PERCEIVED EFFECTS OF AN ACADEMIC ENRICHMENT PROGRAMME FOR POTENTIALLY GIFTED STUDENTS FROM A SOCIO-ECONOMIC DISADVANTAGED AREA USING CRITICAL ACTION RESEARCH.

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DECLARATION

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor of Education is entirely my own work, that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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ABSTRACT

This study focused on a unique action research project called the Centre for Academic Achievement (CAA). This university based study involved planning, implementing, evaluating and improving an afterschool academic enrichment courses for promising learners from a socio-economic disadvantaged background. This qualitative study investigated whether this short-term educational intervention had any academic or social effects on the students attending courses at the CAA.

The research was framed within a participatory worldview with social constructivist elements. This philosophical stance led to the choice of action research being embraced for the study. This method was reinforced with critical theory, and it was hoped that this piece of action research would lead to some level of social change for the participants. Focus groups, interviews and surveys were the analytical tools used.

After two cycles of action research four main themes regarding the influence and effects of the study emerged:

- There are academic benefits for promising learners that attend enrichment programmes.
- An increase in self-esteem for disadvantaged students may be linked to attending enrichment programmes
- The importance of fostering links between school, university & socio-economic disadvantaged communities is recognised.
- The importance of using action research to improve programme development & also to help improve the lives of participants is suggested.

The researcher acknowledges that this study is on a very small scale but has shown that a degree of social change for the better has occurred during the research.

CHAPTER 1. INTRODUCTION

1.1 INTRODUCTION

In this chapter I will introduce the background to my study and briefly outline what will be covered in the various sections of this thesis. This piece of work is centred on the implementation of action research, which involved setting up and developing an afterschool enrichment programme for potentially gifted children from a socio-economic disadvantaged background. The objectives of this study were to examine whether there were any benefits for children who attended this programme and if so, what were these benefits. The success of using an action research method and how its use is related to any of the perceived benefits, if any, was also investigated.

1.2 BACKGROUND

1.2.1. RATIONALE FOR THIS STUDY

I decided to initiate an action research project in order to develop an educational support programme for promising learners who came from a socio-economic disadvantaged background. I felt that it was necessary to undertake this project after a needs analysis conducted by local school principals found that little was being done to challenge the high ability students in their schools (Tobin 2006). There were 32 primary schools involved in the study and all of these schools are based in urban poverty areas. The principals also reported that the children who were doing well in school were trying to conceal their achievements in order to fit in with their peers. The principals of the schools felt that if the children had somewhere that they could go to demonstrate their talents with children of similar ability it would encourage these children to continue to improve (Tobin 2006) (Tobin 2006). In addition, through my own work at a gifted educational centre, the Centre for Talented Youth Ireland (CTYI), figures gathered found that only 6% of students attending academic enrichment courses at this centre in 2005 were from low income families (O'Reilly 2005). Therefore, I felt that some type of additional resource was needed to ensure that these underserved high ability students were being academically stimulated. Indeed this low representation of socio-economic disadvantaged students is apparent in many gifted programmes worldwide (Gagné, Araújo et al. 2011, Ford, Grantham 2003, Borland, Schnur et al. 2000) not just at this Irish centre.

1.2.3. BRIEF DESCRIPTOR OF THE CENTRE FOR ACADEMIC ACHIEVEMENT

After reflection and planning, the Centre for Academic Achievement (CAA) project was set up in 2006 to try to meet these needs. The CAA was set up with the support of 2 departments within the university, CTYI and the DCU ACCESS department, the latter being an organisation that promotes equality in education from all demographics (DCU ACCESS Service 2011).

The CAA provides afterschool academic enrichment courses to potentially gifted children, aged between 10 and 12 years old, who are from a socio-economic disadvantaged background. The courses all take place on the university campus.

The overall objectives of this after school programme for these potentially gifted students from disadvantaged areas were to:

- Encourage students to be interested in learning outside the school environment
- Encourage students to take an interest in subjects outside the curriculum e.g. engineering, chemistry and marine biology
- Provide support to schools to tackle educational disadvantage
- Promote positive attitudes to education in the community
- Encourage parents to support academic achievement
- Encourage students to embrace university life by basing the classes within a university campus.

More detailed information regarding the CAA and its foundation are outlined in the context chapter.

1.3. SYNOPSIS OF CONTEXT CHAPTER

This context chapter provides more information on the expertise of the two departments, CTYI and Dublin City University (DCU) ACCESS Service, which have combined their skills and knowledge to design and manage the CAA project. The content and delivery of the courses that are undertaken by these educationally at-risk learners at the centre is detailed. The criteria and selection process that dictates how the students are chosen to come on the programmes is given. This section also summarises my own background and how it lead me to undertake this study.

Of equal importance, the chapter also outlines the profile of the participants and their geographical situation in relation to the university campus where the courses take place. The effects on a child of having a socio-economic disadvantaged background are discussed

and the lack of educational outreach programmes for potentially gifted underprivileged students is highlighted.

1.4. SYNOPSIS OF THE LITERATURE REVIEW

The literature review will detail the contemporary and seminal views in related areas of gifted literature. Giftedness will be defined in the context of this study, educational outreach programmes and supports for gifted students will be outlined and the benefit and content of enrichment programmes will be discussed. Global examples of enrichment programmes currently operating will also be given. The importance of talent development as a lifelong process will also be included.

As well as explaining and clarifying giftedness, the term disadvantaged in the context of this study will also be defined. In the context of this paper the term 'disadvantaged' refers to being disadvantaged due to socio-economic reasons. Additionally for this paper 'at-risk' refers to being educationally at-risk i.e. at-risk of not finishing secondary school. The level of educational attainment for low-income children in Ireland, in particular from the area of Ballymun where the CAA students live, will be outlined. Barriers that stop socio-economic disadvantaged children academically advancing will be suggested in accordance with the current literature published in Ireland and globally. The importance of progressing to third level education for disadvantaged children is given. Some initiatives that are trying to increase the likelihood of this underrepresented group finishing secondary school and moving on to a third level institution are detailed.

Finally, the terms relating to potentially gifted learners from socio-economic disadvantaged areas will be defined in the context of this study and the issue of underachievement in this group will be discussed. The importance of enrichment programmes to help combat this underachievement in these promising at-risk students will be argued. Global examples of successful educational interventions for high ability students from poverty will be given to add credence to the decision to start an enrichment programme for potentially gifted socio-economic disadvantaged learners in Ireland.

1.5. RESEARCH QUESTIONS TO BE ANSWERED DURING THIS STUDY

The aim of this piece of research was to instigate and thereafter improve an educational enrichment programme that would academically challenge high ability disadvantaged learners. Another goal was that new knowledge would emerge as a result of the study and the following research questions would be answered during the course of the research and analysis of the data:

1) Do the students benefit academically from attending the programme?
2) Does the programme benefit the students' personal and/or social development?
3) Is the programme well managed and respected by the children's parents and primary school teachers?
4) As a result of attending a course, are the students more likely to attend DCU or another third level institution when they are older?

It was also hoped, but not expected, that some level of social change would occur where it was not just a single child's aspirations that had changed for the better, but that the community as a whole would be positively affected by the programme. This objective was formed after I decided that the direction of this study should be based on the beliefs of social constructivism with a strong emphasis on critical theory, both of which will be extensively outlined in the methodology chapter.

