions, and prior knowledge significantly impacts children’s engagement and achievement in science (Byrnes et al., 2018). These papers highlight the need to foster both children’s understanding of scientific concepts and processes but also the support for dispositions. When fostering an

appreciation of natural science, it is crucial to build from what children already know and can do and use these emergent theories and considerations to design a curriculum (Siry & Kremer, 2011). Siry and Kremer (2011) discuss using children's interests to develop science activities, building upon the theories children have already generated about science phenomena using the subject of rainbows as an example. The study suggests that three key steps should be followed when building on children's scientific working theories. (1) Provide opportunities to discuss ideas by asking about children's prior experience or using images as prompts; this reveals children's different and often complex perceptions. (2) Provide opportunities for peer-to-peer interaction in the co-construction of science concepts at the early childhood level (use pairs to begin and expand). (3) Use children's initial explanations provide a meaningful starting point to scaffold teaching/ plan from (Siry & Kremer, 2011).

Saçkes (2014) calls for developing rich and engaging environments that invite children to explore ideas, supported and encouraged by knowledgeable educators. These studies suggest that learning dispositions such as curiosity, creativity, imagination, and scientific processes such as problem-solving, hypothesising, predicting, and experimenting are supported and enhanced by hands-on, meaningful, and relevant activities provided routinely (Byrnes et al., 2018). Children's dispositions, preferences, and habits of mind are influenced, triggered, and maintained by their everyday environments, as well as recognition, support, and encouragement from trusted, knowledgeable adults (Ainley & Ainley, 2015; McClure, 2017).

Working Theories

Hedges and Cooper (2014) suggest that while the concept of dispositions is generally accepted and understood, children's working theories require additional attention. Hedges and Cooper (2014) describe working theories as "the tentative, evolving ideas and understandings formulated by children...as they participate in the life of their families, communities and cultures..." (p.4). Working theories are described as thinking in progress, continually evolving to accommodate new information and understandings of a particular concept. Hedges and Cooper (2014) suggest that supporting children's working theories requires adults to step back and slowly observe and listen to children carefully before interacting. These actions can aid early childhood educators in understanding children's knowledge and motivations more deeply and "avoid hijacking the direction of learning" (p.15). Hedges and Cooper (2014) also suggest that early childhood educators take the time to notice and develop young children's emergent thinking and interests about how the world

works and to support emergent theories as they arise. Working theories combine knowledge, skills and strategies, attitudes and expectations, and how children's learning can present itself in ECEC settings is often varied (Hedges & Cooper, 2014). Educator responses to and encouragement of working theories can be supported by an advanced understanding of children's areas of interest (Byrnes et al., 2018). Chesworth (2016) identifies children's funds of knowledge as a critical component in forming children's working theories, and how they are used for children's exploration has been highlighted by Siry and Kremer (2011). Working theories can illustrate children's thinking and provide opportunities to explore children's understanding of their motivations and what is important to them.

Updating *Aistear* presents an opportunity to connect and promote children's funds of knowledge and respond to children's learning preferences and dispositions to promote their engagement, participation, knowledge, and understanding. The literature highlights the importance of recognising that children's learning and development results from their unique and dynamic socio-cultural contexts; children's learning and knowledge building is supported and given meaning through everyday experiences and participation in their family and community.

Concluding Comment

The Theme of *Exploring and Thinking* focuses on how children make sense and meaning of the things, places, and people in their world. Children use their life experiences and physical, cognitive, and social skills to explore, interpret, and understand and work in partnership with their family, peers, educators, and community members to learn and develop. The Aims and Goals of Exploring and Thinking are broadly aligned with trends and commentary within contemporary literature. Across the four Aims, concepts of participatory pedagogies emerge; it is recommended that concepts of funds of knowledge, dispositions, and working theories be strengthened and made more explicit in the Learning Goals. The current review highlights goal setting, guided teaching, and intentional interactions as powerful strategies for learning that increase engagement and lead to higher-order thinking and conceptual understanding; further consideration could be given to these practices within the broader context of a play-based holistic curriculum. The review also observed key trends concerning STEM education, environmental education, and broader global sustainable development goals. *Aistear* highlights the value and importance of active exploration and encourages skills of hypothesising, analysing, questioning, and problem-solving (NCCA,

2009), all of which are supported and enhanced by STEM experiences. It is suggested that greater emphasis is placed on pedagogical strategies that promote children's STEM experiences, and greater attention is paid to children's digital lives and wider sustainability concepts. Finally, in keeping with the key Principles, Aims, and Learning Goals of *Aistear*, contemporary literature highlights the important role of children's access to and agency in enabling environments (both indoors and outdoors). Children's play, movement, agency, and engagement are influenced by their ability to choose and influence the spaces they use; this requires access to well-resourced indoor and outdoor environments that enable discovery learning, risk-taking and information seeking.

References

***Denotes literature included in the mapping table**

- Ainley, M., & Ainley, J. (2015). Early science learning experiences: Triggered and maintained interest. In K. A. Renninger, M. Nieswandt, & S. Hidi (Eds.), *Interest in mathematics and science learning* (pp. 17–32). American Educational Research Association. <https://www.jstor.org/stable/j.ctt1s474j0.7>
- Alcock, S. (2013). Searching for play in early childhood care and education policy. *New Zealand Journal of Educational Studies*, 48(1), 19–33.
- Aldhafeeri, F., Palaiologou, I., & Folorunsho, A. (2016). Integration of digital technologies into play-based pedagogy in Kuwaiti early childhood education: Teachers' views, attitudes and aptitudes. *International Journal of Early Years Education*, 24(3), 342–360.
- Alsina, A. & Berciano, A. (2020). Developing informal mathematics in early childhood education. *Early Child Development and Care*, 190 (13), 2013–2031. <https://doi.org/10.1080/03004430.2018.1555823>
- Bahtić, K., & Višnjić Jevtić, A. (2020). Young children's conceptions of sustainability in Croatia. *International Journal of Early Childhood*, 52(2), 195–211. <https://doi.org/10.1007/s13158-020-00266-4>
- Barblett, L., Cartmel, J., Hadley, F., Harrison, L., Irvine, S., Bobongie-Harris, F., & Lavina, L. (2021). *National quality framework approved learning frameworks update literature review*. Australian Children's Education and Care Quality Authority (ACECQA). <https://www.acecqa.gov.au/sites/default/files/2021-09/2021NQF-ALF-UpdateLiteratureReview.PDF>
- Bashford, N., & Bartlett, C. (2011). Reshaping the learning disposition domains: Rethinking the language for infants and toddlers. *Early Childhood Folio*, 15(2), 25–29. <https://doi.org/10.18296/ecf.0149>
- Benner, A. D., Thornton, A., & Crosnoe, R. (2017). Children's exposure to sustainability practices during the transition from preschool into school and their learning and socioemotional development. *Applied Developmental Science*, 21(2), 121–134. <https://doi.org/10.1080/10888691.2016.1175946>

- *Björklund, C. (2014). Powerful teaching in preschool—A study of goal-oriented activities for conceptual learning. *International Journal of Early Years Education*, 22(4), 380–394. <https://doi.org/10.1080/09669760.2014.988603>
- Bohnert, M., & Gracia, P. (2021). Emerging digital generations? Impacts of child digital use on mental and socioemotional well-being across two cohorts in Ireland, 2007–2018. *Child Indicators Research*, 14(2), 629–659. <https://doi.org/10.1007/s12187-020-09767-z>
- Bowman, B., Day, C. B., Chen, J.-Q., Cunningham, C., Donohue, C., Espinosa, L., Gartzman, M., Greenfield, D., Leslie, D., Levine, S., McCray, J., Schauble, L., Spaepen, E., Worth, K., & College, W. (2017). *Early STEM Matters: Providing High-*
- Brogaard-Clausen, S., Guimaraes, S., Rubiano, C., & Tang, F. (2022). International perspectives on wellbeing and democratic living in early childhood curricula. *Early Years*, 1–15. <https://doi.org/10.1080/09575146.2021.2010663>
- Brownell, J., Chen, J. & Ginet, L. (2014). *Big ideas of early mathematics What teachers of young children need to know*. Pearson.
- Bruner, J. S. (1966). *Toward a theory of instruction*. Harvard University Press.
- *Byrnes, J. P., Miller-Cotto, D., & Wang, A. H. (2018). Children as mediators of their own cognitive development: The case of learning science in kindergarten and first grade. *Journal of Cognition and Development*, 19(3), 248–277. <https://doi.org/10.1080/15248372.2018.1470975>
- Campbell, C., Jobling, W., & Howitt, C. (Eds.). (2021). *Science in early childhood* (4th ed.). Cambridge University Press. doi:10.1017/9781108868419
- Chen, J. Q., Hynes-Berry, M., Abel, B., Sims, C., & Ginet, L. (2017). Nurturing mathematical thinkers from birth: The why, what, and how. *Zero to Three*, 37(5), 23.
- *Chesworth, L. (2016). A funds of knowledge approach to examining play interests: Listening to children’s and parents’ perspectives. *International Journal of Early Years Education*, 24(3), 294–308. <https://doi.org/10.1080/09669760.2016.1188370>
- Chicken, S. (2020). Creativity within the Foundation Phase curriculum: A risky business? *Education 3-13*, 48(6), 733–745. <https://doi.org/10.1080/03004279.2019.1646298>

- Claxton, G., & Carr, M. (2004). A framework for teaching learning: The dynamics of disposition. *Early Years*, 24(1), 87–97.
<https://doi.org/10.1080/09575140320001790898>
- *Clements, D. H., & Sarama, J. (2016). Math, science, and technology in the early grades. *The Future of Children*, 26(2), 75–94.
- *Cohrssen, C., Church, A., Ishimine, K., & Tayler, C. (2013). Playing with maths: Facilitating the learning in play-based learning. *Australasian Journal of Early Childhood*, 38(1), 95–99. <https://doi.org/10.1177/183693911303800115>
- Colliver, Y., & Fler, M. (2016). ‘I already know what I learned’: Young children’s perspectives on learning through play. *Early Child Development and Care*, 186(10), 1559–1570. <https://doi.org/10.1080/03004430.2015.1111880>
- Danby, S. J., Fler, M., Davidson, C., & Hatzigianni, M. (Eds.). (2018). *Digital Childhoods* (Vol. 22). Springer Singapore. <https://doi.org/10.1007/978-981-10-6484-5>
- Davitt, G., & Ryder, D. (2018). Dispositions of a responsible early childhood education leader: Voices from the field. *Journal of Educational Leadership, Policy and Practice*, 33(1), 18–31. <https://doi.org/10.21307/jelpp-2018-003>
- de Hevia, M. D. (2016). Chapter 3 - Core mathematical abilities in infants: Number and much more. In M. Cappelletti & W. Fias (Eds.), *Progress in brain research* (Vol. 227, pp. 53–74). Elsevier. <https://doi.org/10.1016/bs.pbr.2016.04.014>
- DeJarnette, N. K. (2018). Implementing STEAM in the early childhood classroom. *European Journal of STEM Education*, 3(3), 1–9.
- Department of Education and Skills, [DES]. (2017a). *STEM education implementation plan 2017-2019*. DES. <https://www.education.ie/en/The-Education-System/STEM-Education-Policy/stem-education-implementation-plan-2017-2019-.pdf>
- Department of Education and Skills, [DES]. (2017b). *STEM Education Policy Statement*. DES. <https://www.education.ie/en/The-Education-System/STEM-Education-Policy/stem-education-policy-statement-2017-2026-.pdf>

Department of Education and Skills, [DES]. (2020a). *Digital Learning 2020: Reporting on practice in Early Learning and Care, Primary and Post-Primary Contexts*. DES. <https://www.gov.ie/en/publication/c0053-digital-learning-2020-reporting-on-practice-in-early-learning-and-care-primary-and-post-primary-contexts/>

Department of Education and Skills, [DES]. (2020b). *Review of Literature to Identify a Set of Effective Interventions for Addressing Gender Balance in STEM in Early Years, Primary and Post-Primary Education Settings*. DES. <https://www.education.ie/en/Publications/Education-Reports/review-of-literature-to-identify-a-set-of-effective-interventions-for-addressing-gender-balance-in-stem.pdf>

DES Inspectorate. (2018). *A Guide to Early Years Education Inspection (EYEI)*. DES. <https://www.education.ie/en/Publications/Inspection-Reports-Publications/Evaluation-Reports-Guidelines/guide-to-early-years-education-inspections.pdf>

Desouza, J. M. S. (2017). Conceptual play and science inquiry: Using the 5E instructional model. *Pedagogies: An International Journal*, 12(4), 340–353. <https://doi.org/10.1080/1554480X.2017.1373651>

Dockett, S., & Goff, W. (2013). Noticing young children's mathematical strengths and agency. In V. Steinle, L. Ball, & C. Bordini (Eds.), *Proceedings of the 36th annual conference of the mathematics education research group of Australasia: Mathematics education: Yesterday, today and tomorrow* (pp. 771-774). Mathematics Education Research Group of Australasia.

Dooley, T., Dunphy, E., Shiel, G., with Butler, D., Corcoran, D., Farrell, T., NicMhuirí, S., O'Connor, M., & Travers, J. (2014). *Mathematics in early childhood and primary education (3-8 years): Teaching and learning*. NCCA.

Duhn, I. (2012). Making 'place' for ecological sustainability in early childhood education. *Environmental Education Research*, 18(1), 19–29. <https://doi.org/10.1080/13504622.2011.572162>

Dunphy, L., Shiel, G., Corcoran, D., Farrell, T., Mhuiri, S., & Perry, M. (2014). Mathematics in Early Childhood and Primary Education (children aged 3-8 years). *Teaching and Learning*, 18.