1.6. SYNOPSIS OF METHODOLOGY CHAPTER

I felt that the best method to achieve this critical change was action research, as this living theory is an ideal blend of creating knowledge that is relevant to the real world, as well as producing changes for the benefits of society (Farren 2011). This method is driven by the needs and opinions of the participants, and so was an ideal choice for a collaborative study that hopes to make a critical change to the participants' lives (Farren 2011, Whitehead, McNiff 2006, Macpherson, Aspland et al. 1998). Two action research cycles were undertaken during the study to ensure that there has been sufficient input to make permanent changes to the programme and hopefully changes in the abilities and attitudes of the participants. These cycles involved:

- Setting up the centre.
- Observing if the programme was meeting its criteria.
- Collaborating with stakeholders to evaluate the success of the programme and to discuss how to improve the programme for the maximum benefit for the participants.
- Reflecting and planning on how to implement any changes.
- Acting by implementing these changes.
- Collaborating with stakeholders to discuss how effective the changes have been.
- Reflecting on the outcomes of the programme for its participants and related stakeholders.

Data was gathered over the course of the research from all stakeholders: the students, their parents, their primary school teachers, the CAA instructors and the teaching assistants on

the programme. Questionnaires, focus groups and interviews were the analytical tools used. 402 questionnaires were filled out, 5 focus groups involving a total of 14 adults and 10 CAA staff members were carried out. Additionally 7 children, 1 CAA instructor and 1 school principal were interviewed. More information on the process of action research and the analytical tools used during this study will be outlined in greater detail in the methodology chapter.

1.7. SYNOPSIS OF RESULTS & DISCUSSION CHAPTERS

Through the analysis of the data four different themes emerged:

1) Probable academic benefits for high ability learners from a socio-economic disadvantaged background that attend enrichment programmes.
2) An increase in self-esteem for disadvantaged students may be linked to attending enrichment programmes.
3) The importance of fostering links between school, university, and socio-economic disadvantaged communities.
4) The importance of using action research to improve programme development and also to help improve the lives of the participants.

The first theme, that there were probably academic benefits for the students attending enrichment programmes, was expected and not surprising. However the scale of the academic impact of this particular project on the students in related scholastic areas was stronger than expected. These scholastic benefits included broadening the academic horizons of many students, students learning a variety of new topics within a given subject, and changing the attitudes of many children towards a subject. The importance of 'hands-on' learning was also emphasised and the many mentions by children and their parents of discussions of a subject after class time was an unexpected pleasure to uncover.

The second theme to emerge was the increase in self-esteem of many students taking part in this enrichment course. This finding was to me one of the most important, as it highlighted how a short-term intervention can have a positive influence on a child's development.

The importance of fostering links emerged as the third theme due to the numerous mentions by various stakeholders regarding how they wished for the local university to be more involved with the nearby schools and how school staff wished for more practical training on developing science activities and nurturing gifted students. Parents also asked for teaching materials to be given to them so their child could continue learning at home with their parents about the subject they had been studying as part of the project.

Finally, the importance of action research in programme development and helping improve the lives of participants came to light. Action research has not being used before anywhere in the world to examine the benefits of an enrichment programme for high ability low income learners who are of primary school age. Therefore this piece of action research has highlighted how action research can be used to great merit on other similar projects.

All four themes are debated in detail in the discussion chapter and the relevance of the findings was compared with the current published literature in the related areas.

1.8. SYNOPSIS OF THE CONCLUSION CHAPTER

To conclude the project has proven itself to be an exemplar that could be used to develop and improve similar enrichment programmes for disadvantaged learners in the hope of gaining more knowledge into the benefits of this type of intervention for educationally at-risk populations. The success of using an action research method in affecting positive change is highlighted and it was argued that the research questions had indeed been answered conclusively. The importance of fostering links between schools, communities and the universities is advocated with more in-service teacher training workshops and more resources and events for families to be recommended to develop the project further in the future. The academic and personal benefits that projects like the CAA offer to disadvantaged high ability students are also highlighted.

A critique of the study and its limitations are given which focuses on the lack of long term impact that a short term intervention initiative can give. It is recommended that the students who have taken courses already at the CAA will continue to be offered more educational courses through the CAA project during the course of their journey through primary and secondary school to ensure that the influence of the project on these students' lives ensures that they have the support and confidence to progress to third level education if that is their wish.

1.9. CONCLUSION

This introductory chapter has briefly outlined the topics that each of the remaining chapters in this study will detail at greater lengths. It is hoped that this opening section has helped set the scene for this study and highlight the merit of this piece of research. A more detailed background to the context of this study will be given in the proceeding chapter.

CHAPTER 2. CONTEXT

2.1. INTRODUCTION

In the introductory chapter there was only time to briefly mention the background and setting of this study. Therefore I decided that a short context chapter would aid the reader in fully understanding why the research project was set up and why children from the local neighbourhood, Ballymun, were invited to take part in this project.

As mentioned, the Centre for Academic Achievement (CAA) is a partnership between two organisations within Dublin City University (DCU): The Centre for Talented Youth Ireland (CTYI) and DCU ACCESS Service. The remit of these departments needs to be outlined in order to fully understand the context of the CAA.

2.2. THE CENTRE FOR TALENTED YOUTH IRELAND

CTYI was set up in Dublin City University in 1992. It is based on the successful model 'The Centre for Talented Youth' which was developed by John Hopkins University, in Baltimore, Maryland and now has centres in the majority of states in America (Barnett, Albert et al. 2005). The aim of CTYI is to provide challenging courses, based on ability rather than age, for gifted and talented children in order for these students to reach their academic and social potential (CTYI 2010).

CTYI programmes aim to fulfil the following criteria as set out by Gallagher (1985) on what makes best practice for a special gifted programme:

- 'Gifted children should master important conceptual systems that are the level of their abilities in various content fields.
- Gifted children should develop skills and strategies that enable them to become more independent, creative and self-sufficient searchers after knowledge.
- Gifted children should develop a joy and excitement about learning that will carry them through the drudgery and routine that is an inevitable part of learning.'

(p.80)

The courses that CTYI provide do indeed meet the above criteria, as agreed by Dr. Colm O'Reilly, director of CTYI, during a meeting I had with him on the 14th May 2012. Specialised

gifted programmes, like CTYI, are a success due to the well qualified instructors that are hired, who are all specialists in their field of study (VanTassel-Baska 1998), who 'create experiences' and 'design environments' that will enhance these students' gifts (Gallagher 2002).