- *Edwards, S. (2016). New concepts of play and the problem of technology, digital media and popular-culture integration with play-based learning in early childhood education. *Technology, Pedagogy & Education*, 25(4), 513–532.
<https://doi.org/10.1080/1475939X.2015.1108929>
- *Edwards, S. (2017). Play-based learning and intentional teaching: Forever different? *Australasian Journal of Early Childhood*, 42(2), 4–11. <https://doi.org/10.23965/AJEC.42.2.01>
- *Edwards, S., & Cutter-Mackenzie, A. (2013). Pedagogical play types: What do they suggest for learning about sustainability in early childhood education? *International Journal of Early Childhood*, 45(3), 327–346. <https://doi.org/10.1007/s13158-013-0082-5>
- Edwards, S., Mantilla, A., Grieshaber, S., Nuttall, J., & Wood, E. (2020). Converged play characteristics for early childhood education: Multi-modal, global-local, and traditional-digital. *Oxford Review of Education*, 46(5), 637–660.
<https://doi.org/10.1080/03054985.2020.1750358>
- Edwards, S., Nuttall, J., Wood, E., & Grieshaber, S. (2019). New Play: A pedagogical movement for early childhood education. In D. Whitebread & D. Pino-Pasternak (Eds.), *The Sage Handbook of Developmental Psychology and Early Childhood Education* (pp. 272–287). SAGE.
- *Engdahl, I. (2015). Early childhood education for sustainability: The OMEP world project. *International Journal of Early Childhood*, 47(3), 347–366.
<https://doi.org/10.1007/s13158-015-0149-6>
- Enochsson, A.-B., & Ribaeus, K. (2021). ‘Everybody has to get a chance to learn’: Democratic aspects of digitalisation in preschool. *Early Childhood Education Journal*, 49(6), 1087–1098. <https://doi.org/10.1007/s10643-020-01117-6>
- Fisher, K., Hirsh-Pasek, K., Newcombe, N., & Golinkoff, R. (2013). Taking shape: Supporting preschoolers’ acquisition of geometric knowledge through guided play. *Child Development*, 84(6), 1872–1878 doi:10.1111/cdev.12091.
- *Fleer, M. (2011). Technologically constructed childhoods: Moving beyond a reproductive to a productive and critical view of curriculum development. *Australasian Journal of Early Childhood*, 36(1), 16–24. <https://doi.org/10.1177/183693911103600104>

- Fleer, M. (2013). Affective imagination in science education: Determining the emotional nature of scientific and technological learning of young children. *Research in Science Education*, 43(5), 2085–2106. <https://doi.org/10.1007/s11165-012-9344-8>.
- Fleer, M. (2018). Conceptual playworlds: The role of imagination in play and learning. *Early Years*, 41(4), 1–12. <https://doi.org/10.1080/09575146.2018.1549024>.
- Fleer, M. (2019). Digitally amplified practices: Beyond binaries and towards a profile of multiple digital coadjuvants. *Mind, Culture, and Activity*, 26(3), 207–220. <https://doi.org/10.1080/10749039.2019.1646289>
- Fleer, M. (2021). Re-imagining play spaces in early childhood education: Supporting girls' motive orientation to STEM in times of COVID-19. *Journal of Early Childhood Research*, 19(1), 3–20. <https://doi.org/10.1177/1476718X20969848>
- *Franzén, K. (2015). Under threes' mathematical learning. *European Early Childhood Education Research Journal*, 23(1), 43-54. <https://doi.org/10.1080/1350293X.2014.970855>
- Goode, J. A., Fomby, P., Mollborn, S., & Limburg, A. (2020). Children's technology time in two US cohorts. *Child Indicators Research*, 13(3), 1107–1132. <https://doi.org/10.1007/s12187-019-09675-x>
- Gopnik, A., Meltzoff, A. N., & Kuhl, P. (2001). *How babies think: The science of childhood*. Phoenix.
- Grieshaber, S., Nuttall, J., & Edwards, S. (2021). Multimodal play: A threshold concept for early childhood curriculum? *British Journal of Educational Technology*, 52(6), 2118–2129. <https://doi.org/10.1111/bjet.13127>
- Harper, N. J., & Obee, P. (2021). Articulating outdoor risky play in early childhood education: voices of forest and nature school practitioners. *Journal of Adventure Education and Outdoor Learning*, 21(2), 184-194.
- *Havu-Nuutinen, S., Kewalramani, S., Veresov, N., Pöntinen, S., & Kontkanen, S. (2021). Understanding early childhood science education: Comparative analysis of Australian and Finnish curricula. *Research in Science Education*, 52, 1093-1108. <https://doi.org/10.1007/s11165-020-09980-4>

- Heckman, J. J. (2012). Invest in early childhood development: Reduce deficits, strengthen the economy. *The Heckman Equation*, 7, 1-2.
- Hedefalk, M., Almqvist, J., & Östman, L. (2015). Education for sustainable development in early childhood education: A review of the research literature. *Environmental Education Research*, 21(6), 975–990. <https://doi.org/10.1080/13504622.2014.971716>
- Hedges, H. (2021). Contemporary principles to lead understandings of children’s learning: Synthesizing Vygotsky, Rogoff, Wells and Lindfors. *Early Child Development and Care*, 191(7-8), 1056-1065. <https://doi.org/10.1080/03004430.2020.1849169>
- Hedges, H., Cullen, J., & Jordan, B. (2011). Early years curriculum: Funds of knowledge as a conceptual framework for children’s interests. *Journal of Curriculum Studies*, 43(2), 185–205. <https://doi.org/10.1080/00220272.2010.511275>
- *Hedges, H., & Cooper, M. (2014). Engaging with holistic curriculum outcomes: Deconstructing ‘working theories’. *International Journal of Early Years Education*, 22(4), 395–408. <https://doi.org/10.1080/09669760.2014.968531>
- James, A., & Prout, A. (Eds.) (1997). *Constructing and reconstructing childhood: Contemporary issues in the sociological study of childhood*. Falmer Press.
- Johnston, K., & Degotardi, S. (2020). ‘More than ‘more’: Quantity and quality of mathematical language used by educators in mealtimes with infants. *International Journal of Early Years Education*, 0(0), 1–17. <https://doi.org/10.1080/09669760.2020.1848529>
- Joint Research Centre (European Commission), Chaudron, S., Di Gioia, R., & Gemo, M. (2018). *Young children (0-8) and digital technology: A qualitative study across Europe*. Publications Office of the European Union. <https://data.europa.eu/doi/10.2760/294383>
- Karabon, A. (2017). They’re lovin’ it: How preschool children mediated their funds of knowledge into dramatic play. *Early Child Development and Care*, 187(5–6), 896–909. <https://doi.org/10.1080/03004430.2016.1234467>.
- Kennedy, A. (2014). *Intentional teaching: Acting thoughtfully, deliberately and purposefully*. Early Childhood Australia. <https://www.earlychildhoodaustralia.org.au/our-publications/research-practice-series/research-practice-series-index/2014-issues/intentional-teaching-acting-thoughtfully-deliberately-purposefully/>

- Kennedy, A., & Barblett, L. (2016). *Learning and teaching through play: Supporting the Early Years Learning Framework* (Vol. 17). Early Childhood Australia.
- Kidd, J. K., Burns, M. S., & Nasser, I. (2018). *Promoting intentional teaching: The LEARN professional development model for early childhood educators*. Brookes.
<https://dialog.proquest.com/professional/docview/2461139487?accountid=15753>
- Kilderry, A. (2015). Intentional pedagogies: Insights from the past. *Australasian Journal of Early Childhood*, 40(3), 20–28. <https://doi.org/10.1177/183693911504000304>
- Kinkead-Clark, Z. (2018). What does it take to be successful in the classroom? The views of ‘experienced’ Caribbean early childhood teachers. *Early Child Development and Care*, 188(9), 1260–1270. <https://doi.org/10.1080/03004430.2017.1336167>
- Kirkby, J., Keary, A., & Walsh, L. (2018). The impact of Australian policy shifts on early childhood teachers’ understandings of intentional teaching. *European Early Childhood Education Research Journal*, 26(5), 674–687.
<https://doi.org/10.1080/1350293X.2018.1522920>
- Kleppe, R. (2018). Affordances for 1- to 3-year-olds’ risky play in Early Childhood Education and Care. *Journal of Early Childhood Research*, 16(3), 258–275.
<https://doi.org/10.1177/1476718X18762237>
- *Knaus, M. (2017). Supporting early mathematics learning in early childhood settings. *Australasian Journal of Early Childhood*, 42(3), 4–13. <https://doi.org/10.23965/AJEC.42.3.01>
- Larimore, R. A. (2020). Preschool science education: A vision for the future. *Early Childhood Education Journal*, 48(6), 703–714. <https://doi.org/10.1007/s10643-020-01033-9>
- Lee, J. E. (2017). Preschool teachers’ pedagogical content knowledge in mathematics. *International Journal of Early Childhood*, 49(2), 229–243. <https://doi.org/10.1007/s13158-017-0189-1>
- *Leggett, N. (2017). Early childhood creativity: Challenging educators in their role to intentionally develop creative thinking in children. *Early Childhood Education Journal*, 45(6), 845–853. <https://doi.org/10.1007/s10643-016-0836-4>

- Leggett, N., & Ford, M. (2013). A fine balance: Understanding the roles educator and children play as intentional teachers and intentional learners within the early years learning framework. *Australasian Journal of Early Childhood*, 38(4), 42–50. <https://doi.org/10.1177/183693911303800406>
- Lehrer, R., & Schauble, L. (2012). Seeding evolutionary thinking by engaging children in modeling its foundations. *Science Education*, 96(4), 701–724. <https://doi.org/10.1002/sce.20475>
- Lewis, R., Flear, M., & Hammer, M. (2019). Intentional teaching: Can early-childhood educators create the conditions for children’s conceptual development when following a child-centred programme? *Australasian Journal of Early Childhood*, 44(1), 6–18. <https://doi.org/10.1177/1836939119841470>
- *Linder, S. M., Powers-Costello, B., & Stegelin, D. (2011). Mathematics in early childhood: Research-based rationale and practical strategies. *Early Childhood Education Journal*, 39(1), 29–37. <https://doi.org/10.1007/s10643-010-0437-6>
- Linder, S. M., Ramey M. D., & Zambak, S. (2013). Predictors of success for school readiness: A selective review of the literature. *Early Childhood Research and Practice*, 15(1).
- Linder, S. M., & Simpson, A. (2018). Towards an understanding of early childhood mathematics education: A systematic review of the literature focusing on practicing and prospective teachers. *Contemporary Issues in Early Childhood*, 19, 274 - 296.
- Little, H., & Stapleton, M. (2021). Exploring toddlers’ rituals of ‘belonging’ through risky play in the outdoor environment. *Contemporary Issues in Early Childhood*, 1463949120987656. <https://doi.org/10.1177/1463949120987656>
- MacDonald, A., & Murphy, S. (2021). Mathematics education for children under four years of age: A systematic review of the literature. *Early Years*, 41(5), 522–539. <https://doi.org/10.1080/09575146.2019.1624507>
- Makuch, K. E., Zaman, S., & Aczel, M. R. (2019). Tomorrow’s stewards: The case for a unified international framework on the environmental rights of children. *Health and Human Rights*, 21(1), 203–214.

- Mantilla, A., & Edwards, S. (2019). Digital technology use by and with young children: A systematic review for the Statement on Young Children and Digital Technologies. *Australasian Journal of Early Childhood*, 44(2), 182–195.
<https://doi.org/10.1177/1836939119832744>
- *Masoumi, D. (2015). Preschool teachers' use of ICTs: Towards a typology of practice. *Contemporary Issues in Early Childhood*, 16(1), 5–17.
<https://doi.org/10.1177/1463949114566753>
- McClure, E. R., Guernsey, L., Clements, D. H., Bales, S. N., Nichols, J., Kendall-Taylor, N., & Levine, M. H. (2017). *Grounding science, technology, engineering, and math education in early childhood*. Joan Ganz Cooney Centre.
https://joanganzcooneycenter.org/wp-content/uploads/2017/01/jgcc_stemstartearly_final.pdf
- McFarland, L., & Laird, S. (2018). Parents' and early childhood educators' attitudes and practices in relation to children's outdoor risky play. *Early Childhood Education Journal*, 46, 1-10. doi:10.1007/s10643-017-0856-8.
- McLaughlin, T., & Cherrington, S. (2018). Creating a rich curriculum through intentional teaching. *Early Childhood Folio*, 22(1), 33–38.
- Melhuish, E. (2016). Longitudinal research and early years policy development in the UK. *International Journal of Child Care and Education Policy*, 10(1), 3.
<https://doi.org/10.1186/s40723-016-0019-1>
- Monteira, S. F., Jiménez-Aleixandre, M. P., & Siry, C. (2022). Scaffolding children's production of representations along the three years of ECE: A longitudinal study. *Research in Science Education*, 52(1), 127–158. <https://doi.org/10.1007/s11165-020-09931-z>
- Moss, J., Bruce, C. D., & Bobis, J. (2015). Young children's access to powerful mathematics ideas: A review of current challenges and new developments in the early years. In L. D. English, & D. Kirshner (Eds.), *Handbook of international research in mathematics education* (3rd ed.) (pp. 153-190). Routledge.
- National Council for Curriculum and Assessment. (2009). *Aistear: The early childhood curriculum framework*. Dublin: National Council for Curriculum and Assessment
https://curriculumonline.ie/getmedia/484bcc30-28cf-4b24-90c8-502a868bb53a/Aistear-Principles-and-Themes_EN.pdf

- Nix, R. L., Bierman, K. L., Heinrichs, B. S., Gest, S. D., Welsh, J. A., & Domitrovich, C. E. (2016). The randomized controlled trial of Head Start REDI: Sustained effects on developmental trajectories of social–emotional functioning. *Journal of Consulting and Clinical Psychology, 84*(4), 310–322. <https://doi.org/10.1037/a0039937>
- Nuttall, J., Edwards, S., Grieshaber, S., Wood, E., Mantilla, A., Katiba, T. C., & Bartlett, J. (2019). The role of cultural tools and motive objects in early childhood teachers’ curriculum decision-making about digital and popular culture play. *Professional Development in Education, 45*(5), 790–800. <https://doi.org/10.1080/19415257.2018.1511456>
- Nuttall, J., Edwards, S., Mantilla, A., Grieshaber, S., & Wood, E. (2015). The role of motive objects in early childhood teacher development concerning children’s digital play and play-based learning in early childhood curricula. *Professional Development in Education, 41*(2), 222–235. <https://doi.org/10.1080/19415257.2014.990579>
- Obee, P., Sandseter, E. B. H., & Harper, N. J. (2021). Children’s use of environmental features affording risky play in early childhood education and care. *Early Child Development and Care, 191*(16), 2607-2625. doi: [10.1080/03004430.2020.1726904](https://doi.org/10.1080/03004430.2020.1726904)
- Park, M., Dimitrov, D. M., Patterson, L. G., & Park, D. (2017). Early childhood teachers’ beliefs about readiness for teaching science, technology, engineering, and mathematics. *Journal of Early Childhood Research, 15*, 275– 291. <https://doi.org/10.1177/1476718X15614040>.
- Pascal, C., Bertram, T., Rouse, L., & British Association for Early Childhood Education. (2019). *Getting it right in the Early Years Foundation Stage: A review of the evidence*. Centre for Research in Early Childhood.
- Piaget, J. (1962). The stages of the intellectual development of the child. *Bulletin of the Menninger Clinic, 26*(3), 120–128.
- Pollock, K., Warren, J., & Andersen, P. (2017). Inspiring environmentally responsible preschool children through the implementation of the national quality framework: Uncovering what lies between theory and practice. *Australasian Journal of Early Childhood, 42*(2), 12–19. <https://doi.org/10.23965/AJEC.42.2.02>
- *Prince, C. (2010). Sowing the seeds: Education for sustainability within the early years curriculum. *European Early Childhood Education Research Journal, 18*(3), 273-284.

- Pyle, A., DeLuca, C., & Danniels, E. (2017). A scoping review of research on play-based pedagogies in kindergarten education. *Review of Education (Oxford)*, 5(3), 311–351. <https://doi.org/10.1002/rev3.3097>
- Pyle, A., & Alaca, B. (2018). Kindergarten children's perspectives on play and learning. *Early Child Development and Care*, 188(8), 1063–1075. <https://doi.org/10.1080/03004430.2016.1245190>
- Pyle, A., Roy, S., Chalas, A., & Danniels, E. (2019). Perspectives on Kindergarten assessment: Toward a common understanding. *Teachers College Record*, 121(3), DOI: [10.1177/016146811912100302](https://doi.org/10.1177/016146811912100302)
- *Ralph, R. (2018). Media and technology in preschool classrooms: Manifesting prosocial sharing behaviours when using iPads. *Technology, Knowledge and Learning*, 23(2), 199–221. <https://doi.org/10.1007/s10758-017-9342-z>
- *Rhoades, M. (2016). “Little Pig, Little Pig, Yet Me Come In!”: Animating The Three Little Pigs with Preschoolers. *Early Childhood Education Journal*, 44(6), 595–603. <https://doi.org/10.1007/s10643-015-0743-0>
- Roychoudhury, A. (2014). Connecting science to everyday experiences in preschool settings. *Cultural Studies of Science Education*, 9(2), 305–315. <https://doi.org/10.1007/s11422-012-9446-7>
- *Saçkes, M. (2014). How often do early childhood teachers teach science concepts? Determinants of the frequency of science teaching in kindergarten. *European Early Childhood Education Research Journal*, 22(2), 169–184. <https://doi.org/10.1080/1350293X.2012.704305>
- Saçkes, M., Trundle, K. C., Bell, R. L., & O'Connell, A. A. (2011). The influence of early science experience in kindergarten on children's immediate and later science achievement: Evidence from the early childhood longitudinal study. *Journal of Research in Science Teaching*, 48(2), 217–235. <https://doi.org/10.1002/tea.20395>
- Salehjee, S. (2020). Teaching science through stories: Mounting scientific enquiry. *Early Child Development and Care*, 190(1), 79–90. <https://doi.org/10.1080/03004430.2019.1653554>

- Samarapungavan, A., Patrick, H., & Mantzicopoulos, P. (2011). What Kindergarten students learn in inquiry-based science classrooms. *Cognition and Instruction*, 29(4), 416–470. <https://doi.org/10.1080/07370008.2011.608027>
- Samuelsson, R. (2018). Children’s explorations of the concept of spinning in preschool: Science learning in mediated activity. *Learning, Culture and Social Interaction*, 17, 90–102. <https://doi.org/10.1016/j.lcsi.2018.01.002>
- Sando, O. J., Kleppe, R., & Sandseter, E. B. H. (2021). Risky play and children’s well-being, involvement and physical activity. *Child Indicators Research*, 14, 1435-1451. <https://doi.org/10.1007/s12187-021-09804-5>.
- Sandseter, E. (2010). ‘It tickles in my tummy!’: Understanding children’s risk-taking in play through reversal theory. *Journal of Early Childhood Research*, 8(1), 67–88. <https://doi.org/10.1177/1476718X09345393>
- Sandseter, E. (2007). Categorising risky play – how can we identify risk-taking in children’s play? *European Early Childhood Education Research Journal*, 15(2), 237-252. <https://doi.org/10.1080/13502930701321733>
- Sandseter, E. (2011). Children’s risky play in early childhood education and care. *Childlinks* 3, 2-6.
- *Sandseter, E., Kleppe, R., & Sando, O. (2021). The prevalence of risky play in young children’s indoor and outdoor free play. *Early Childhood Education Journal*, 49, 303-312. <https://doi.org/10.1007/s10643-020-01074-0>
- Sarama, J., & Clements, D. H. (2009). *Early childhood mathematics education research: Learning trajectories for young children*. Routledge.
- Sarama, J., & Clements, D. H. (2017). Interventions in early mathematics: Avoiding pollution and dilution. *Advances in Child Development and Behaviour*, 53, 95-126.
- Sarama, J., Clements, D. H., Baroody, A. J., Kutaka, T. S., Chernyavskiy, P., Shi, J., & Cong, M. (2021). Testing a theoretical assumption of a learning-trajectories approach in teaching length measurement to kindergartners. *AERA Open*, 7(1), 1-15. doi.org/10.1177/23328584211026657

- Schriever, V., Simon, S., & Donnison, S. (2020). Guardians of play: Early childhood teachers' perceptions and actions to protect children's play from digital technologies. *International Journal of Early Years Education*, 28(4), 351–365.
<https://doi.org/10.1080/09669760.2020.1850431>
- Simoncini, K., & Lasen, M. (2018). Ideas about STEM among Australian early childhood professionals: How important is STEM in early childhood education? *International Journal of Early Childhood*, 50(3), 353–369.
<https://doi.org/10.1007/s13158-018-0229-5>
- Siraj-Blatchford, I. (2009). Conceptualising progression in the pedagogy of play and sustained shared thinking in early childhood education: A Vygotskian perspective. *Education and Child Psychology*, 26 (2), 77-89.
- *Siry, C., & Kremer, I. (2011). Children explain the rainbow: Using young children's ideas to guide science curricula. *Journal of Science Education and Technology*, 20(5), 643.
<https://doi.org/10.1007/s10956-011-9320-5>
- Spaepen, E., Bowman, B., Day, C. B., Chen, J.-Q., Cunningham, C., Donohue, C., Espinosa, L., Gartzman, M., Greenfield, D., Leslie, D., Levine, S., McCray, J., Schauble, L., Spaepen, E., Worth, K., & College, W. (2017). *Early STEM matters: Providing high-quality STEM experiences for all young learners* (No. 1, pp. 47). University of Chicago Childhood STEM Working Group. <https://ecstem.uchicago.edu/>
- Strasser, J., & Mufson Bresson, L. (2017). *Big questions for young minds: Extending children's thinking*. The National Association for the Education of Young Children.
- Storli, R., & Sandseter, E. B. H. (2019). Children's play, well-being and involvement: how children play indoors and outdoors in Norwegian early childhood education and care institutions. *International Journal of Play*, 8(1), 65–78. <https://doi.org/10.1080/21594937.2019.1580338>.
- Swedish National Agency for Education. (2018). *Curriculum for the preschool*. Lpfö 98.
- Sylva, Melhuish, E., Sammons, P., Siraj-Blatchford, I., Taggart, B., Smees, R., Dobson, A., Jeavons, M., Lewis, K., Morahan, M., Sadler, S., Jennings, R., Walker-Hall, J., Evans, E., Elliot, K., & Marsh, A. (2004). *The Effective provision of pre-school education (EPPE) project*. Department for Education and Skills

- Tao, Y., Oliver, M. C., & Venville, G. J. (2012). Chinese and Australian year 3 children's conceptual understanding of science: A multiple comparative case study. *International Journal of Science Education*, 34(6), 879–901. <https://doi.org/10.1080/09500693.2011.578679>
- 't Gilde, J., & Volman, M. (2021). Finding and using students' funds of knowledge and identity in superdiverse primary schools: A collaborative action research project. *Cambridge Journal of Education*, 51(6), 673–692
- Taylor, M. E., & Boyer, W. (2020). Play-based learning: Evidence-based research to improve children's learning experiences in the kindergarten classroom. *Early Childhood Education Journal*, 48(2), 127–133. <https://doi.org/10.1007/s10643-019-00989-7>
- Tingle Broderick, J., Boniol, K., Martin, N., Robshaw, K., & Holley, V. (2021). Impression Obsession: Exploring science phenomena in a play-centered preschool classroom. *Science & Children*, 58(3), 76–82.
- Tippett, C., & Milford, T. (2017). Findings from a pre-kindergarten classroom: Making the case for STEM in early childhood education. *International Journal of Science and Mathematics Education*, 15, S67–S86. <https://doi.org/10.1007/s10763-017-9812-8>
- United Nations. (1989). *Convention on the rights of the child*. UN Office of High Commissioner for Human Rights (OHCHR). Retrieved from [HTTPS://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx](https://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx).
- UNICEF. (2020). *Worlds of influence: Understanding what shapes child well-being in rich countries* (No. 16; Innocenti Report Card). UNICEF. <https://www.unicef-irc.org/child-well-being-report-card-16>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Wang, J. J., & Feigenson, L. (2019). Infants recognize counting as numerically relevant. *Developmental Science*, 22(6), e12805. <https://doi.org/10.1111/desc.12805>
- Weisberg, D. S., Hirsh-Pasek, K., & Golinkoff, R. M. (2013). Guided play: Where curricular goals meet a playful pedagogy. *Mind, Brain, and Education*, 7, 104–112.
- Wood, E., Nuttall, J., Edwards, S., & Grieshaber, S. (2019). Young children's digital play in early childhood settings: Curriculum, pedagogy and teachers' knowledge. In O. Erstad, R. Flewitt, B. Kümmerling-Meibauer, & Í. S. P. Pereira (Eds.), *The Routledge handbook of digital literacies in early childhood* (pp. 214–226). Routledge. <https://doi.org/10.4324/9780203730638>

Worthington, M. & van Oers, B. (2016). Pretend play and the cultural foundations of mathematics. *European Early Childhood Research Journal*, 24(1), 51-66.

<https://doi.org/10.1080/1350293X.2015.1120520>

Yan, L., & Fengfeng, L. (2008). *Building a harmonious society and ECE for sustainable development* (No. 1, pp. 43–53). United Nations Educational, Scientific and Cultural Organization.

https://unesdoc.unesco.org/ark:/48223/pf0000159355_spa?posInSet=1&queryId=N-EXPLORE-04826d72-357c-4494-a567-3ab812437e51

References Introduction & Chapters 1-2

- Alexander, R. (2009). Towards a Comparative Pedagogy. In R. Cowen & A. M. Kazamias (Eds.), *International handbook of comparative education* (pp. 923–942). Stringer.
- Acar, I. H., Acar, I. H., Veziroglu-Celik, M., Veziroglu-Celik, M., Garcia, A., Garcia, A., Colgrove, A., Colgrove, A., Raikes, H., Raikes, H., Gönen, M., Gönen, M., Encinger, A., & Encinger, A. (2019). The Qualities of Teacher–Child Relationships and Self-Regulation of Children at Risk in the United States and Turkey: The Moderating Role of Gender. *Early Childhood Education Journal*, *47*(1), 75–84.
<https://doi.org/10.1007/s10643-018-0893-y>
- Archard, S., & Archard, S. (2016). Voices of Playgroup: Connecting Pedagogy and Understandings of Early Childhood Education. *Early Childhood Folio*, *20*(1), 20–24.
<http://dx.doi.org/10.18296/ecf.0019>
- Baker, C., & Wright, E. (2021). Foundations of bilingual education and bilingualism. *Volume 127 of Bilingual education & bilingualism. London: Multilingual Matters.*
- Baker, S. T., Le Courtois, S., & Eberhart, J. (2021). Making space for children’s agency with playful learning. *International Journal of Early Years Education*, 1–13.
<https://doi.org/10.1080/09669760.2021.1997726>
- Barandiaran, A., Muela, A., de Arana, E. L., Larrea, I., & Vitoria, J. R. (2015). Exploratory behavior, emotional wellbeing and childcare quality in preschool education. *Anales de Psicología*, *31*(2), 570–578. <https://doi.org/10.6018/analesps.31.2.171551>
- Barblett, L., Cartmel, J., Hadley, F., Harrison, L., Irvine, S., Bobongie-Harris, F., & Lavina, L. (2021). *National Quality Framework Approved Learning Frameworks Update Literature Review*. AUSTRALIAN CHILDREN’S EDUCATION AND CARE QUALITY AUTHORITY (ACECQA).
<https://www.acecqa.gov.au/sites/default/files/2021-09/2021NQF-ALF-UpdateLiteratureReview.PDF>
- Bartik, T. J. (2014). *From Preschool to Prosperity: The Economic Payoff to Early Childhood Education*. W.E. Upjohn Institute. <http://www.jstor.org/stable/j.ctvh4zf67>
- Bath, H. (2008) ‘The three pillars of trauma-informed care’, *Reclaiming children and youth*, *17*(3), 17.
- Bath, H. (2015) ‘The Three Pillars of TraumaWise Care: Healing in the Other 23 Hours1’. *Reclaiming Children and Youth*, *23*(4), 5.

- Beatty, C. and Egan, S. M. (2018) Screen-time and vocabulary development: Evidence from the Growing Up in Ireland Study, *ChildLinks - Children and the Digital Environment*, (3), Dublin, Ireland: Barnardos Ireland.
- Becker, B. D., Gallagher, K. C., & Whitaker, R. C. (2017). Teachers' dispositional mindfulness and the quality of their relationships with children in Head Start classrooms. *Journal of School Psychology*, 65, 40–53. Scopus. <https://doi.org/10.1016/j.jsp.2017.06.004>
- Bohnert, M. & Gracia, P. (2021). Emerging Digital Generations? Impacts of Child Digital Use on Mental and Socioemotional Well-Being across Two Cohorts in Ireland, 2007–2018. *Child Indicators Research*, 14(2), 629–659. <https://doi.org/10.1007/s12187-020-09767-z>
- Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nuture reconceptualized in developmental perspective: A bioecological model. *Psychological Review*, 101(4), 568–586. <https://doi.org/10.1037/0033-295X.101.4.568>
- Brusaferro, V. R. (2020). *Shaping 'Little' ecological worldviews: A case study of ecological identity indicators at forest preschool (2020-51430-212; Issues 12-B)* [ProQuest Information & Learning]. <https://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2020-51430-212&site=ehost-live>
- Burke, L.-A. (2020). Childhood Psychological Health During the Great Recession in Ireland. *The Economic and Social Review*, 51(4), 489–506.
- Camodeca, M., & Coppola, G. (2019). Participant roles in preschool bullying: The impact of emotion regulation, social preference, and quality of the teacher–child relationship. *Social Development*, 28(1), 3–21. Scopus. <https://doi.org/10.1111/sode.12320>
- Central Statistics Office. (2022). *Census 2022*. Dublin: Central Statistics Office.
- Central Statistics Office. (2017). *Census 2016*. Dublin: Central Statistics Office.
- Centre for Early Childhood Development & Education. (2006). *Siolta, the National Quality Framework*. https://siolta.ie/media/pdfs/final_handbook.pdf.
- Chan, A. (2020). Superdiversity and Critical Multicultural Pedagogies: Working with Migrant Families. *Policy Futures in Education*, 18(5), 560–573.
- Committee of Ministers of the Council of Europe (2018) Recommendation CM/Rec(2018)7 of the Committee of Ministers to member States on Guidelines to respect, protect and fulfil the rights of the child in the digital environment. Available online at https://search.coe.int/cm/Pages/result_details.aspx?ObjectId=09000016808b79f7.

- Conroy, M. A., Sutherland, K. S., Vo, A. K., Carr, S., & Ogston, P. L. (2013). Early Childhood Teachers' Use of Effective Instructional Practices and the Collateral Effects on Young Children's Behavior. *Journal of Positive Behavior Interventions*, 16(2), 81–92.
- Council of the European Union. (2011). Council conclusions of 15 June 2011 on early childhood education and care: Providing all our children with the best start for the world of tomorrow. *Official Journal of the European Union*.
- Cummins, J. (2021). Rethinking the Education of Multilingual Learners: A Critical Analysis of Theoretical Concepts *Volume 19 of Linguistic Diversity and Language Rights: Multilingual Matters*.
- Cunningham, S., Dezuanni, M., Goldsmith, B., Burns, M., Miles, P., Henkel, C., Ryan, M., & Murphy, K. (2016). *Screen content in Australian Education: Digital promise and pitfalls*. Australian Education Index.
<https://dialog.proquest.com/professional/docview/1970665114?accountid=15753>
- Curdt-Christiansen, X. L. (2018). Family language policy. In *The Oxford handbook of language policy and planning* (pp. 420–441). Oxford: Oxford University Press.
- Daly, M., Grogan-Ryan, P., Corbett, M., & Connolly, L. (2014). The Aistear in Action Initiative 2011–2013, *An Leanbh Óg*, 8, 169–200.
- Daly, M. & Forster, A. (2009). The story of Aistear: the Early Childhood Curriculum Framework: Partnership in Action. *An Leanbh Óg, The OMEP Ireland Journal of Early Childhood Studies*, 3 (1).
- De Houwer, A. (2017). Bilingual language input environments, intake, maturity and practice. *Bilingualism: Language and Cognition*, 20(1): 19–20
<https://doi.org/10.1017/S1366728916000298>.
- Department of Children, Equality, Disability, Integration and Youth. (2022). *Nurturing skills: The workforce plan for early learning and care and school-age childcare 2022-2028*. Dublin: Department of Children, Equality, Disability, Integration and Youth.
- Department of Children, Equality, Disability, Integration and Youth. (2021). *National action plan for childminding (2021 – 2028)*. Dublin: Department of Children, Equality, Disability, Integration and Youth.
- Department of Children and Youth Affairs. (2016). *Diversity, equality and inclusion charter and guidelines for early childhood care and educations*. Dublin: Department of Children and Youth Affairs.