CTYI does provide after-school educational programmes to children but does not specifically target students at-risk of not finishing school or going on to college due to their socio-economic circumstances. CTYI aims its courses at students who have been previously identified as academically talented rather than in the case of the CAA project where 'potentially gifted' students are the focus. CTYI was also aware that there were not as many children from socio-economic disadvantaged backgrounds attending

2.3. THE NATIONAL ACCESS PROGRAMME & DCU ACCESS

The National ACCESS Programme is an initiative to support groups who are normally under-represented at college to gain entry to a third level institution and more importantly to provide support to ensure these chosen students complete their area of study (Higher Education Authority 2008). These ACCESS supported students may include students with disabilities, mature students, and more importantly for the purposes of this study, students from a socio-economic disadvantaged background (DCU ACCESS Service 2012)

The Aim of National Access plan is to:

> 'National Access Plan aims to build on the achievements of recent years in relation to increased participation and greater equality in higher education access'
>
> (McCoy, et al. 2010 p.10)

The ACCESS initiative began as the DCU ACCESS department, based within Dublin City University, before expanding to other third level institutions nationwide (DCU ACCESS Service 2012). All the ACCESS centres have developed and use an agreed shared strategy, the higher education access route (HEAR), to ensure disadvantaged groups are better represented in third level education (McCoy, et al. 2010). The DCU ACCESS department is still operational today and provides scholarships, support and financial aid to many third level students who would not be able to attend DCU without this vital support, with widening participation at third level from marginalised communities its main aim (DCU ACCESS Service 2010). 32 primary schools and 24 secondary schools based in the locality surrounding DCU are designated as disadvantaged schools, also referred to as DEIS schools. Section 2.5 will detail what exactly is a DEIS school. DCU ACCESS endeavour to support these particular schools in providing additional educational services to encourage students in these schools on their journey towards third level education. Since the beginning of the

programme in 1990 almost 1,500 students have entered college via the DCU ACCESS service (Faller 2012). Research carried out by this department regarding the performance of students who had entered via the ACCESS route, compared to students who entered DCU via a traditional manner, found that on average these ACCESS students received a higher grade in their respective undergraduate degree courses than their peers (DCU ACCESS Service 2011). This study, which compared figures from 2003-2010, emphasises that a person's background does not have any bearing on their ability to progress and excel in higher education as long as they have access to educational and personal development provisions to support their journey to and during college.

As well as supporting students in third level, another objective is to encourage students at primary and secondary school level, who live in socio-economic disadvantaged areas, to start thinking about attending DCU at third level (DCU ACCESS Service 2010). For this reason ACCESS services has programmes specifically targeting schools, with their goals being:

- To raise awareness about third level within participating schools.
- To increase numbers from participating schools entering third level.
- To support students to achieve their academic potential.
- To promote positive attitudes to education in the community.

(DCU ACCESS 2010)

The above brief descriptors of both CTYI and the DCU ACCESS department have many similar goals including encouraging students to achieve their academic potential, working with children to promote learning and also supporting these students to progress to third level education. Therefore it was ideal for these two departments to use their combined skills to support the development of the Centre for Academic Achievement.

2.4. THE CENTRE FOR ACADEMIC ACHIEVEMENT

2.4.1. GOALS AND OBJECTIVES OF THE CAA

The first step towards children attending a CAA course is they need to be chosen by their school teacher to come on the programme. The local primary school teachers involved were keen for their students to be involved as they were eager to encourage these high ability learners to develop their academic talent. Many of these students from the 32 linked schools which are involved in the project may not have thought of attending university as an option for their future and one of the goals of the programme is to highlight to these students that attending higher education is a valid option for them.

The overall objectives of this after-school programme for these potentially gifted students from disadvantaged areas were to:

- Encourage students to be interested in learning outside the school environment
- Encourage students to take an interest in subjects outside the curriculum e.g. engineering, chemistry and marine biology
- Challenge students academically.
- Provide support to schools to tackle educational disadvantage
- Promote positive attitudes to education in the community
- Encourage parents to support academic achievement
- Encourage students to embrace university life by basing the classes within a university campus.

2.4.2. CONTENT AND DELIVERY

So what does the CAA programme encompass?

The courses, based on the CTYI model, all take place in classrooms on DCU campus, and the students are aged between 10 to 12 years old. There are 3 terms each year and in each term there are 3 different concurrent 4 week courses on offer. The students who are chosen for a course on the programme study one topic for 1.5 hours for 4 Wednesdays (after-school 3.15-4.45pm). Each course has a maximum class size of 22 children, so over the period of the academic year, 66 students are given places on the programme. The subjects that have been offered include: Astronomy, Sports Science, Investigative Science, Chemistry, Creative Writing, Forensics, Computer Gaming Medicine and Engineering – with the popular subjects (typically Forensics and Computer Gaming) being offered more than once. So it is hoped that this 'rich broth of curricular experiences' (Swanson 2006, p.12) will stimulate the academic abilities of these promising learners, and the open ended flexible learning experience will nurture the students' creative abilities (Barone and Schneider 2003).

The instructors for these subjects have considerable knowledge in their areas as they hold, at minimum, an undergraduate degree in the related field. All the courses are designed to be fun and as hands on as possible. Instructors have to submit proposed course descriptions for approval, fill out weekly forms outlining the content covered in the class and report if there were any problems during that session.

On the last teaching day of each term, there is a graduation ceremony to celebrate the students' academic abilities which is attended by the students, their families and many primary schools teachers. Graduation ceremonies celebrating academic achievement are vital in ensuring that students are given much need recognition for their gifts (Goldstein, Wagner 1993).

2.4.3. HOW ARE STUDENTS SELECTED TO COME ON THE PROGRAMME?

There are a maximum of sixty four places available each term. The Access service is linked to 32 primary schools with designated disadvantaged status in the local area. All of these schools are offered 2 places each term, for students aged between 10 and 12 years old. Each term a different school year is focused on, i.e. in the autumn course, students from 6th class (twelve years old) are offered places, in the winter term students from 5th class (11 years old), and in spring the 4th year students (10 years old) are offered places. Before every term, the schools are given a list of the course subjects that will be run. The school principal then asks the relevant year teachers (4th,5th or 6th class) to pick 2 students for the programme, using a list of suitable criteria, see appendix 1. The teacher has to explain his/her reasons for nominating each child for the programme, see appendix 2 for a copy of the nomination form. Below is an example of a teacher's reason for nominating a student:

> She is very bright. She is eager to learn. She is inquisitive and motivated. I think she would benefit from this course. (Appendix 2)

Teacher nomination is an accepted identification method as to whether children should be nominated on gifted programmes (Schroth and Helfer 2009). It was chosen as the identification tool over standardised tests as standardised tests have been found to be culturally biased (Fletcher-Janzen and Ortiz 2006, Snowman, et al. 2009) and teacher referrals maybe more valuable than any other source, according to McBee (2006)

Ideally, it would have been preferable to use a second identification method, but the school teachers had already committed enough of their time to choosing and organising students for the CAA. Therefore it was felt that it would be unfair to put them under additional pressure and would be detrimental to the numbers of students the school put forward for nomination if the process was lengthy.

Parental permission was also obtained, see appendix 3, and a standard medical form also had to be filled in by the parents, see appendix 4.

2.5. THE COGNITIVE ABILITIES OF CHILDREN AGED BETWEEN 8-12 YEARS

The cognitive development of children as suggested by Piaget (1950) is still widely accepted today as being an extremely important breakthrough in understanding how children's minds develop. Piaget suggested that how children process information about themselves and their surroundings changes and develops as they grow. How you process information

influences your behaviour, your views on the behaviour of others as well as how you perceive the environment around you (Smith, Nolen-Hocksema 2004).

Piaget formulated that different stages of cognitive development occurred during specific age categories i.e. that senses and movement develop between birth and 2years old, that children start having intuitive thoughts and are also able to mentally represent images that aren't in their proximity between 2- 7 years (Berk 2010).