- Department of Education (2021). *Guide for Gaeltacht Primary Schools: Strengthening links between primary schools and early-learning and care (ELC) settings*. Department of Education: Dublin. <https://www.gov.ie/en/publication/15288-guide-for-gaeltacht-primary-schools-strengthening-links-between-primary-schools-and-early-learning-and-care-elc-settings/>
- Department of Education & Skills. (2019). *Primary language curriculum*. Dublin: DES.
- Department of Education and Skills. (2019). *Professional award criteria and guidelines for initial professional education (level 7 and level 8) degree programmes for the early learning and care (elc) sector in Ireland*. Dublin: Department of Education and Skills.
- Department of Education and Skills. (2018). *A Review of early-years-education-focused inspection: April 2016 – June 2017. Insights and future developments*. Dublin: Department of Education and Skills.
- Department of Education and Skills. (2017). *STEM education policy statement 2017-2026*. Dublin: Department of Education and Skills.
- Department of Education & Skills (DES). (2016). *Polasaí don oideachas Gaeltachta 2017-2022*. Department of Education: Dublin Available at: <https://www.gov.ie/ga/eolas-polasaithe/polasai-don-oideachas-gaeltachta-20172022/>
- Department of Education and Science. (1999). *Primary school curriculum*. Dublin: Stationery Office.
- Department of the Taoiseach. (2020). *Programme for Government: Our shared future*. Dublin: Department of An Taoiseach.
- Dwivedi, K. N. [Ed], & Harper, P. B. [Ed]. (2004). Promoting the emotional well-being of children and adolescents and preventing their mental ill health: A handbook. *Promoting the Emotional Well-Being of Children and Adolescents and Preventing Their Mental Ill Health: A Handbook.*, Health&Mental Health Services [3370].
- Dunphy, E. (2008). *Supporting children's early learning and development through formative assessment*. Dublin: National Council for Curriculum and Assessment.
- Edwards, S. (2013). Digital play in the early years: A contextual response to the problem of integrating technologies and play-based pedagogies in the early childhood curriculum. *European Early Childhood Education Research Journal*, 21(2), 199–212. <https://doi.org/10.1080/1350293X.2013.789190>

- Edwards, S., Skouteris, H., Cutter-Mackenzie, A., Rutherford, L., O’Conner, M., Mantilla, A., Morris, H., & Elliot, S. (2016). Young Children Learning about Well-Being and Environmental Education in the Early Years: A Funds of Knowledge Approach. *Early Years: An International Journal of Research and Development*, 36(1), 33–50. ERIC. <https://doi.org/10.1080/09575146.2015.1064099>
- Eek-Karlsson, L., & Emilson, A. (2021). Normalised diversity: Educator’s beliefs about children’s belonging in Swedish early childhood education. *Early Years*, 1–15. <https://doi.org/10.1080/09575146.2021.1951677>
- Engdahl, I. (2015). Early Childhood Education for Sustainability: The OMEP World Project. *International Journal of Early Childhood*, 47(3), 347–366. <https://doi.org/10.1007/s13158-015-0149-6>
- Enochsson, A.-B., & Ribaeus, K. (2021). ‘Everybody has to get a Chance to Learn’: Democratic Aspects of Digitalisation in Preschool. *Early Childhood Education Journal*, 49(6), 1087–1098. <https://doi.org/10.1007/s10643-020-01117-6>
- Finkelhor, D., Shattuck, A., Turner, H., & Hamby, S. (2015). A revised inventory of Adverse Childhood Experiences. *Child Abuse & Neglect*, 48, 13–21. <https://doi.org/10.1016/j.chiabu.2015.07.011>
- Fishman, J. A. (1991). *Reversing language shift: Theoretical and empirical foundations of assistance to threatened languages* (Vol. 76). Clevedon: Multilingual Matters.
- FitzGerald, J. (2012). The Irish Economy Today: Albatross or Phoenix? *The World Economy*, 35(10), 1239–1255. <https://doi.org/10.1111/j.1467-9701.2012.01481.x>
- Florez, I. R. (2011). Developing Young Children’s Self-Regulation through Everyday Experiences. *Young Children*, 66(4), 46–51. ERIC.
- French, G. (2007). *Children’s early learning and development: A research paper*. Dublin: National Council for Curriculum and Assessment
- Friedman, A. (2016). Three-Year-Old Photographers: Educational and Parental Mediation as a Basis for Visual Literacy via Digital Photography in Early Childhood. *Journal of Media Literacy Education*, 8(1), 15–31.
- Frontier Economics. (2020). *Early learning and care in Ireland: OECD Country Background Report*. Available at <https://www.gov.ie/en/publication/9d9ca-early-learning-and-care-in-ireland-oecd-background-report/>
- Gaeloideachas. (2020). *Statistics 2018–19*. <https://gaeloideachas.ie/i-am-a-researcher/statistics/>

- Gathercole, V. C. M., & Thomas, E. M. (2009). Bilingual first-language development: Dominant language takeover, threatened minority language take-up. *Bilingualism: Language and Cognition*, 12(2): 213–237.
<https://doi.org/10.1017/S1366728909004015>
- Government of Ireland. (2019). *First 5: The whole-of-Government-strategy for babies, young children and their families, 2019-2028*. Dublin: Department of Children and Youth Affairs.
- Government of Ireland. (2018). Action plan 2018-2022: 20 year strategy for the Irish language. Department of Culture, Heritage and the Gaeltacht.
<https://www.gov.ie/en/policy-information/1418a-action-plan-2018-2022/>
- Government of Ireland. (2010). *20 year strategy for the Irish language 2010-2030*. Government of Ireland. <https://www.gov.ie/en/policy-information/2ea63-20-year-strategy-for-the-irish-language/>
- Government of Ireland. (2010). *History of the Irish language*. Government of Ireland.
- Government of Ireland. (2006). Child Care (Pre-School Services) (No 2) Regulations 2006. Dublin: Government of Ireland.
- Government of Ireland. (1999). *Ready to Learn. White Paper on Early Childhood Education*. Dublin: Government of Ireland.
<https://assets.gov.ie/24631/4adbb26bec8d4f43b9d529919d47536c.pdf>
- Government of Ireland. (1996). Child Care (Pre-School Services) Regulations 1996. Dublin: Government of Ireland.
- Government of Ireland. (1991). *Child Care Act 1991*. Dublin: Government of Ireland.
- Gray, C., & Ryan, A. (2016). *Aistear vis-à-vis the Primary Curriculum: The experiences of early years teachers in Ireland*. *International Journal of Early Years Education*, 24(2), 188–205. <https://doi.org/10.1080/09669760.2016.1155973>.
- Green, L. (2019). Digitising early childhood: An introduction. *Digitising Early Childhood.*, Ari Brown. (2011). *Media Use by Children Younger Than 2 Years*. *Pediatrics*, 128, 5, 1040-45. <http://pediatrics.aappublications.Org/content/128/5/1040>
<http://dx.doi.org/10.1542/peds.2011-1753>, 1–13.
- Growing Up in Ireland Study Team (2018). *Key findings: Cohort '08 at 9 years old: 9-year-olds and their families* (No. 1). Dublin: ESRI/TCD/DCYA.
- Growing Up in Ireland Study Team (2018). *Key findings: Cohort '08 at 9 years old, School and learning* (No. 2). Dublin: ESRI/TCD/DCYA.

- Growing Up in Ireland Study Team (2018). *Key findings: Cohort '08 at 9 years old, health and physical development* (No. 3). Dublin: ESRI/TCD/DCYA.
- Growing Up in Ireland Study Team (2018). *Key findings: Cohort '08 at 9 years old, Relationships & socio-emotional well-being* (No. 4). Dublin: ESRI/TCD/DCYA.
- Hayes, N. (2007). *Perspectives on the relationship between education and care in early childhood*. Dublin: National Council for Curriculum and Assessment.
- Hayes, N. (2005). Welfare and wellbeing: Impact of social policy on early educational practice in Ireland in Horgan, M. and Douglas, F. (eds) *Children of the Global Village, Proceedings of the OMEP Ireland Conference 2004*, pp. 22-31.
- Hancock, R. E. (2017). Global Citizenship Education: Emancipatory Practice in a New York Preschool. *Journal of Research in Childhood Education*, 31(4), 571–580.
- Herbers, J. E., Cutuli, J. J., Monn, A. R., Narayan, A. J., & Masten, A. S. (2014). Trauma, Adversity, and Parent–Child Relationships Among Young Children Experiencing Homelessness. *Journal of Abnormal Child Psychology*, 42(7), 1167–1174.
<https://doi.org/10.1007/s10802-014-9868-7>.
- Hickey, T. M. (2021). Heritage Language Early Years' Immersion: Irish-Medium Preschools in Ireland. In M. Schwartz (ed.), *Handbook of Early Language Education*, Springer International Handbooks of Education.
https://doi.org/10.1007/978-3-030-47073-9_15-1.
- Holloway, D. J., Green, L., & Stevenson, K. (2015). Digitods: Toddlers, Touch Screens and Australian Family Life. *M/C Journal*, 18(5), Article 5.
<https://doi.org/10.5204/mcj.1024>.
- Inglis, T. (2016). *Meanings of life in contemporary Ireland: Webs of significance*. London: Palgrave Macmillan.
- Jenkins, L. N., Mulvey, N., & Floress, M. T. (2017). Social and Language Skills as Predictors of Bullying Roles in Early Childhood: A Narrative Summary of the Literature. *Education & Treatment of Children*, 40(3), 401–417.
<https://doi.org/10.1353/etc.2017.0017>
- Johansson, E., & Puroila, A.-M. (2021). Research Perspectives on the Politics of Belonging in Early Years Education. *International Journal of Early Childhood*, 53(1), 1–8.
<https://doi.org/10.1007/s13158-021-00288-6>

- Kalil, A., Duncan, G. J., & Ziol-Guest, K. M. (2016). Early Childhood Poverty: Short and Long-Run Consequences Over the Lifespan. In M. J. Shanahan, J. T. Mortimer, & M. Kirkpatrick Johnson (Eds.), *Handbook of the Life Course: Volume II* (pp. 341–354). Springer International Publishing. https://doi.org/10.1007/978-3-319-20880-0_15
- Kernan, M. (2007). *Play as a context for early learning and development*. Dublin: National Council for Curriculum and Assessment.
- Lesner, R. V. (2018). The long-term effect of childhood poverty. *Journal of Population Economics*, 31(3), 969–1004. <https://doi.org/10.1007/s00148-017-0674-8>
- Mannion, L. (2019). A critical evaluation of *Aistear*: The Early Childhood Curriculum Framework and its implementation across early years settings. *An Leabhbh Óg*, 12, 47–56.
- Marsh, J., Wood, E., Chesworth, L., Nisha, B., Nutbrown, B., & Olney, B. (2019). Makerspaces in early childhood education: Principles of pedagogy and practice. *Mind, Culture, and Activity*, 26(3), 221–233. <https://doi.org/10.1080/10749039.2019.1655651>
- McNamara, E., Murray, A., O’Mahony, D., O’Reilly, C., Smyth, E., & Watson, D. (2021). *Growing Up in Ireland: The Lives of 9-Year-Olds of Cohort ’08*. (Report No.10). Dublin: ESRI/TCD/DCEDIY.
- Melhuish, E., Ereky-Stevens, K., Petrogiannis, K., Ariescu, A., Penderi, E., Rentzou, K., Tawell, A., Leseman, P., & Broekhuisen, M. (2015). *A Review of Research on the Effects of Early Childhood Education and Care on Child Development*. Oxford: CARE with European Commission.
- Millar, S., Perry, I., Balanda, K., Dee, A., Bergin, D., Carter, L., Doherty, E., Fahy, L., Hamilton, D., Jaccard, A., Knuchel-Takano, A., McCarthy, L., McCune, A., O’Malley, G., Pimpin, L., Queally, M., & Webber, L. (2017). *What are the estimated costs of childhood overweight and obesity on the island of Ireland?*
- Montrul, S. (2016). *Heritage language acquisition*. Cambridge: Cambridge University Press. National Council for Curriculum and Assessment. (2018). *Traveller culture and history in the curriculum: a curriculum audit*. Available at: https://ncca.ie/media/4590/tch_summary_eng.pdf.
- National Council for Curriculum and Assessment. (2009). *Aistear, the early childhood curriculum framework*. Dublin: National Council for Curriculum and Assessment.

- Neylon, G. (2014). An analysis of Irish pre-school practice and pedagogy using the early childhood environmental four curricular subscales. *Irish Educational Studies*, 33(1), 99–116. <https://doi.org/10.1080/03323315.2014.888237>.
- Ní Chuaig, N., Ó Brolcháin, C., Ní Chlochasaigh, K. agus Ó Ceallaigh, T.J. (2021). *Staidéar ar theaghlaigh atá ag tógáil a gclann le Gaeilge laistigh de na limistéir oifigiúla Gaeltachta: Tuarascáil Taighde do Tuismitheoirí na Gaeltachta*. Ar fáil ag <https://tuismitheoiri.ie/wp-content/uploads/2021/08/Tuarasca%CC%81il-Taighde-Teaghlaigh-2021.pdf>
- Nixon, E., Layte, R., & Thornton, M. (2019). *The Effects of Economic Recessions and Family Stress on the adjustment of 3-year-olds in Ireland: Analysis of Wave 1 and Wave 2 of the '08 (Infant) Cohort of Growing Up in Ireland* (Growing Up in Ireland No. 8; National Longitudinal Study of Children, p. 83). ESRI. <https://www.growingup.ie/pubs/Growing-Up-in-Ireland-The-Effects-of-Economic-recession-and-Family-Stress-on-the-Adjustment-of-3-Year-Olds-in-Ireland.pdf>
- Organisation for Economic Co-operation and Development. (2021). *Strengthening early childhood education and care in Ireland: Review on sector quality*. OECD. Publishing: Paris. <https://doi.org/10.1787/72fab7d1-en>.
- Organisation for Economic Co-operation and Development. (2008). *Early learning matters. OECD. The International Early Learning and Child Well-being Study*. OECD. <https://www.oecd.org/education/school/Early-Learning-Matters-Project-Brochure.pdf>.
- Organisation for Economic Cooperation and Development. (2004). *Thematic review of early childhood education and care policy in Ireland*. <https://assets.gov.ie/24598/5e8d30bb02b948ccb5fdb4bd413ab67d.pdf>
- Ó Giollagáin, C. & Charlton, M. (2015). Nuashonrú ar an staidéar cuimsitheach teangeolaíoch ar úsáid na Gaeilge sa Ghaeltacht 2006-2011 [An update of the comprehensive linguistic study of the use of Irish in the Gaeltacht 2006-2011]. Údarás na Gaeltachta. <https://www.rte.ie/documents/news/udaras-na-gaeltachta.pdf>
- Ó Giollagáin, C., Mac Donnacha, S., Ní Chualáin, F., Ní Shéaghda, A. & O' Brien, M. (2007). *Staidéar cuimsitheach teangeolaíoch ar úsáid na gaeilge sa ghaeltacht: príomhthorthaí agus moltaí*. An Roinn Gnóthaí Pobail, Tuaithe agus Gaeltachta (tuarascáil dhátheangach).

- Ó Duibhir, P. & Cummins, J. (2012). *Towards an integrated language curriculum in early childhood and primary education (3 – 12 years)*. Dublin, Ireland: NCCA.
https://www.ncca.ie/media/2467/towards_an_integrated_language_curriculum_in_early_childhood_and_primary_education.pdf
- Ó Murchadha, N., & Migge, B. (2017). A Celtic view on minority language dynamics: Support, transmission, education and target language varieties. *Language, Culture and Curriculum*, 30(1): 1–12.
- O’Sullivan, L., & Ring, E. (2018). Play as learning: Implications for educators and parents from findings of a national evaluation of school readiness in Ireland. *International Journal of Play*, 7(3), 266–289. <https://doi.org/10.1080/21594937.2018.1532720>.
- O’Toole, C. & Hickey, T. (2017) Bilingual language acquisition in a minority context: using the Irish–English Communicative Development Inventory to track acquisition of an endangered language, *International Journal of Bilingual Education and Bilingualism*, 20(2): 146-162, DOI: 10.1080/13670050.2016.1179256.
- Péterváry, T., Ó Curnáin, B., Ó Giollagáin, C. & Sheahan, J. (2014). *Iniúchadh ar an gcumas dátheangach: An sealbhú teanga i measc ghlúin óg na Gaeltachta*. Baile Atha Cliath: COGG.
- Pobal. (2022). *Annual early years sector profile report 2020-2021*. Dublin: Pobal.
- Pope, J. (2017). *Beyond basic ‘minding’: Adopting an ecological, evidence based approach to promoting children’s well-being and developing child health advocacy with early childhood undergraduate students. Improving child health through research*, Children’s Research Digest Volume 4, Issue 2.
- Quality and Qualifications Ireland. (2019). *Professional award-type descriptors and professional award criteria and guidelines*. Dublin: Quality and Qualifications Ireland.
- Ray, C., Campbell, K., & Hesketh, K. D. (2019). Key Messages in an Early Childhood Obesity Prevention Intervention: Are They Recalled and Do They Impact Children’s Behaviour? *International Journal of Environmental Research and Public Health*, 16(9). <https://doi.org/10.3390/ijerph16091550>
- Regan, M., Maître, B., & ESRI. (2020). *Child poverty in Ireland and the pandemic recession*. ESRI. <https://doi.org/10.26504/bp202104>

- Ring, E., Mhic Mhathúna, M., Moloney, M., Hayes, N., Breathnach, D., Stafford, P., Ozonyia, M. (2016). An examination of concepts of school readiness among parents and educators in Ireland. Department of Children and Youth Affairs. Retrieved from www.dcyia.ie
- Roberts, J. & Callaghan, P. (2021). Inclusion is the ideal, but what is the reality? Early years practitioners perceptions of the access and inclusion model in preschools in Ireland, *European Early Childhood Education Research Journal*, 29:5, 780-794, DOI:10.1080/1350293X.2021.1968465
- Robbins, G., & Lapsley, I. (2014). The success story of the Eurozone crisis? Ireland's austerity measures. *Public Money & Management*, 34(2), 91–98. <https://doi.org/10.1080/09540962.2014.887515>
- Roche, W. K., O'Connell, P. J., & Prothero, A. (2016). *Austerity and Recovery in Ireland: Europe's Poster Child and the Great Recession* (1st ed.). Oxford University Press.
- Rossen, E. [Ed], & Hull, R. [Ed]. (2013). Supporting and educating traumatized students: A guide for school-based professionals. *Supporting and Educating Traumatized Students: A Guide for School-Based Professionals., Classroom Dynamics&Student Adjustment&Attitudes [3560]*.
- Ruane, F. (2016). Ireland—A Remarkable Economic Recovery? *Australian Economic Review*, 49(3), 241–250. <https://doi.org/10.1111/1467-8462.12177>
- Sadownik, A. R. (2020). Superdiversity as a trajectory of diversity in Norwegian early childhood education and care: From a collection of differences to participation and becoming. *Contemporary Issues in Early Childhood*, 21(4), 284–296. <https://doi.org/10.1177/1463949120966088>
- Saitadze, I., & Lalayants, M. (2021). Mechanisms that mitigate the effects of child poverty and improve children's cognitive and social–emotional development: A systematic review. *Child & Family Social Work*, 26(3), 289–308. <https://doi.org/10.1111/cfs.12809>
- Schaefer, C. E. [Ed], & Kaduson, H. G. [Ed]. (2006). Contemporary play therapy: Theory, research, and practice. *Contemporary Play Therapy: Theory, Research, and Practice*.
- Schickedanz, A., Dreyer, B. P., & Halfon, N. (2015). Childhood Poverty: Understanding and Preventing the Adverse Impacts of a Most-Prevalent Risk to Pediatric Health and Well-Being. *Pediatric Clinics*, 62(5), 1111–1135. <https://doi.org/10.1016/j.pcl.2015.05.008>

- Segal-Drori, O., & Shabat, A. B. (2021). Preschoolers' views on integration of digital technologies. *Journal of Childhood, Education & Society*, 2(1), 29–42.
<https://doi.org/10.37291/2717638X.20212172>
- Shuey, E. and M. Kankaraš (2018). “*The Power and Promise of Early Learning*”, *OECD Education Working Papers, No. 186*. OECD Publishing.
<https://dx.doi.org/10.1787/f9b2e53f-en>.
- Sloan, S., Devine, D., Martinez Sainz, G., Symonds, J. E., Crean, M., Moore, B., Davies, A., Farrell, E., Farrell, J., Blue, T., Tobin, E. & Hogan, J. (2021). *Children's school lives in junior infants, Report no.3*. Dublin: University College Dublin.
- Smyth, E. (2017). *Growing up in Ireland: National longitudinal study of children: off to a good start?: primary school experiences and the transition to second-level education: infant cohort*. The Stationery Office.
- Stevens. (2013). *The growing child: laying the foundations of active learning and physical health*. Routledge.
- Street, M. (2021). Theorising child well-being: Towards a framework for analysing Early Childhood Education policy in England. *Journal of Early Childhood Research*, 19(2), 211–224. <https://doi.org/10.1177/1476718X20969841>
- Sylva, K. (2014). The role of families and pre-school in educational disadvantage. *Oxford Review of Education*, 40(6), 680–695. <https://doi.org/10.1080/03054985.2014.979581>
- Sylva, K., Taggart, B., Siraj-Blatchford, I., Totsika, V., Ereky-Stevens, K., Gilden, R., & Bell, D. (2007). Curricular Quality and Day-to-Day Learning Activities in Pre-School. *International Journal of Early Years Education*, 15(1), 49–65. ERIC
- Taggart, B., Sylva, K., Melhuish, E., Sammons, P., & Siraj, I. (2015). *How pre-school influences children and young people's attainment and developmental outcomes over time*. Research Brief. London: Department for Education
- UNICEF. (2019). *A World Ready to Learn: Prioritizing Quality Early Childhood Education*, <http://dx.doi.org/www.unicef.org/media/57926/file/A-world-ready-to-learn-advocacy-brief2019.pdf>.
- United Nations. (1989). *Convention on the rights of the child*. Geneva: UN Office of High Commissioner for Human Rights (OHCHR). Retrieved from <https://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx>.

- van Dongera, R., van der Meer, C. and Sterk, R., (2017). *Research for CULTCommittee – Minority languages and education: best practices and pitfalls - study*. Brussels: European Parliament, Policy Department for Structural and Cohesion Policies. [pdf] Available at: [http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU\(2017\)585915](http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU(2017)585915)
- Williams, J., Murray, A., McCrory, C., & McNally, S., (2013) *Growing Up in Ireland national longitudinal study of children: development from birth to three years infant cohort*. Dublin: Department of Children and Youth Affairs.
- Williams, J., Greene, S., McNally, S., Murray, A., & Quail, A. (2010). *Growing up in Ireland national longitudinal study of children. The infants and their families*. The Stationery Office.
- Woods, A., Mannion, A., & Garrity, S. (2021). Implementing *Aistear* – the Early Childhood Curriculum Framework across varied settings: Experiences of early years educators and infant primary school teachers in the Irish context. *Child Care in Practice*, 1–20. <https://doi.org/10.1080/13575279.2021.1920367>
- Wood, E. & Hedges, H, (2016). Curriculum in early childhood education: critical questions about content, coherence, and control. *The Curriculum Journal*, 27(3), 387-405.
- Yang (杨伟鹏), W., Tesar, M., & Li (李辉), H. (2022). Childhood, Curriculum, and Culture in Diverse Contexts. *ECNU Review of Education*, 5(2), 209–218. <https://doi.org/10.1177/20965311221092039>
- Yang, W., & Li, H. (2018). Cultural ideology matters in early childhood curriculum innovations: A comparative case study of Chinese kindergartens between Hong Kong and Shenzhen. *Journal of Curriculum Studies*, 50(4), 560–585. <https://doi.org/10.1080/00220272.2018.1428367>

Appendix 2 Search Terms

Well-being

Search Terms	Filter	Education Research Complete	ERIC International	Web of Science	PsycINFO (EBSCO)
Early Childhood Education OR Pre-School OR Kindergarten	AB	27383	13980	8019	11515
Curriculum OR education OR program OR framework	AB	3066	1763	712	518
Promote OR enhance OR improve	AB				
Psychological well-being OR life satisfaction OR quality of life OR mental health	AB/ ALL TXT	19	38	57	70
Self-regulation OR emotional literacy OR resilience	AB	38	36	51	59
Independent OR autonomous OR confident OR self-reliant OR growth mind-set OR self-efficacy	AB	54	38	39	42
Choice OR democracy OR agency OR decision making OR ethical OR morals OR character education	AB	79*	51*	89	74
Parent-child relationships OR peer friendships OR interpersonal connection OR teacher-child relationships	ALL TXT	96/10*	13	6	10
Physical wellness OR physical well-being OR physical health	ALL TXT	Got 98/21	16	25	29
Nutrition OR hygiene OR exercise OR daily living skills OR self-care	ALL TXT	247/46	24	20	41

Physical development OR gross motor OR fine motor OR fundamental movement skills	AB	32	24	29	25
Risky play OR outdoor learning OR adventure OR decision making	ALL TXT/ AB	218/26	29	23	15
Adaptability OR flexibility OR creativity OR imagination OR playfulness OR wonderment OR awe	AB	32	17	17	20
Predictable routines OR successful transitions OR smooth transitions OR school readiness OR school adjustment	ALL TXT/ AB	251/82	41	57	80
Sustainable practices OR sustainability OR environmental practice	ALL TXT	25 AB	26	19	18
Tolerance OR advocacy OR leadership OR fairness OR social justice OR empowerment	ALL TXT/ AB	348/51	44	25	33
Self-esteem OR confidence OR positive dispositions OR possibility thinking OR Mastery OR determination OR perseverance	ALL TXT/ AB	360 /29	34	34	34
Positive thinking OR learning risks OR resilience OR resourceful OR challenge seeking OR persistence OR self-determination	ALL TXT	20	20	48	39
Active citizenship OR compassion OR purposeful lives OR purposeful living OR contribution to greater good OR social justice	ALL TXT	29	17/10	7	10

Identity and Belonging

Search Terms	Filter	Education Research Complete	ERIC International	Web of Science	PsycINFO
Early Childhood Education OR Pre-School OR Kindergarten	AB	27383	13980	8019	11515
Curriculum OR education OR program OR framework	AB	3066	1763	712	518
Promote OR enhance OR improve					
Identity OR group identity	AB	70	61	28	10
Belongingness or connectedness or belonging	AB	20	24		8
Belonging OR Sense of Belonging OR sense of community	AB	18	29	23	6
Ethnicity OR Culture Or Gender	AB	127	73	74	49
Participation OR engagement OR involvement	AB	178	112	120	68
Diversity OR inclusion	AB	96	67	90	27
Culturally responsive	ALL TXT	34	21	10	2
Citizenship	ALL TXT	78	25	10	2
Children's Rights	ALL TXT	161	23	32	9
Digital Inclusion	ALL TXT	1	3	1	0

Communicating

Search Terms	Filter	Education Research Complete	ERIC International	Web of Science	PsycINFO (EBSCO)
Early Childhood Education OR Pre-School OR Kindergarten	AB				
Curriculum OR education OR program OR framework	AB				
Promote OR enhance OR improve	AB				
Communication OR communicating OR communication skills OR interpersonal communication	AB	49	28	33	12
Early Language OR emergent literacy OR oral language	AB	4			
Non-verbal communication OR expression OR alternative communication OR augmentative communication OR paralanguage OR gesture OR facial expression OR eye contact OR sign language OR cues, signs and symbols	AB/ ALL TXT	12/25	9/12	22/16	9
Creative expression OR self-expression	AB	11	12	9	5
Receptive language OR listening comprehension	AB	46 with 1,2 21 with 1,2,3	1,2 =16 1,2,3 =2	14	20
Symbolic play OR functional play	AB/ ALL TXT	0/9	1,2,5 =4	4	8
ELL OR ESL OR English language learner OR English as a second language OR translanguaging NOT (English as a foreign language OR EFL OR bilingual OR Spanish)	AB/ ALL TXT	164 (after narrowing by subject) 30 narrowed by AB	narrow by subject	5	25
Mark making OR writing OR print OR shared reading NOT medical OR family OR 'higher education'		34	1,2,5 =22	55	10
Oral Language/Communication ORAL communication education OR COMMUNICATIVE competence OR COMMUNICATION in foreign language	ALL TXT	1-4 = 26 after screening	1-3 /1-4 22/15	18	1

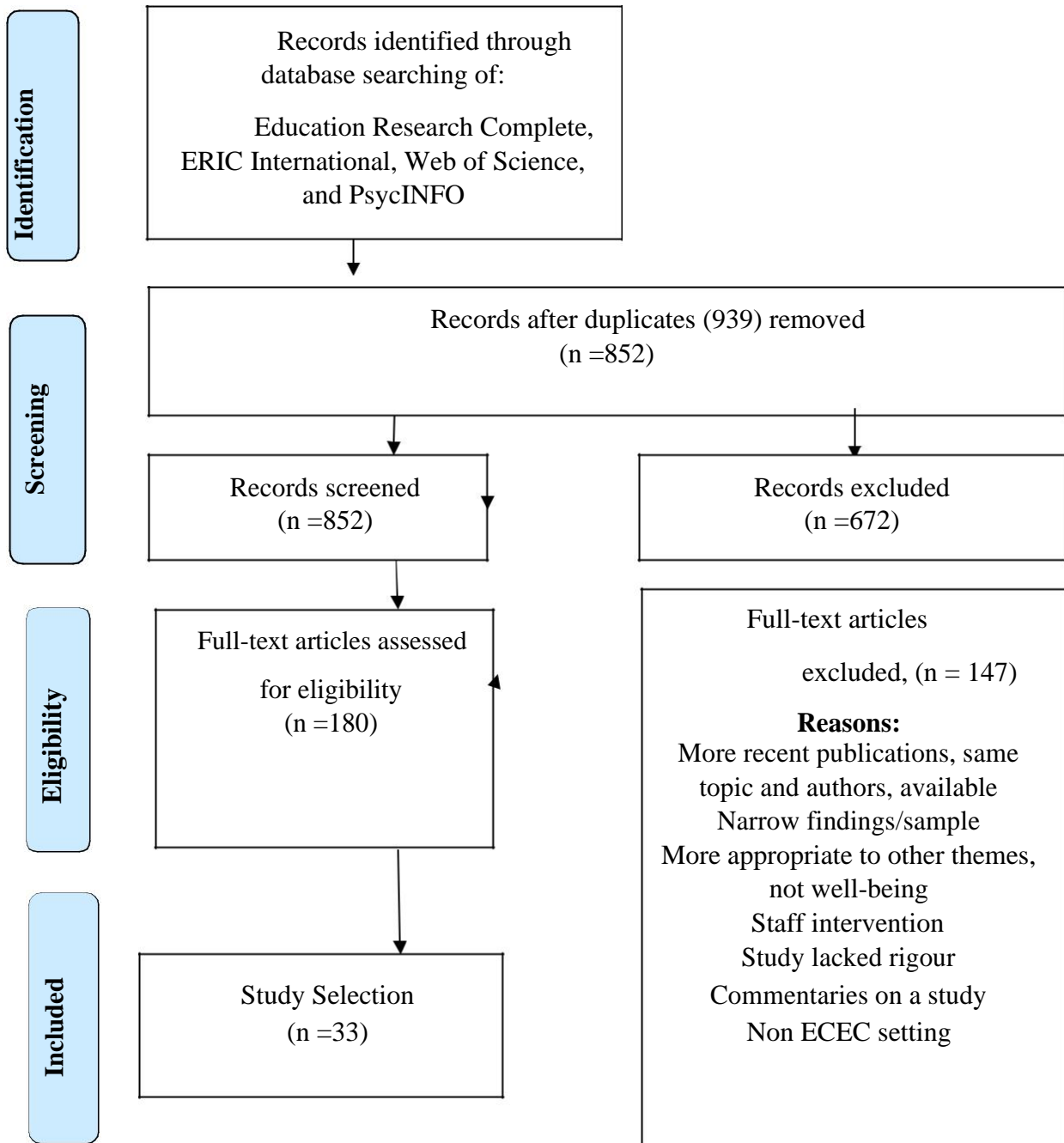
education OR SIGN language OR VISUAL communication OR DIGITAL communications OR LISTENING skills OR LISTENING comprehension OR ENGLISH as a foreign language OR LANGUAGE acquisition OR CHILDREN'S language OR DOMINANT language OR LANGUAGE arts Early childhood OR LANGUAGE & education OR IRISH Gaeilge language schools					
AB communicat* AND AB (express* or represent* or medium or respond or symbol* or sign or modes or means or multimod*) AND (creativ* or imaginati*)	AB ALL TXT	15	5/9	13	6
Oral language OR communication AND (early childhood education OR preschool OR kindergarten OR young children OR early years) AND (Irish OR Gaeilge) = 20	ALL TXT	6	19	12	15
(Oral language OR communication) AND (second language acquisition OR second language learning)	ALL TXT	68	1,2=12	22	8
songs OR nursery rhymes OR rap OR story OR music OR playground games OR chants OR linguistic rhythm OR rhyme OR repetition	ALL TXT	58	1,2,5= 29	13	7
Expressive language OR narrative skills OR oral language OR decontextualized talk OR linguistic proficiency	ALL TXT	1,2,3,5 = 32	1,2,5 = 48 1,2,3,5= 8	20	23
Syntax OR semantics OR vocabulary OR pronunciation OR articulation OR pragmatics OR fluency	ALL TXT	31	1,2,5 = 37	12	5
Problem solving OR role-play OR story-telling Or narrative account OR recreating OR drama	AB/ ALL TXT	9	1,2,3= 22 1,2,4 = 6	26	17
Arts-integrated OR Creativity OR visual arts OR creating OR sculpting OR painting OR drawing OR mark-making OR collage OR speculative design	AB/ ALL TXT	12	1,2,5 = 20	28	12
Digital literacy OR digital communication OR technology enhanced OR digital media OR digital storytelling OR imaginative technologies	ALL TXT	12	1,5	7	7