Students who attend the CAA programme fall into the 8-11 year category that Piaget named the 'concrete operational' stage. During this stage, according to Piaget, children begin to use logical reasoning to solve problems (Berk 2010). This is one of the reasons why this age group were targeted for the CAA programme as it is an ideal time in their life to offer additional enrichment activities to make them develop their logical thinking skills.

However, it is important to note that Piaget did not consider the importance cultural factors on a child's rate of cognitive development when developing his theorem (Bernstein, Penner et al. 2006, Smith, Nolen-Hocksema 2004). Children 'actively construct knowledge from their environment' Berk 2010, p.19, and so, according to Vgotsky (1950) and Tomasello (2000) – the interactions and positive influence of parents, teachers and peers are crucial for children's optimum cognitive development. Poverty and the level of parental education have been linked to slowing down brain development (McLoyd, Kaplan et al. 2009, Bee, Barnard et al. 1982) with lessened verbal ability also a casualty of a socioeconomic disadvantaged background (Smith, Brooks-Gunn et al. 1997). That slower cognitive development has been linked to students from economically deprived backgrounds is another reason why the CAA programme was set up: to help these students gain knowledge and develop their thinking skills in line with their more affluent peers.

2.6. WHAT IS A DEIS SCHOOL?

As mentioned earlier there are certain schools in Dublin, and for that matter Ireland, that are designated as disadvantaged. These schools are also known as 'DEIS' schools. DEIS stands for Delivering Equality of Opportunity in Schools, as defined by the Department of Education and Skills in Ireland (Department of Education and Skills 2012).

The aim of this DEIS scheme is to provide a 'comprehensive package of support' (Department of Education and Skills 2012 p.1) (Department of Education and Science 2003)to the most disadvantaged schools. These supports included providing:

- More funding.
- More literacy & numeracy schemes put in place.
- More teacher support.

- A home school liaison community scheme.
- A higher teacher to pupil ratio.
- And other aids. (Department of Education and Skills 2012 p.1)

Schools are assessed and then designated disadvantaged according to various criteria on the basis of various educational and socio-economic indicators of the community in which the school is based. Factors taken into consideration include the level of unemployment, the presence of social housing schemes and the number of medical card holders in the locality being examined. Information on literacy and numeracy levels of this population are also scrutinised (Department of Education and Skills 2012). If a school is designated disadvantaged the level of support put in place to aid the school is dependent on how disadvantaged that school is in comparison to other DEIS schools. i.e. There are various levels of designated DEIS schools (level 1 being the most disadvantaged, level 3 being the least disadvantaged (Department of Education and Skills 2012). Schools involved in this study fall into the most disadvantaged DEIS category.

2.7. EFFECTS ON A CHILD OF HAVING A SOCIO-ECONOMIC DISADVANTAGED BACKGROUND

Living in poverty is a form of disability, according to Swanson (2010), and it is the 'most pervasive, inhibiting force' to the educational success of children (Hodgkinson 2007 p.7). Robinson (2003a p.252) argues that poverty and how it affects the family is a larger influence on students' school achievement than race or ethnicity. If a child is born and raised in a socio-economic disadvantaged background this environment can negatively influence the child's academic progression unless educational and emotional supports are put in place (Zappone 2007). Students are more likely to drop out of secondary, and even primary school, if they have a low-income or impoverished background (Borland, Schnur and Wright 2000); with their lack of care as young children, absence of parental involvement in school and also their home environment being the main causal factors (Jimerson, et al. 2000).

Ballymun, which is located near DCU, is the neighbourhood upon which the CAA programme is focused. This is an area of extreme social deprivation, and the most underprivileged suburb in Dublin (Haase and Pratschke 2008). Ryan (2004) who undertook a study on educational attainment in Ballymun found the percentage of people from the locality who had completed their Leaving Certificate, the final secondary school examinations, to be 26.5% compared to the national average of 75%. He also noted that only 6% of the adult population in Ballymun had progressed to third level education compared to a 60% average for the rest of Dublin.

More promising is the fact that 99.6% of parents in Ballymun would like their children to go to university when they are older, according to a study commissioned by a local community development organisation (Ballymun Partnership 2003b p.9). However, even though these parents may wish their children to go on further education, in reality due to various factors, including lack of financial means (McCoy, et al. 2010), and family or health reasons (Byrne, McCoy and Watson 2008), this is rarely the case.

The fact that these students who live so close to a university but rarely proceed to higher education is another reason why the CAA project was initiated. It would be desirable if all the children in Ballymun were given additional learning supports but unfortunately for this study this was just not financially realistic. For this reason, a smaller number of children were selected, specifically promising learners from Ballymun were targeted for this project

2.8. LACK OF PROGRAMMES FOR POTENTIALLY GIFTED STUDENTS FROM POVERTY

As mentioned earlier, gifted students with a socio-economic disadvantaged background were not as well represented on the CTYI programme as their more affluent peers (O'Reilly 2005). This is not a unique situation as outlined by Frasier and Passow (1994):

> The number and proportion of racial/ethnic minority and economically disadvantaged children in the public school population are not reflected in programs for the gifted and talented (p.8).

Research from the United States of America has stated that students from socio-economic and/or minority backgrounds are also less likely to be referred for assessments to enter a gifted programme than children from a more wealthy demographic, (Ford 1996, Ford, et al. 2001). This is because students from impoverished backgrounds face a number of educational barriers to their academic progression (lack of resources, lack of support, poor self-confidence…). This in turn affects the likelihood of these potentially gifted students being identified and placed on gifted programmes, which in turn lessens the chances of 'equitable aspiration and provision' (Warwick 2009).

Many supporters of gifted education (Barnett, Albert and Brody 2005, Warwick 2009, Ybarra 2005) argue that there must be more educational support programmes for underserved potentially gifted learners. Some advocators purport the need for specific intervention programmes for these 'at-risk' promising learners that will develop their scholastic abilities along with their aspirations before they enter advanced gifted programmes (Grantham 2002, Robinson 2003b). Their reasons being that if these at-risk students went directly to an advanced gifted programme they may be at an academic disadvantage to their peers at the start of the course so may not progress at the same rate as their peers (Robinson 2003a, Grantham 2002). Therefore additional academic support in advance would be worthwhile (Robinson 2003a, Grantham 2002). As Olszewski- Kubilius (Olszewski-Kubilius 2010) opines

'Gifted programs must be designed with the needs and current achievement levels of these students in mind' (p.90). Whereas interventions for potentially gifted children from poverty should also 'catalyse their abilities' , encourage motivation, increase passion in their talent area, as well as developing their 'higher level thinking and problem solving' capacities (Van Tassel-Baska 2010, p.7). Therefore an enrichment programme aimed specifically at potentially gifted marginalised students may be the most suitable environment to turn these children's' potential gifts into performance (Renzulli and Davidson 2005). Currently there are no educational enrichment programmes for potentially gifted disadvantaged students between the ages of ten and twelve in Ireland, or for that matter in Europe. Even though there is past evidence of quite a few enrichment programmes for promising learners from poverty occurring in the United States of America (Briggs, Reis et al. 2008) there is little or no published research regarding any recent enrichment projects that have operated in America in the last three years for similar learners of this age group.

2.9. RESEARCHER'S BACKGROUND

My reasons for taking on this project were twofold: firstly, I was extremely interested in working with children and families from the local area and secondly, I wanted to find out whether an enrichment programme would be of academic benefit to these disadvantaged students. As the academic coordinator in a gifted education centre and with my close links to the ACCESS department (I had done some work with this department before) I was ideally positioned to undertake practitioner research with high ability low-income students using the expertise from both departments.

At the beginning of this study I had worked for CTYI for eight years so I was already familiar with enrichment programmes for gifted students and have read widely round the topic of giftedness. I have read extensively around the subject of 'at-risk' students. Other topics that I have studied include: the effects on children of having classes in a university setting; gifted students from socio-economic disadvantaged backgrounds; enrichment afterschool programmes; effective teaching of gifted students.

My thoughts and experiences on education and disadvantaged populations are influenced by my life experiences, interactions with family and friends and also by the way I was raised. My mother was a teacher and some of her students were from a socio-economic disadvantaged background. Listening to her accounts of classroom life and teaching issues has definitely had an impact on how I view education. My mother always ensured, in her opinion and the opinion of her colleagues that I spoke to, that every child was treated equally in her classroom no matter what their background and she endeavoured to ensure that all students developed their skills to the best of their abilities.

In addition, two of my best friends are primary school teachers and both work in designated disadvantaged schools in county Louth. Hearing about how certain students in their school struggle with school in part due to factors including poverty, single-parent families, and substance abuse has influenced me to focus underserved students.

Lastly, one major factor that shaped the direction of my research is that I live in the vicinity of Ballymun, the geographical location in which the participants in this study also live. Driving through this mostly concrete neglected suburb each morning on the way to work has had a conscious effect on concentrating my thoughts on this community.

2.10. CONCLUSION

This chapter has placed the research study within the local context. The knowledge I have gained through reading in the field of gifted education and the areas of educational and socio-economic disadvantage will now be used to set this piece of research within the global context as laid out in the next chapter, the literature review.

CHAPTER 3. LITERATURE REVIEW

3.1. INTRODUCTION

To appreciate why the impact of the CAA programme should be evaluated it must be put into the context of its theoretical surroundings in order to see if current research supports the reasons for this study. To this end, this chapter will lay out the contemporary views on such topics as giftedness, gifted and potentially gifted students from disadvantaged areas, the effect of poverty on a person's educational path, and also on enrichment programmes.

3.2. GIFTEDNESS

3.2.1. DEFINITIONS OF GIFTEDNESS

Academics have so far not agreed on one all-encompassing definition for giftedness due to the wide variety of areas in which a person can be gifted. The definition cited in many seminal papers on the topic is that developed by the U.S. Office of Education and presented in the Marland Report (1971):

> Gifted and talented children are those identified by professionally qualified persons who, by virtue of outstanding abilities, are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contribution to self and society. (p.9)

Closer to home, Deborah Eyre (1997), based in the UK, suggests a similar definition:

> An able child is one who achieves or has the ability to achieve at a level significantly in advance of their peer group. This may be in all areas of the curriculum or in a limited range. (p.2)

In Ireland, the National Council for Curriculum and Assessment have put together 'Draft Guidelines for Teachers' on 'Exceptionally Able Students' (NCCA 2007). They use the following definition for the purpose of their guidelines with 'exceptionally able' being described as:

> Students who require opportunities for enrichment and extension that go beyond those provided for the general cohort of students. (p.7)

After considering the above definition for some time I suggest that a suitable descriptor of a successful programme for potentially gifted children could be 'where potentially gifted students with limited resources require additional supports to reach their potential'. This dovetails nicely with Kitano's view (2010) that giftedness has to be defined in relation to the particular culture in which the student is based: that the realities of a child's background does relate to how giftedness will manifest itself, or indeed hide itself in a child in order to fit in within that society.

Giftedness does not occur as a single unique characteristic but is of a multidimensional form which can manifest itself as one or more mental abilities (Gagné 1985, Gardner 1985, Heller 1991, Maybury and Lesser 1963). A student may be gifted in one area but not another (Renzulli and Davidson 2005), e.g. good at Mathematics but not be good at English or History. You may be born with an innate higher level of intelligence but without stimulation you may never reach your potential, especially in socio-economic disadvantaged areas where various environmental factors including poverty, peer pressure, lack of support and materials may hinder a student from reaching academic potential (Borland, Schnur and Wright 2000, Montgomery 2009).

There is often confusion of the difference between being gifted and being talented. Gagné (2004) expertly sums up the differences, stating that giftedness means to possess 'untrained and spontaneously expressed natural abilities' (p.120) in one or more cognitive areas, whereas talent refers to an aptitude to master an ability through systematic hard work and motivation (Gagné 2004).

3.2.2. TALENT DEVELOPMENT

Both giftedness and talent do overlap in that it is possible to end up in the top ten per cent of your age peers in a discipline by taking either path. Furthermore you can be talented or gifted in just one ability domain or indeed in many fields (Gagné, Araújo et al. 2011) The ideal is to be both gifted and talented i.e. to have natural ability in a certain field but to continue to develop this ability by being motivated, challenged and creative in this area (Renzulli, Davidson 2005, Gagné 2004). Sternberg and Grigorenko (2002) also add that intelligence is not fixed but is flexible and therefore must continuously be challenged and strengthened. If you are identified as being gifted at a young age this does not necessarily mean you will still be gifted as an adult (Lohman and Korb 2006), you must continue to develop and challenge yourself (Bloom 1982). The above sentiments have gained credence in recent years and have been used to advocate the movement of 'talent development' (Gagné 2009, McCollin 2011, Treffinger, Feldhusen 1996). Gagné (2011) defines this as being:

> The progressive transformation of natural abilities through a long developmental process and with the catalytic help of personal characteristics and environmental influences. (p.13)

Enrichment courses, such as the CAA courses, can be used to nurture talent especially as enrichment classes do not just cater for gifted students but encourage students of all academic abilities to challenge themselves academically (Field 2009, Gavin, Casa et al. 2007). Attending an enrichment programme has increased academic achievement in non-gifted students, as well as potentially gifted and gifted students, according to Briggs & Reis (2008).

Recent research has also shown that talent development strategies, such as the use of enrichment programmes, have been particularly successful with gifted and potentially gifted disadvantaged students from a socio-economic disadvantaged background (Field 2009). Additionally, according to research carried out by Reis (2008), high ability disadvantage students who do not partake in any extracurricular activities were more likely to drop out of school than their more affluent peers.

This is why a talent development strategy, in this case enrichment courses, was chosen for this study, where the aim was to develop the academic abilities of potentially gifted students. The concept of enrichment programmes will be expanded in a later section.