Exploring and Thinking

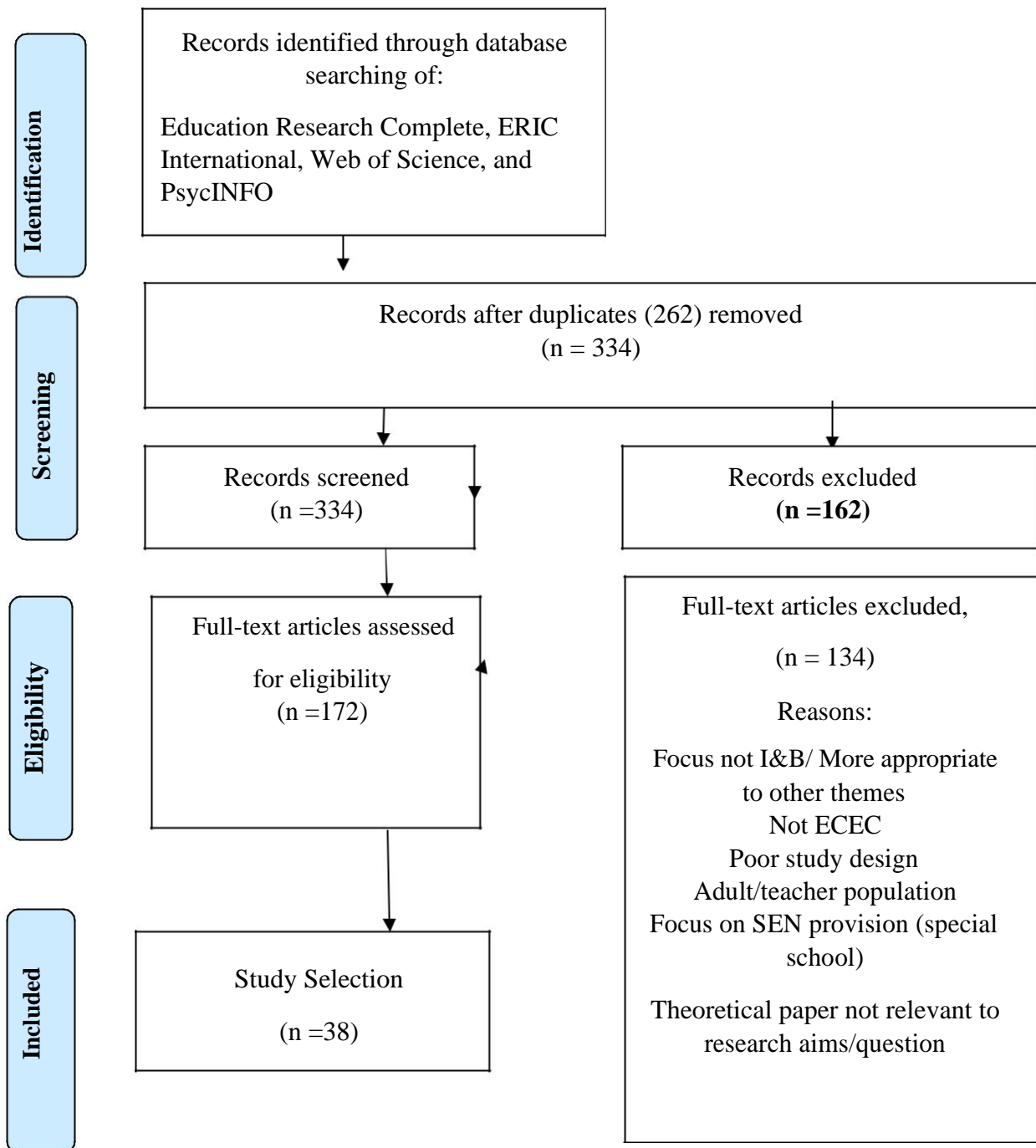
Search Terms	Filter	ERC	ERIC International	Web of Science	PsycINFO
Early Childhood Education OR Pre-School OR Kindergarten	AB	27383	13980	8019	11515
Curriculum OR education OR program OR framework	AB	3066	1763	712	518
Promote OR enhance OR improve					
Funds of Knowledge OR Dispositions OR Emergent OR Inquiry-based learning	Full Text	8	15	10	11
Problem solving OR problem-solving OR decision making	Full Text	14	63	16	26
Working Theories OR Curiosity OR Concept formation	Full TXT	3	16	18	7
Thinking and Learning OR divergent thinking OR critical thinking OR working theories	Full TXT	13	32	17	28
Interrogating OR questioning OR justifying OR inquiry OR active learning	ALL TXT	3	17	21	5
STEM or STEAM	ALL TXT	34	12	12	12
Science OR Math OR engineer OR technology	AB/ ALL TXT	56	13	36	1
Digital OR digital literac*	ALL TXT	16	10	17	4
Learning risks OR risk taking	ALL TXT	2	5	1	9
Sustainability OR Creativity OR Design	AB	16	15	30	32
Curiosity OR playfulness OR perseverance	ALL TXT	4	7	2	1

Appendix 3 PRISMA Charts

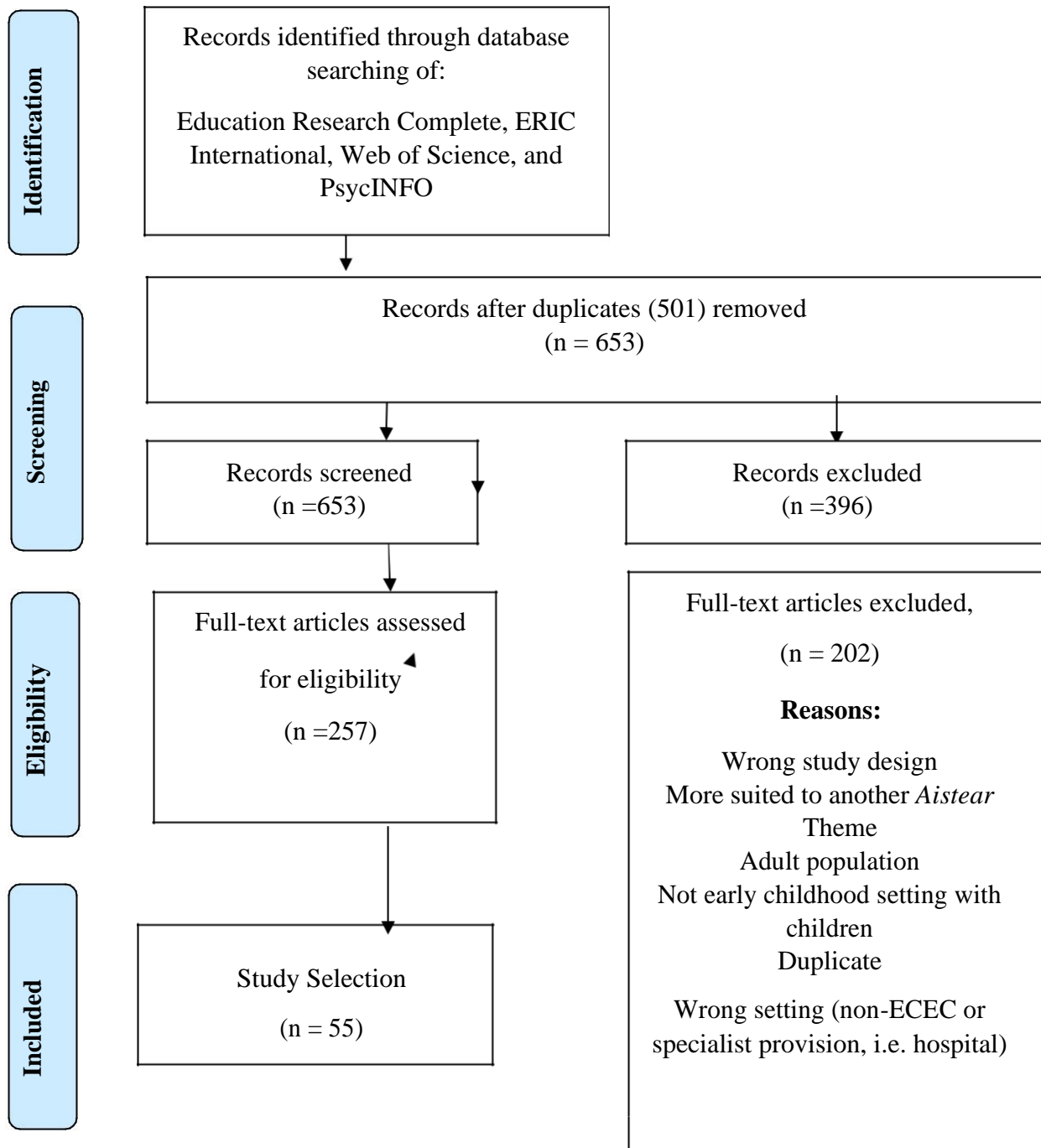
Well-being



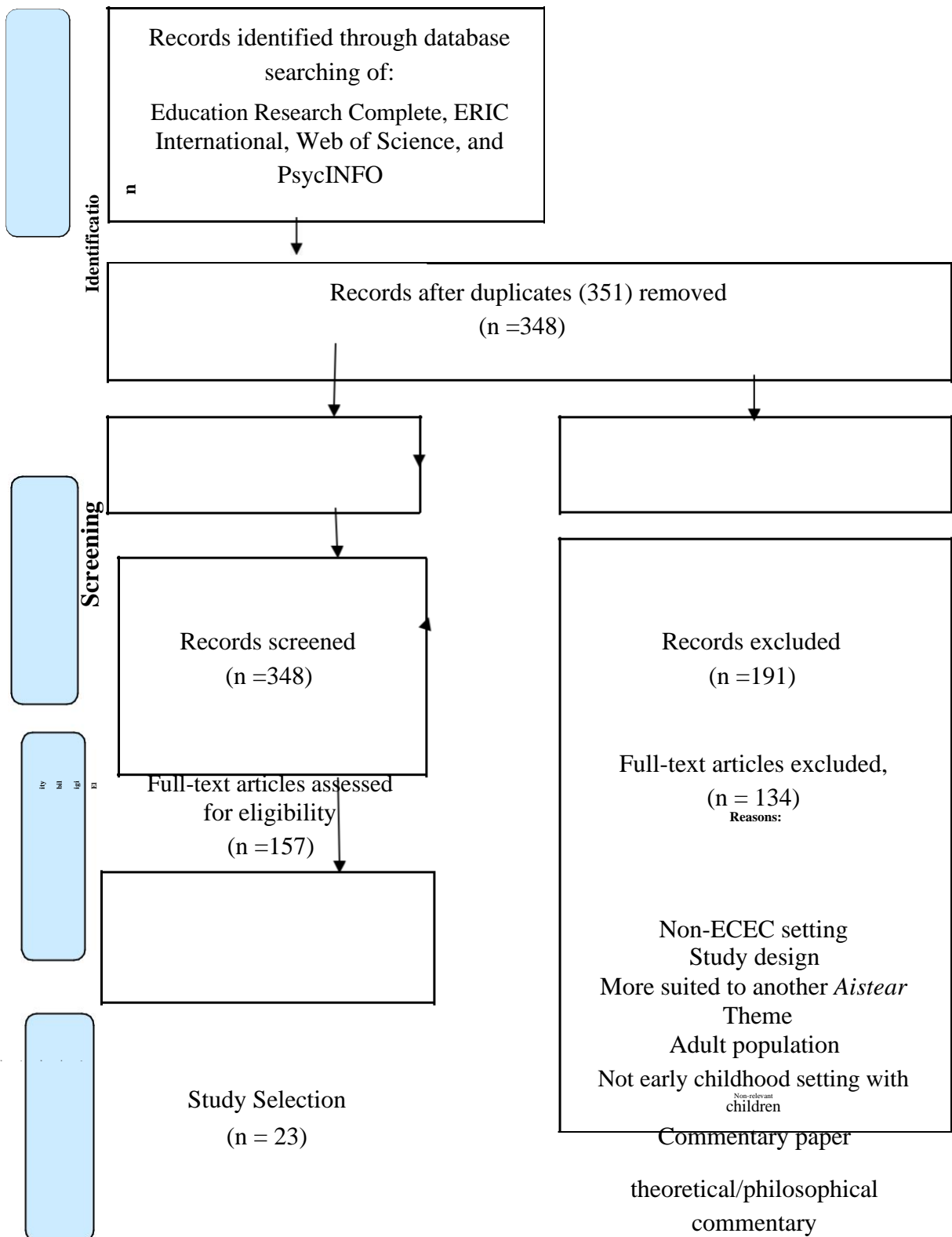
Identity and Belonging



Communicating



Exploring and Thinking



Appendix 4 Mapping Tables

Well-being Mapping Table

Author(s)	Year	Title	Key Themes	Publication Source	Location (s)
Adair, J. K., & Sachdeva, S.	2021	Agency and Power in Young Children's Lives	Agency and Power	Young Children	USA
Aslan, D., & Köksal Akyol, A.	2020	Impact of an Empathy Training Program on Children's Perspective-Taking Abilities.	Perspective-taking abilities	Psychological Reports	Turkey
Bahtić, K., & Višnjić Jevtić, A.	2020	Young Children's Conceptions of Sustainability in Croatia.	Sustainability	International Journal of Early Childhood	Croatia
Baker, S. T., Le Courtois, S., & Eberhart, J.	2021	Making space for children's agency with playful learning	Self-regulation and motivation; agency	International Journal of Early Years Education	England
Bai, H., Duan, H., Kroesbergen, E.H., Leseman, P.P., & Hu, W.	2019	The Benefits of the Learn to Think Program for Preschoolers' Creativity: An Explorative Study.	Creativity	The Journal of Creative Behavior	Northwest China