3.2.3. ADDITIONAL FACTORS TO AID ACADEMIC FULFILLMENT

Renzulli (1997) believed that giftedness must encompass creativity and task commitment, as well as being above average intellectually, as outlined in his 'Three Ring Conception of Giftedness' :

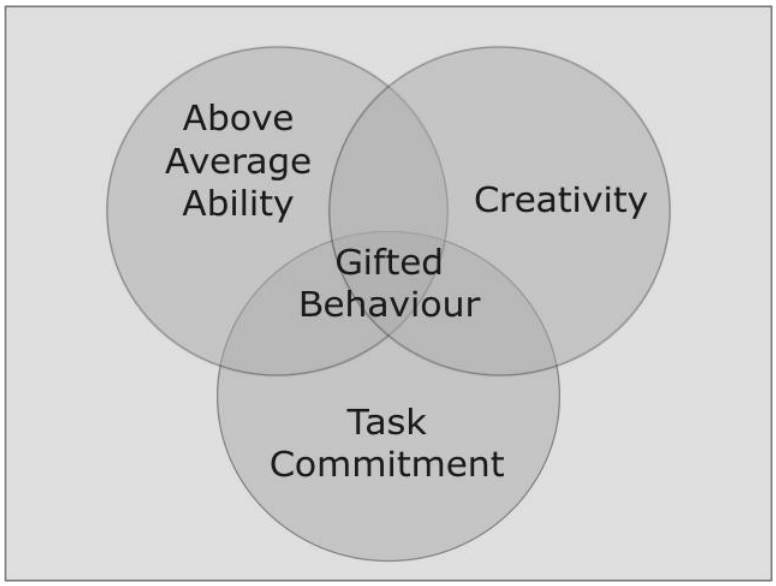

Figure 1. Renzulli's Three Ring Concept of Giftedness (Renzulli & Reis 1997, p.5)

Renzulli's stance that it is not just above average ability that makes a student gifted but there are other factors necessary to fulfil potential. Similarly, Sternberg's WICS Model (Sternberg 2003), which stands for 'Wisdom, Intelligence, Creativity Synthesized', outlines how a successful person who has mastered his gifts has only succeeded in doing so by combining his or her skills in the fore mentioned four key areas (Sternberg and Davidson 2005). Both the WICS Model and the Three Ring Model highlight the need for more educational supports, for example enrichment programmes, where students will be encouraged to learn independently, and to think creatively.

> One clear lesson of this investigation is that the potential for academic giftedness can be identified, nurtured, and helped to blossom in all groups and schools in our society.
>
> (Borland, Schnur and Wright 2000, p.13)

3.2.4. EDUCATIONAL ALTERNATIVES & ADDITIONAL SUPPORTS FOR GIFTED CHILDREN

There are various learning resources and facilities that help aid a gifted student in nourishing their academic ability. These can include specialised schools solely for gifted learners, which are quite popular in the United States of America, for example the 'Advanced Academy of Georgia'(Rapp 2008), and also the' Indiana Academy for Science, Mathematics, and Humanities' (Cross, Adams et al. 2004). For further research on specialized schools in America, Feldhusen & Boggess (2000), Jones, Fleming, Henderson & Hendersonl (2002), should be consulted. In Asia, the longest running school for gifted youth is the 'Jnana Prabodhini Prashala' centre (Jnana Prabodhini Prashala 2012) which was set up in Indian in 1968. Other solely gifted teaching institutions are also in existence in other countries round the world for example, the 'Constellation' School in Russia, (Shcheblanova and Shumakova 2007), the 'Talenta' school in Switzerland (Talenta 2012), and various schools in Iran collectively called the 'National Organization for Development of Exceptional Talents [SAMPAD]' (Arash 2012). But specialized schools for the gifted in Ireland do not exist and are extremely rare in Europe.

Other options for exceptionally able learners include early entrance programmes, where students study subjects at university younger age than normal, (Boothe, et al. 1999), and similarly, advanced placement programmes – where students get college credits but while studying the subjects in school rather than university (Hertberg-Davis and Callahan 2008), again occurring mostly in America. Additionally there are also specific accelerated programmes where students study subjects in a shorter time frame than students in main

stream classes and also may skip a year or two of school (Colangelo, Assouline and Gross 2004)

Again, early entrance programmes and accelerated programmes for gifted children are fairly rare in Europe. More common is differentiated learning for a gifted child in their regular classroom side by side with students who are not gifted (Tomlinson 2008), where abilities are grouped together and strategies such as cooperative learning are used with higher difficulty texts used (Reis et al 2011; Winebrenner 2009) . This integrated approach is an extremely attractive and useful method but in a busy school environment with lack of finances, limited teaching resources, and no teaching assistant available, it is often unrealistic to implement this as a day to day practice (Van Tassel-Baska and Stambaugh 2005). Therefore a suitable alternative that is not constrained by a regular classroom setting is often needed to stimulate the advanced learners. In many cases an afterschool enrichment programme can be the solution.

3.2.5. IMPORTANCE OF ENRICHMENT PROGRAMMES FOR GIFTED STUDENTS

As outlined earlier, gifted children need challenges to develop and maximise their academic ability. As Paulo Freire (1994) opined: to challenge students is a 'duty of the progressive educator' (p.83).

Suitably challenging stimuli will not only test children academically, it will also improve gifted kids emotional wellbeing and it will help with their social development, according to Neihart, Reis, Robinson & Moon (2002), with the other side of the coin being if they are not challenged their social and academic development will suffer (Neihart et al. 2002)

Hodge & Kemp (2006) note that if a potentially gifted child is not challenged even for just one year they are already at a 'serious educational disadvantage' (p.188). Therefore, it is essential that these students are challenged in a suitable environment. These children 'have a right to be provided with appropriate challenges which assist their physical, psychological and emotional development' (Guggisberg and Guggisberg 2010, p.57).

Evidence has suggested that access to specific educational accelerated courses can give a child academic advantages (Rogers 2007, Cross, Cross et al. 2010), with students in separate class programmes or after school courses achieving at a significantly higher level than their peers, including their gifted peers who don't attend external class programmes, (Delcourt et al. 1994). It is hoped by providing academic stimulation in the form of fun and practical classes, in subjects in which children are interested, that this will lead to the students becoming more interested in learning new things. Without projects like this, Swanson (2006) suggests that potential gifts will not be developed, and therefore academic success will go unrealised.

Reis et al. (1995) tabulated the factors they saw fit in influencing achievement. These being:

- Belief in self.
- Personal characteristics.
- Support Systems.
- Participation in special programs, extracurricular activities.
- Appropriately challenging classes.
- Realistic aspirations.

(cited in Davis and Rimm 2004, p.277)

It could be argued that enrichment programmes not only match two of the above criteria (participation in special programs; and appropriately challenging classes), but they also match some of the other criteria identified by Reis et al by providing support to the children and families involved, and by boosting self-belief by attending these enrichment courses.

Borland (2000) talks of the importance of making children feel special to increase their belief in their academic talents by picking them for enrichment programmes. This was one of the reasons that it is important to hold the CAA classes on a university campus. It is hoped that by giving these children the opportunity to attend a course in a university setting it will increase their confidence in their academic abilities and also hopefully raise their educational aspirations.

3.2.6. CURRICULUM OF ENRICHMENT PROGRAMME

So how does the content of an enrichment programme help to challenge these gifted learners? Diane Montgomery (Montgomery 2009) has formulated the following key points to achieve a successful enrichment programme (p.11), which I have summed up in the following diagram:

Figure 2. Factors that contribute to a successful enrichment programme, using information on this topic from Diane Montgomery (2009 pp.5, 11-12)

Shayer & Adey (2002) add an excellent element, not mentioned above, that for an enrichment programme to be truly valuable, students must partake in problem solving activities and crucially they must have time to reflect on why they solved or didn't solve that particular task in order to learn effectively.