Barrable, A.	2020	Shaping space and practice to support autonomy: lessons from natural settings in Scotland.	Autonomy; environments	Learning Environments Research	Scotland
Baron, A., Malmberg, L.-E., Evangelou, M., Nesbitt, K., & Farran, D.	2020	The Play's the Thing: Associations between Make-Believe Play and Self-Regulation in the Tools of the Mind Early Childhood Curriculum.	Self – regulation; motivation; agency.	Early Education and Development	England
Bradley, C., Cordaro, D. T., Zhu, F., Vildostegui, M., Han, R. J., Brackett, M., & Jones, J.	2018	Supporting improvements in classroom climate for students and teachers with the four pillars of wellbeing curriculum.	Self –awareness; compassion	Translational Issues in Psychological Science	USA
Braund, H., & Timmons, K.	2021	Operationalization of self-regulation in the early years: Comparing policy with theoretical underpinnings.	Self - regulation	International Journal of Child Care and Education Policy	Canada
Broadfoot, H., & Pascal, C.	2021	An exploration of what conditions facilitate experiences of compassion in one early childhood community.	Sustainability; global citizenship	European Early Childhood Education Research Journal	England

Cefai, C., Arlove, A., Duca, M., Galea, N., Muscat, M., & Cavioni, V.	2018	RESCUR Surfing the Waves: An evaluation of a resilience programme in the early years.	Resilience	Pastoral Care in Education	Malta
Clarke, L., McLaughlin, T. W., & Aspden, K.	2017	Promoting learning during toddlers' peer conflicts: Teachers' perspectives.	Peer relationships	Early Years	New Zealand
Correia, N., Camilo, C., Aguiar, C., & Amaro, F.	2019	Children's right to participate in early childhood education settings: A systematic review.	Participation	Children and Youth Services Review	Northern European countries.
Engdahl, I.	2015	Early Childhood Education for Sustainability: The OMEP World Project.	Sustainability	International Journal of Early Childhood	The Netherlands
Harper, N., & Obee, P.	2021	Articulating outdoor risky play in early childhood education: voices of forest and nature school practitioners	Outdoor play; risky play	Journal of Adventure Education and Outdoor Learning	Canada
Harris, K. I.	2015	Social Studies Investigations for Young Citizens: Passports to Inquiry, Community, and Partnerships.	Inquiry; citizenship	Social Studies Research and Practice	USA

Harte, S., Theobald, M., & Trost, S. G.	2019	Culture and community: Observation of mealtime enactment in early childhood education and care settings.	Cultural practice	International Journal of Behavioral Nutrition and Physical Activity	Australia
Herrmann, Z.	2021	Supporting resilience in ECE: Strategies for teachers.	Resilience	He Kupu, The Word	New Zealand
Kangas, J., Venninen, T., & Ojala, M.	2016	Educators' Perceptions of Facilitating Children's Participation in Early Childhood Education.	Participation	Australasian Journal of Early Childhood	Finland
Karlsdottir, K., & Einarsdottir, J.	2020	Supporting democracy and agency for all children: The learning stories of two immigrant boys.	Democracy; agency	Contemporary Issues in Early Childhood	Iceland
Knauf, H.	2019	Physical Environments of Early Childhood Education Centres: Facilitating and Inhibiting Factors Supporting Children's Participation.	Participation; Environments	International Journal of Early Childhood	USA
Mata- McMahon, J.	2019	Finding connections between spirituality and play for early childhood education.	Play; spirituality	International Journal of Children's Spirituality	USA

McGuire, J., Gallegos, D., & Irvine, S.	2018	Infant feeding nutrition policies in Australian early childhood education and care services: A content and qualitative analysis.	Physical well-being; nutrition	International Journal of Child Care and Education Policy	
Nekitsing, C., Blundell-Birtill, P., Cockroft, J. E., & Hetherington, M.M.	2018	Systematic review and meta-analysis of strategies to increase vegetable consumption in preschool children aged 2–5 years.	Physical well-being; nutrition	Appetite	Australia, Belgium, Denmark, France, Mexico, Netherland, Thailand,UK, USA.
Obee, P., Sandseter, E. B. H., & Harper, N. J.	2021	Children’s use of environmental features affording risky play in early childhood education and care.	Risky play	Early Child Development and Care	Norway
O’Farrelly, C., Booth, A., Tatlow-Golden, M., & Barker, B.	2020	Reconstructing readiness: Young children’s priorities for their early school adjustment.	School readiness	Early Childhood Research Quarterly	Ireland
Ritblatt, S., Longstreth, S., Hokoda, A., Cannon, B.-N., & Weston, J	2013	Can Music Enhance School-Readiness Socioemotional Skills?	Music; school readiness	Journal of Research in Childhood Education	USA

Samuelsson, I. P., & Park, E.	2017	How to Educate Children for Sustainable Learning and for a Sustainable World.	Sustainability	International Journal of Early Childhood	Sweden and Korea
Sando, O. J., & Sandseter, E. B. H.	2020	Affordances for physical activity and well-being in the ECEC outdoor environment.	Environments; physical activity	Journal of Environmental Psychology	Norway
Soliman, D., Frydenberg, E., Liang, R., & Deans, J.	2021	Enhancing empathy in pre-schoolers: A comparison of social and emotional learning approaches.	Empathy; prosocial behaviour; coping skills.	The Educational and Developmental Psychologist	Australia
Svinth, L.	2018	Being touched – the transformative potential of nurturing touch practices in relation to toddlers’ learning and emotional well-being.	Touch; nurture	Early Child Development and Care	Denmark
Tonge, K., Jones, R., Okely, A.	2020	Environmental influences on children's physical activity in early childhood education and care.	Environments	Faculty of Social Sciences	Australia
Van Krieken Robson, J.	2019	Participatory pedagogy for values education in early childhood education.	Participation; values education	European Early Childhood Education Research Journal	England

Identity and Belonging Mapping Table

Author(s)	Year	Title	Key Themes	Publication/Source	Location
Agbenyega, J. & Klibthong, S.	2013	Whole School Initiative: Has Inclusive Education Gone Astray?	Marginalisation; prejudice; empowerment	International Journal of Whole Schooling	Australia
Ailwood, J.; Brownlee, J.; Johansson, E.; Cobb-Moore, C.; Walker, S.; Boulton-Lewis, G.	2011	Educational Policy for Citizenship in the Early Years in Australia	Citizenship; children's rights; participation	Journal of Education Policy	Australia
Ärlemalm-Hagser, E. & Davis, J.	2014	Examining the Rhetoric: A Comparison of How Sustainability and Young Children's Participation and Agency are Framed in Australian and Swedish Early Childhood Education Curricula	Participation; sustainability; children's rights	Contemporary Issues in Early Childhood	Australia Sweden
Chan, A.	2020	Superdiversity and Critical Multicultural Pedagogies: Working with Migrant Families	Superdiversity; migrant families; multicultural pedagogies	Policy Futures in Education	New Zealand

Chan, A.	2019	Te Whāriki: An Early Childhood Curriculum in a Superdiverse New Zealand	Multifarious diversity; migration; inequality	New Zealand Journal of Educational Studies	New Zealand
Chapman, R.	2022	Moving beyond 'gender-neutral': creating gender expansive environments in early childhood education	Gender, identity; 'gender-neutral'; environments	Gender and Education	Australia
Deans, J.	2016	Thinking, feeling and relating : Young children learning through dance	Self and collective agency; dance; embodied thinking; playful problem solving	Australasian Journal of Early Childhood	Australia
Derman-Sparks, L.; Edwards, J.O.	2021	Teaching about Identity, Racism, and Fairness: Engaging Young Children in Anti-Bias Education	Social Justice; racial bias	America Educator	USA
Dunphy, E.	2012	Children's participation rights in early childhood education and care: the case of early literacy learning and pedagogy	Participation; children's rights; voice	International Journal of Early Years Education	Ireland
Eek-Karlsson, L.; Emilson, A.	2021	Normalised diversity: educator's beliefs about children's belonging in Swedish early childhood education	Diversity; culturally enriched practice	Early Years	Sweden

Emilson, A.; Folkesson, AM.; Lindberg, I.	2016	Gender Beliefs and Embedded Gendered Values in Preschool	Gender; equality	International Journal of Early Childhood	Sweden
Garrity, S.; Moran, L.; McGregor, C.; Devaney, C.	2017	An Informed Pedagogy of Community, Care, and Respect for Diversity: Evidence from a Qualitative Evaluation of Early Years Services in the West of Ireland	Diversity; migration; ethnography	Child Care in Practice	Ireland
Hawkins, K.	2014	Teaching for social justice, social responsibility and social inclusion: a respectful pedagogy for twenty-first century early childhood education	Social Justice; difference; diversity and human dignity	European Early Childhood Education Research Journal	Australia
Hedges, H., & Cooper, M	2014	Engaging with holistic curriculum outcomes: Deconstructing 'working theories'.	Curriculum; working theories; dispositions; emergent interests	International Journal of Early Years Education	New Zealand
Hedges, H; Cullen, J; Jordan, B	2011	Early years curriculum: funds of knowledge as a conceptual framework for children's interests	Participation; funds of knowledge; agency	Journal of Curriculum Studies	New Zealand

Karlsdottir, K; Einarsdotti, J.	2020	Supporting democracy and agency for all children: The learning stories of two immigrant boys	Democracy; agency; immigrant children	Contemporary Issues in Early Childhood	Iceland
Kintner-Duffy, VL; Scott-Little, C; Smith, N	2022	"I'm gonna teach them all the same way": teachers' beliefs about, experiences of, and classroom practices with children of color	Cultural identity; race; culturally responsive practice	Journal of Early Childhood Teacher Education	USA
Lalvani, P.; Bacon, J.	2019	Rethinking "We Are All Special": Anti-Ableism Curricula in Early Childhood Classrooms	Anti-ableist strategies; inclusion; special educational needs	Young Exceptional Children	USA
Luff, P.; Kanyal, M.; Shehu, M.; Brewis, N.	2016	Educating the youngest citizens - possibilities for early childhood education and care, in England	Citizenship; rights; democracy; values	Journal for Critical Education Policy Studies	UK
Macartney, B.	2012	Teaching through an ethics of belonging, care and obligation as a critical approach to transforming education	Participation; agency; belonging; special educational needs	International Journal of Inclusive Education	New Zealand

Martens, P.; Martens, R.; Doyle, M.H.; Loomis, J.; Fuhrman, L.; Furnari, C.; Soper, E.; & Stout, R.	2015	Building Intercultural Understandings Through Global Literature	Sense of self, cultural identity; global literature	The Reading Teacher	USA
Mitchell, L.; Bateman, A.	2018	Belonging and culturally nuanced communication in a refugee early childhood centre in Aotearoa New Zealand	Belonging; culturally responsive pedagogies; refugee families	Contemporary Issues in Early Childhood	New Zealand
Neylon, G.	2014	An Analysis of Irish Pre-School Practice and Pedagogy Using the Early Childhood Environmental Four Curricular Subscales	ECER-S; diversity	Irish Educational Studies	Ireland
Passmore, A. H., & Hughes, M. T.	2021	Exploration of Play Behaviors in an Inclusive Pre-school Setting	Play; disability; inclusion	Early Childhood Education Journal	USA

Phillips, L. G.; Ritchie, J.; Adair, J. K.	2020	Young children's citizenship membership and participation: comparing discourses in early childhood curricula of Australia, New Zealand and the United States	Citizenship education; discourse analysis; curricula	Compare: A Journal of Comparative & International Education	Australia USA
Prince, C.	2010	Sowing the Seeds: Education for Sustainability within the Early Years Curriculum	Sustainability; nature	European Early Childhood Education Research Journal	New Zealand
Reinhardt, K.	2018	Discourse and power: Implementation of a funds of knowledge curriculum	Funds of knowledge; communities as resources	Power & Education	USA
Rosen, R.	2010	'We got our heads together and came up with a plan'	Co-construction of curriculum	Journal of Early Childhood Research	Canada
Sadownik, A.	2020	Superdiversity as a trajectory of diversity in Norwegian early childhood and care: From a collection of differences to participation and becoming	Super diversity; participation; becoming	Contemporary Issues in Early Childhood	Norway
Sandberg, A., & Ärlemalm-Hagsér, E.	2011	The Swedish National Curriculum: Play and learning with fundamental values in focus	Children's rights; gender; sustainable development	Australasian Journal of Early Childhood	Sweden

Selby, J.; Bradley, B.S.; Sumsion, J.; Stapleton, M. & Harrison, L.	2018	Is infant belonging observable? A path through the maze	Infant belonging	Contemporary Issues in Early Childhood	Australia
Shaik, N; Martin, C.D.; Moodley, T	2021	Reframing listening for belonging and participation in early childhood care and education settings: a case in South Africa	Agency; belonging; participation	Early Years	South Africa
Silva Dias, T. & Menezes, I.	2013	The role of classroom experiences and school ethos in the development of children as political actors: Confronting the vision of pupils and teachers	Citizenship; children as political actors; participatory dialogue	Educational & Child Psychology	Portugal
Stratigos, T.; Bradley, B; Sumsion, J.	2014	Infants, family day care and the politics of belonging	Belonging	International Journal of Early Childhood	Australia
Sumsion, J.; Harrison, L. & Bradley, B.	2018	Building a knowledge base about the impact of early learning frameworks for infants and toddlers	Babies and belonging	Early Child Development & Care	Australia

Ukala, C. & Agabi, O.	2017	Linking early childhood education with indigenous education using gamification: The case of maintaining cultural value and identity	Indigenous education; cultural values; identity	Journal of International Education Research	Nigeria
Wastell, S. & Degotardi, S.	2017	'I belong here; I been coming a big time': An exploration of belonging that includes the voice of children	Belonging; Place belonging	Australian Journal of Early Childhood	Australia
Yoon, Haeny S.	2020	(Re)Fashioning Gender Play on the Kindergarten Stage: The Complexities of Shifting Diverse Identities from the Margins to the Social Center	Gendered and racial play identities; social worlds; popular culture	Research in the Teaching of English	USA

Communicating Mapping Table

Author(s)	Year	Title	Key Themes	Publication/Source	Location
Aguiar, C., Silva, C.S., Guerra, R., Rodrigues, R.B., Ribeiro, L.A., Pastori, G., Leseman, P. and ISOTIS research team.	2020	Early interventions tackling inequalities experienced by immigrant, low-income, and Roma children in 8 European countries: a critical overview.	Early intervention; ethnic minorities; low socioeconomic status (SES)	European Early Childhood Education Research Journal	Europe (Czech Republic, England, Germany, Greece, Italy, the Netherlands, Poland, Portugal)
Antopolskaya, T. A., Zhuravleva, S. S., & Baybakova, O. Y.	2017	Social Communication as the Means of Preschool Children Education: Research and Development Opportunities	Storytelling; picture books	European Journal of Contemporary Education	Russia
Bauer, EB; Presiado, V; Colomer, S.	2017	Writing Through Partnership: Fostering Translanguaging in Children Who Are Emergent Bilinguals	Cultural contexts; EAL	Journal of Literacy Research	USA
Bautista, A., Moreno-Núñez, A., Bull, R., Amsah, F., & Koh, S. F.	2018	Arts-related pedagogies in preschool education: An Asian perspective	Arts; creativity; agency	Early Childhood Research Quarterly	Asia