Feldhusen introduced an enrichment model specifically for gifted learners in primary school (Feldhusen and Kolloff 1986). This model known as Purdue Three Stage Enrichment Model and involves three hierarchical steps advancing the learner from a basic level of learning to a more complex higher order understanding (VanTassel-Baska and Brown 2007), surmised in the figure below.

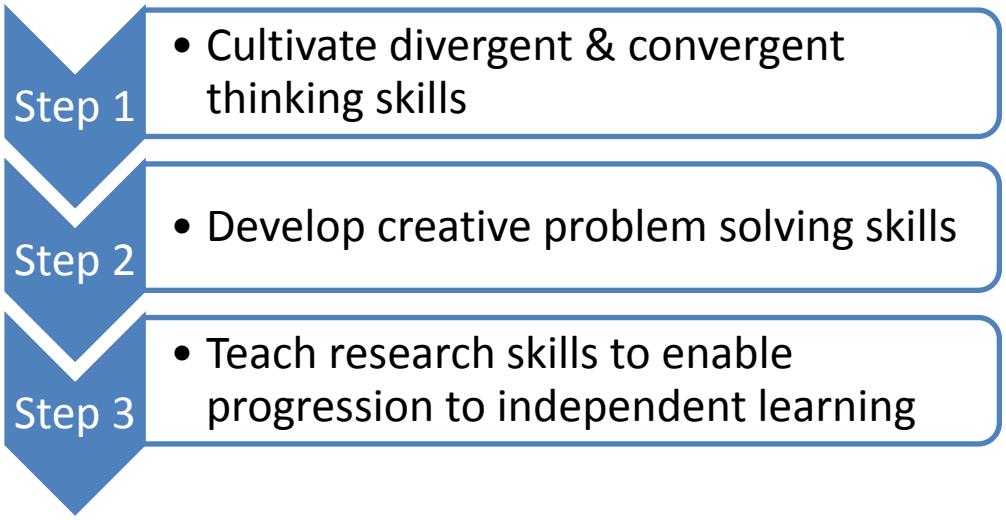

Fig. 3. Summary of Feldhusen's Purdue Enrichment Model as noted in Van Tassel-Baska (2007 p.347)

The above strategy does borrow from Renzulli's Schoolwide Enrichment Model (1976) where a triad exemplar is one of the areas he develops as part of a total school improvement model (Renzulli 2002). The first step of this model is to involve the students in simple exercises and then in steps 2 and 3 to introduce more challenging and stimulating activities by giving the child access and training in relevant skills and technologies to promote independent learning (Renzulli and Reis 1997).

It is essential that 'education is a fostering, a nurturing, a cultivating process' (Dewey 1916 p.10) and a successful enrichment programme will hopefully live up to this expectation if it includes elements from the models above.

3.2.7. GLOBAL EXAMPLES OF ENRICHMENT PROGRAMMES FOR GIFTED STUDENTS

Now students who have been identified as gifted do have the opportunity in many countries to attend enrichment after school and summer programmes to assist in developing their knowledge and skills. A major establishment that runs enrichment programmes in America and also in other countries is the Centre for Talented Youth (CTY). The CTY organisation was set up in 1979 initially as part of a Johns Hopkins University programme (Barnett, Albert and Brody 2005). This organisation has since expanded considerably using the same enrichment model in its various centres in the majority of states in America as well as partnerships in Spain, China, Bermuda, Thailand, and Ireland (Ybarra 2005). Over one million young people have attended a related CTY course since the programme began over 30 years ago (Ybarra 2005). CTY incorporates an identification procedure via assessment where the top 5% academically for their age group are invited to join courses. Eligible students then can undertake academically challenging enrichment courses in the summer, or take a distance learning course, while families can attend conferences in the area of giftedness (Barnett,

Albert and Brody 2005). The Centre for Talented Youth Ireland (CTYI) uses the same CTY model but has a greater emphasis on children aged between six to twelve years than their American counterpart (Gilheany 2001).

Some other organisations that run enrichment programmes for gifted children in America and around the world include:

- The Center for Gifted Education at the College of William and Mary (School of Education, The College of William & Mary 2012).
- The Centre for Talent Development at Northwestern University (Olszewski-Kubilius and Lee 2004).
- The National Association of Gifted Children (NAGC 2012).
- The Jupiter Academy, Singapore (Jupiter Academy 2012).
- The Hong Kong Academy for Gifted Education (Hong Kong Academy For Gifted Education 2012)
- The German Pupils Academy (Neber and Heller 2002)
- Gifted Education Research, Resource and Information Centre, University of New South Wales, Australia (GERRIC 2012)

It is apparent, as outlined in the previous sections above, that there are many academic supports for gifted children. But is this the case for gifted or potentially gifted students from socio-economic disadvantaged backgrounds and what issues are important for these promising learners?

3.3. DISADVANTAGED

3.3.1. DEFINITION OF DISADVANTAGED

Firstly it is important to define the term 'disadvantaged' with respect to this piece of research. There are many definitions of what it means to be disadvantaged. For the purpose of this paper the terms socio-economic disadvantaged and disadvantaged are interchangeable, though the author is aware that the term disadvantaged has other connotations outside this piece of research. The most suitable definition of disadvantaged used for the purposes of this paper is, in my opinion, an amalgamation of two authors definitions: when a person's learning and development is adversely affected (Pretorius and Machet 2004) by circumstances of social and economic deprivation (Hanks, 1990). This definition can be further clarified by adding that characteristics of being disadvantaged may include: unemployment, poverty, 'under-realization of potential', 'limited potential for upward mobility' amongst other factors (Pretorius 1998, p.301).

Being educationally disadvantaged can of course happen to a young person due to various reasons that include, as mentioned in Downes and Gilligan (2007):

- Living in a rural community and not being close to a school.
- Having a special need (dyslexia, Aspergers syndrome, physical disability) that is not catered for in the attended school.
- Being discriminated against due to their ethnic or minority background when competing for a school place.
- Having English as their second language .

However, for the scope of this paper, the main reason students can be educationally disadvantaged is related to coming from a socio-economic disadvantaged area.

'Harsh contextual conditions' (Smyth, Down and McInerney 2010, p.38) impact considerably on a child's academic journey, as a child's genes are not the only determinate of academic prowess. Cognitive skills develop through life experiences (Sternberg, & Williams 2002) and interactions with others (Vygotsky 1929 cited in, Langford 2005) . It is these experiences that occur as part of family life and the community in which they are raised, that have a major impact on a child's progression through the educational system. 'Children do not experience disadvantage on their own but in the context of their family' according to the Irish National Action Plan For Social Inclusion 2007-2016 (Office for Social Inclusion 2007, p.31). The psychologist, Lev Vygotsky, formulated the theory that acquiring knowledge relied just as much, if not more, on the social and environmental contexts rather than on natural maturation of the ability with which you were born (Dixon 2008). For this reason it is vital to look at the impediments of social class and poverty to education not just for this generation of young people but also of their parents and in the larger context of the community. To find out how the child develops one must look at the parents' beliefs and backgrounds and the community they live in - a view supported by the philosophers Marx and Engel (Langford 2005b).