Bers, M. U., González- González, C., & Armas-Torres, M. B.	2019	Coding as a playground: Promoting positive learning experiences in childhood classrooms	Robotics	Computers & Education	Spain
Martín-Bylund, A.	2018	The matter of silence in early childhood bilingual education.	Non-verbal communication strategies	Educational Philosophy & Theory	Sweden
Brookes, I., & Tayler, C.	2016	Effects of an evidence-based intervention on the Australian English language development of a vulnerable group of young Aboriginal children	Early intervention; educational disadvantage	Australasian Journal of Early Childhood	Australia
Campbell, S.	2021	What's Happening to Shared Picture Book Reading in an Era of Phonics First?	Learning about being a reader is more than teaching phonics	The Reading Teacher	Australia
Cavanaugh, D. M., Clemence, K. J., Teale, M. M., Rule, A. C., & Montgomery, S. E.	2017	Kindergarten Scores, Storytelling, Executive Function, and Motivation Improved through Literacy- Rich Guided Play	Play; phonics; alphabetical knowledge	Early Childhood Education Journal	USA
Chang, N., & Cress, S.	2014	Conversations about visual arts: Facilitating oral language	Visual arts; adult-child communication	Early Childhood Education Journal	USA
Cohen, L., & Uhry, J.	2011	Naming block structures: A multimodal approach	Block play; multimodality; symbolism	Early Childhood Education Journal	USA

Cohrssen, C., Niklas, F., & Tayler, C.	2016	"Is That What We Do?" Using a Conversation-Analytic Approach to Highlight the Contribution of Dialogic Reading Strategies to Educator-Child Interactions during Storybook Reading in Two Early Childhood Settings	Dialogic reading	Journal of Early Childhood Literacy	Australia
Cominardi, C.	2014	From creative process to trans-cultural process: Integrating music therapy with arts media in Italian kindergartens: A pilot study	Music; creativity; cultures	Australian Journal of Music Therapy	Italy
Concannon-Gibney, T.	2021	"Teacher, Teacher, can't Catch Me!": Teaching Vocabulary and Grammar using Nursery Rhymes to Children for Whom English is an Additional Language	EAL; early literacy; oral language	The Reading Teacher	USA/ Ireland
Danby, S., Evaldsson, A. C., Melander, H., & Aarsand, P.	2018	Situated collaboration and problem solving in young children's digital gameplay.	Peer interactions; multimodality; game play	British Journal of Educational Technology	Australia/Norway/Sweden
Decat, E., Damjanovic, V., Branson, S., Blank, J., & Berson, I. R.	2019	Using Touch Technology to Foster Storytelling in the Preschool Classroom.	Storytelling; multimodality	Journal of Inquiry and Action in Education	USA

Fleer, M.	2018	Digital animation: New conditions for children's development in play-based setting	Digital play; story	British Journal of Educational Technology	Australia
Haggerty, M., & Mitchell, L.	2010	Exploring curriculum implications of multimodal literacy in a New Zealand early childhood setting	Multimodality; multimodal literacy ; agency	European Early Childhood Education Research Journal	New Zealand
Harju, Anne; Åkerblom, Annika	2020	Opening up new spaces for languaging practice in early childhood education for migrant children	Translanguaging; multilingualism; children' s agency	International Journal of Early Years Education	Sweden
Hayes, N., Maguire, J., Corcoran, L., & O' Sullivan, C.	2017	Artful Dodgers: an arts education research project in early education settings	Arts; literacy and numeracy	Irish Educational Studies	Ireland
Heydon, R., Zhang, Z., & Bocazar, B.	2017	Ethical Curricula through Responsive, Multimodal Literacy and Pedagogy: Illustrations from a Kindergarten Classroom Curriculum	Multimodal pedagogies	Ethics, Equity, and Inclusive Education.	Canada
John, B. A., Cameron, L., & Bartel, L.	2016	Creative musical play: An innovative approach to early childhood music education in an urban community school of music	Creativity; cultural diversity	Action, Criticism & Theory for Music Education	Canada

Justice, L. M., Logan, J. A., Kaderavek, J. N., & Dynia, J. M.	2015	Print-focused read-alouds in early childhood special education programs	Special Education; Read aloud	Exceptional Children	
Kohl, K., Bihler, L. M., Agache, A., Leyendecker, B., & Willard, J. A.	2022	Do Peers Matter? Peer Effects on Young Children's Vocabulary Gains in German Classrooms	Receptive vocabulary; peer mediated learning	Journal of Educational Psychology	Germany
Kultti, A., & Pramling, N.	2015	Limes and Lemons: Teaching and Learning in Preschool as the Coordination of Perspectives and Sensory Modalities	Sociocultural approach; multimodality	International Journal of Early Childhood	Sweden
Kultti, A., & Pramling, N.	2015a	Bring Your Own Toy: Socialisation of two-year-olds through tool-mediated activities in an Australian early childhood education context.	Participation; play; joint activity; language skills	Early Childhood Education Journal	Australia
Leung, S. K., Choi, K. W., & Yuen, M.	2020	Video art as digital play for young children	Arts; digital play; imagination	British Journal of Educational Technology	China

Mages, W. K.	2018	Does theatre-in-education promote early childhood development? The effect of drama on language, perspective-taking, and imagination	Creativity; arts-based learning; imagination; participation	Early Childhood Research Quarterly	USA
Magnusson, L. O.	2021	‘Look, my name! I can write’ – Literacy events and digital technology in the preschool atelier.	Engaged interactions between peers, digital technology & non-digital materials; Visual literacies; Multimodality	Journal of Early Childhood Literacy	Sweden
Maureen, I. Y., van der Meij, H., & de Jong, T.	2018	Supporting Literacy and Digital Literacy Development in Early Childhood Education Using Storytelling Activities	Storytelling; digital storytelling; shared reading	International Journal of Early Childhood	Indonesia
McPake, J., Plowman, L., & Stephen, C.	2013	Pre-school children creating and communicating with digital technologies in the home	Digital technologies; creativity; multimodality	British Journal of Educational Technology	Scotland
Monaco, C., & Pontecorvo, C.	2010	The interaction between young toddlers: constructing and organising participation frameworks	Participation; peer mediated learning	European Early Childhood Education Research Journal	Italy
Neves, V. F. A., Katz, L., Goulart, M. I. M., & Gomes, M. D. F. C.	2020	Dancing with the pacifiers: infant's perizhivanya in a Brazilian early childhood education centre	Dance; play	Early Child Development and Care	Brazil

Nevo, E., & Vaknin-Nusbaum, V.	2018	Enhancing language and print-concept skills by using interactive storybook reading in kindergarten	Story book reading; print concept	Journal of Early Childhood Literacy	Brazil
Nevo, E., & Vaknin-Nusbaum, V.	2018	Joint Reading of Informational Science Text Versus narrative Stories: How Does each Affect Language and Literacy Abilities Among Kindergarteners?	Story telling; informational text	Reading Psychology	Brazil
Nicolopoulou, A., Schnabel Cortina, K., Ilgaz, H., Brockleyer Cates, C., & de Sa, A. B.	2015	Using a narrative- and play-based activity to promote low-income preschoolers' oral language, emergent literacy, and social competence	Drama; storytelling	Early Childhood Research Quarterly	USA
Orr, E., Kasperski, R., Caspi, R., & Hay, S.	2021	Improving children's oral vocabulary with a dynamic intervention programme	Vocabulary; oral language	The Educational and Developmental Psychologist;	Israel
Papandreou, M.	2014	Communicating and thinking through drawing activity in early childhood.	Creativity; arts	Journal of Research in Childhood Education	Greece
Penn, L.R.	2020	Room for monsters and writers: Performativity in children's classroom drawing.	Creativity; arts	Contemporary Issues in Early Childhood	USA

Phillips, R. D., Gorton, R. L., Pinciotti, P., & Sachdev, A.	2010	Promising findings on preschoolers' emergent literacy and school readiness in arts-integrated early childhood settings	Arts; literacy; school readiness	Early Childhood Education Journal	USA
Pursi, A.	2016	Play in adult-child interaction: Institutional multi-party interaction and pedagogical practice in a toddler classroom	Adults participation; interactions	Learning Culture and Social Interaction	Finland
Ramsook, K. A., Welsh, J. A., & Bierman, K. L.	2020	What you say, and how you say it: Preschoolers' growth in vocabulary and communication skills differentially predict kindergarten academic achievement and self-regulation	Orla language; self-regulation	Social Development	USA
Reese, E., Gunn, A., Bateman, A., & Carr, M	2021	Teacher child talk about learning stories in New Zealand: a strategy for eliciting children's complex language	Learning stories	Early Years	New Zealand
Rhoades, M.	2016	"Little Pig, Little Pig, Yet Me Come In!" Animating the three little pigs with pre-schoolers	Digital; story; multimodality; play	Early Childhood Education Journal	USA
Salamon, A., Sumison, J., & Harrison, L.	2017	Infants draw on 'emotional capital' in early childhood education contexts: A new paradigm	Adult-child relationships; emotional capital	Contemporary Issues in Early Childhood	Australia

Satriana, M., Heriansyah, M., & Maghfirah, F.	2021	The use of shared reading books in Indonesian early childhood	Shared reading	Education 3-13	Indonesia
Torr, J.	2019	Infants' Experiences of Shared Reading with Their Educators in Early Childhood Education and Care Centres: An Observational Study	Shared reading	Early Childhood Education Journal	Australia
van der Wilt, F., Boerma, I., van Oers, B., & van der Veen, C.	2019	The effect of three interactive reading approaches on language ability: an exploratory study in early childhood education	Interactive reading; shared reading	European Early Childhood Education Research Journal	The Netherlands
van Druten- Frietman, L., Strating, H., Denessen, E., & Verhoeven, L.	2016	Interactive Storybook-Based Intervention Effects on Kindergartners' Language Development	Dialogic reading	Journal of Early Intervention	The Netherlands
Vogt, F., & Hollenstein, L	2021	Exploring digital transformation through pretend play in kindergarten	Pretend play; digital transformations; agency; creativity	British Journal of Educational Technology	Switzerland
Wedin, Å	2010	Narration in Swedish pre- and primary school: a resource for language development and multilingualism	Narration; multilingual education; multi-literacy; diverse classrooms	Language, Culture and Curriculum	Sweden

Wessel-Powell, C., Kargin, T., & Wohlwend, K. E.	2016	Enriching and assessing young children's multimodal storytelling	Multimodal storytelling	The Reading Teacher	USA
White, E.J., Redder, B., & Peter, M.	2015	The work of the eye in infant pedagogy; A dialogic encounter of "seeing" in an education and care setting	Adult-child relationship; multimodal interactions	International Journal of Early Years Education	New Zealand
Yang, S.	2016	Supporting oral narrative development of kindergarten English language learners using multimedia stories	Oral narrative; multimodal literacy	Journal of Interactive Learning Research	USA
Yazici, Z., Genç İter, B. & Glover, P.	2010	How bilingual is bilingual? Mother-tongue proficiency and learning through a second language	Bilingualism; EAL	International Journal of Early Years Education	Turkey

Exploring and Thinking Mapping Table

Author(s)	Year	Title	Key Themes	Publication Source	Location
Björklund, C.	2014	Powerful Teaching Activities in Preschool – A Study of Goal-Oriented Activities for Conceptual Learning	Mathematics; teaching; playful learning	International Journal of Early Years education	Sweden
Byrnes, J.P., Miller-Cotto, D., & Wang, A.H.	2018	Children as Mediators of Their Own Cognitive Development: The Case of Learning Science in Kindergarten and First Grade	Exposure to science concepts; positive dispositions; working theories	Journal of Cognition and Development	US
Chesworth, L.	2016	A Funds of Knowledge Approach to Examining Play Interests: Listening to Children’s Parents’ Perspectives	Funds of knowledge; play; peer culture; children’s perspectives	International Journal of Early Years Education	UK
Clements, D.H. & Sarama, J.	2016	Math, Science, and Technology in the Early Grades.	STEM; Early Exposure; EY Curricula	The Future of Children	US
Cohrssen, C., Church, A., Ishimine, K. & Tayler, C.	2013	Playing with Maths: Facilitating the Learning in Play-Based Learning.	Mathematics; play-based learning	Australasian Journal of Early Childhood	Australia

Edwards, S.	2016	New Concepts of Play and the Problem of Technology, Digital Media and Popular-Culture Integration with Play-Based Learning in Early Childhood Education.	Digital technologies; early childhood curriculum; play-based learning	Technology, Pedagogy and Education	Australia
Edwards, S.	2017	Play-Based Learning and Intentional Teaching; Forever Different?	Play-based learning; intentional teaching	Australasian Journal of Early Childhood	Australia
Edwards, S. & Cutter-Mackenzie, A.	2013	Pedagogical Play Types: What Do They Suggest for Learning About Sustainability in Early Childhood Education?	Sustainability; play-based-learning, early childhood education	International Journal of Early Childhood	Australia
Engdahl, I.	2015	Early Childhood Education for Sustainability: The OMEP World Project.	Education for sustainability; children's participation; early childhood education.	International Journal of Early Childhood	International study (28 countries).
Fleer, M.	2011	Technologically Constructed Childhoods: Moving Beyond a Reproductive to a Productive View of Curriculum Development	Technology; early childhood; every-day activity; play	Australasian Journal of Early Childhood	Australia
Franzén, K.	2015	Under Three's Mathematical Learning	Mathematics; toddlers; embodied cognition	European Early Childhood Education Research Journal	Sweden

Havu-Nuutinen, S, Kewalramani, S., Veresov, N., Pöntinen & Kontkanen, S.	2021	Understanding Early Childhood Science Education: Comparative Analysis of Australian and Finnish curricula.	Early science education; curricula	Research in Science Education	Australia and Finland
Hedges, H. & Cooper,	2014	Engaging with Holistic Curriculum Outcomes: Deconstructing ‘Working Theories’	Working theories; pedagogy; curriculum; outcomes	International Journal of Early Years Education	New Zealand
Knaus, M.	2017	Supporting Early Mathematics Learning in Early Childhood Settings	Mathematics; pedagogy; early childhood education; professional development	Australasian Journal of Early Childhood	Australia
Leggett, N.	2017	Early Childhood Creativity: Challenging Educators in Their Role to Intentionally Develop Creative Thinking in Children	Creativity; divergent thinking; Intentional Pedagogy	Early Childhood Education Journal	Australia
Linder, S.M., Powers-Costello, B. & Stegelin, D.A.	2011	Mathematics in Early Childhood: Research-Based Rationale and Practical Strategies	Reggio Emilia; mathematics; enabling environments	Early Childhood Education Journal	US
Masoumi, D.	2015	Preschool Teachers’ Use of ICTs: Towards a Typology of Practice.	digital technology; pedagogy; cultural awareness	Contemporary Issues in Early Childhood	Sweden

Prince, C.	2010	Sowing the Seeds: Education for Sustainability Within the Early Years Curriculum	Sustainability; curriculum; nature-based learning	European Early Childhood Education Research Journal	New Zealand
Ralph, R.	2018	Media and Technology in Preschool Classrooms: Manifesting Prosocial Sharing Behaviours When Using iPads.	Digital technology; pro-social behaviours; preschool settings	Technology, Knowledge and Learning	Canada
Rhoades, M.	2016	“Little Pig, Little Pig, Let Me Come In!” Animating The Three Little Pigs With Preschoolers.	Arts-based learning; multi-modality; digital literacies	Early Childhood Education Journal	US
Saçkes, M.	2014	How Often do Early Childhood Teachers Teach Science Concepts? Determinants of the Frequency of Science Teaching in Kindergarten	Early childhood science education; environments; professional development	European Early Childhood Education Research Journal	US
Sandseter, E., Kleppe, R. & Sando, O.	2021	The Prevalence of Risky Play in Young Children’s Indoor and Outdoor Free Play	Environments; risky play; gender	Early Childhood Education Journal	Norway
Siry, C., & Kremer, I.	2011	Children Explain the Rainbow: Using Young Children’s Ideas to Guide Science Curricula	Early Childhood Science; emergent pedagogy; science talk	Journal of Science Education and Technology	Luxemburg