3.3.2. CULTURAL AND SOCIETY NORMS A BARRIER TO ACADEMIC ADVANCEMENT

The culture we are brought up in defines many aspects of our behaviour (Montgomery 2009). The social environment influences people's behaviour by 'engaging them in activities that arouse and strengthen certain impulses that have certain purposes, and entail certain consequences' (Dewey 1916 p.16). 'Societal pressures' can have a strong influence on how a person shapes their life. The way others in society regard a person, along with the environment around that person, shapes a person's decision about the future (McCoy, et al. 2010). And unfortunately this is a predictor of why educational attainment is lowest in communities 'where there are concentrations of disadvantaged' (Higher Education Authority 2008 p.26) and where educational disadvantaged is 'clustered' and 'reproduced across generations' (Department of Education and Science 2003 p.7).

Freire (1994) argues that a person's environment and experiences shapes their knowledge and a person's class and background does influence this educational journey:

> 'With progressive education, respect for the knowledge of living experience is inserted into the larger horizon against which it is generated - the horizon of cultural context, which cannot be understood apart from its class particularities'
> (p.85)

Or as Diego Gambetta (2009) put it they are 'pushed from behind by causal factors that escape their awareness' (p.7). McCoy et. al. (2010) agree that beliefs and subcultural values 'shape preferences, expectations and, ultimately, choices' (p.22).

Oftentimes, the risks of social-emotional problems come from related special challenges for students living in poverty, including higher rates of disabilities, teenage mothers, absent fathers, lower motivational levels, parents without resources, health problems, concerns about safety and daily survival, and increased risk of homelessness (Beirne-Smith, Patton and Ittenback 1994 cited in Van Tassel Baska 2010, Stormont 2000). And one of the social-emotional problems that students from lower socio-economic groups can experience is lower levels of motivation (Van Tassel-Baska 2010).

There is a lack of academic expectations for impoverished students within their community (Higher Education Authority 2008), and many young people perceive their dream job to be unobtainable due to life experience (McCoy, et al. 2010).

3.3.4. POVERTY

Professor James Heckman, a winner of the Noble Prize for Economics, who is currently carrying out research in University College Dublin on improving education for students from disadvantaged areas, agrees 'that persistent and concentrated poverty is the biggest source of educational difficulties' (Bielenberg 2008 p.12). This stance has been adopted by the Economic and Social Research Institute (ERSI) and the Department of Social and Family affairs (Office for Social Inclusion 2007). The position taken by Heckman is apt in summing up that poverty and educational disadvantaged are closely linked, and it is the goal of the *National Action Plan for Social Inclusion 2007 and 2016* to make significant inroads in decreasing child poverty in Ireland by 2016 (Office for Social Inclusion 2007).

Townsend (1979) after carrying out his seminal study on standards of living in the United Kingdom, defined people living in poverty when:

> Their resources are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary patterns, customs, and

activities.

(p.31)

This definition of poverty is very relevant for this paper as it highlights how poverty can have an effect on various aspects of life, such as schooling, home life and trips and excursions that normally would be taken for granted in a more affluent family. The National Plan for Equity of Access 2008-2013 (Higher Education Authority 2008) uses an excellent quote from Richard Breen (1990) to succinctly sum up the knock-on effects of poverty and other factors on educational progression in Ireland :

> If we want to understand why children fail at school, we must look not simply at the education system narrowly defined. We have also to look at issues such as the persistence of poverty; the financial, psychological and community costs of prolonged unemployment; the continued existence of areas in which the quality of amenities, and in some cases housing conditions themselves are poor; the differentials in the standards of healthcare available to different sections of the community; the persistence of inadequate diet and nutrition and unhealthy lifestyles among many families; and most broadly, the gross variations in the quality of life – physical and intellectual – of children from different social origins.
>
> (pp.16-17)

Robinson (2003a) mirrors these sentiments, mentioning a near identical set of issues regarding poverty in America, though bear in mind that is hard to compare figures on what exactly poverty and socio-economic disadvantaged pertain to, from one country to the next. This is due to the various definitions of the above from a financial and cultural perspective between nations (McCoy, et al. 2010). However, I think it can be agreed that the above factors are among the main culprits as to why vulnerable populations to not do well in school no matter what country into which they were born.

A survey carried out in 2007 by Helen Russell and colleagues, monitoring poverty trends in Ireland (Russell, Maitre and Nolan 2010), found that of all the age groups, it was children who were most at-risk of poverty. Compared to international standards, children in Ireland are more likely to be affected by poverty than their European counterparts (Callan et al. 2008). Living in poverty is a form of disability, according to Julie Dingle Swanson (2010), and it is the 'most pervasive, inhibiting force' to the educational success of children (Hodgkinson 2007 p.7).

International studies make this argument quite convincingly. For example, In America even before low-income children reach school they already have the 'lowest level of math and reading ability compared to children of other incomes' (Swanson 2010 p.130), according to statistics gathered from the US 2000 Census. This does not bode well for these students future educational attainment with Borland (2000) and others highlighting the link between 'dropping out' of school and a low income upbringing. Jimerson, Egeland, and Sroufe (2000)

go further to list factors relating to poverty that they think influence students dropping out of school. These factors for poor educational attainment for early school leavers being: their care as young children, lack of parental involvement in school and also their home environment.

The most common obstacle to young people progressing to third level education in Ireland and is a lack of monetary means (McCoy, et al. 2010). This is also the case in England where only 28% of entrants to undergraduate study in England made up of the lower social groups (Connor, Dewson and Tyers 2001). Lack of funding also means that parents of a lower socio-economic class do not have the same access to after school tutorials and extra academic programmes. Lack of funds also means less access to books and other learning resource material (International 2005), and it is doubtful the parents have enough savings to support their child financially to progress to third level education.

Low income families have concerns about paying college fees for their children, and these potential students also have fears about getting into debt to pay off student loans and the cost of borrowing (Connor, Dewson and Tyers 2001).

To more fully comprehend the reasons why these vulnerable populations do not go on to third level education it is important to look into the parental educational and employment backgrounds and also the pattern of educational attainment in the community.

3.3.5. HISTORY OF PARENT EDUCATIONAL QUALIFICATIONS & JOB STATUS IN IRELAND

There is a 'continuing social inequality '(Kelly 2010 p.ix) in access to third level education by certain disadvantaged groups. Young people whose parents are from a professional, managerial or farming background are far more likely to do better and progress further in the education system than other socio-economic groups (Byrne, McCoy and Watson 2008).

How a student performs in secondary school is still dependent on socio-economic circumstances (Byrne, McCoy and Watson 2008). According to the 2006 census, 13% of females and 12% of males who had parents who were both unemployed, left the school system before sitting their Junior Certificate exam (CSO 2007).

It is hard for young people from an impoverished background to envisage themselves in college when their parents have a low level of educational attainment (National Development Plan 2001)and haven't been to university (Kelly 2010) or in some cases not even finished primary or secondary school (McCoy, et al. 2010). Hirsch (2007) starkly suggests that the family you are born into is the main predictor of academic attainment and Terman (Terman 1954) was a forerunner in suggesting a link between family background and educational history. The graph below, Figure 4, shows the relationship between the

parental level of education and whether their child completed second level education (according to school leavers in Ireland in 2007, (Byrne, McCoy and Watson 2008).

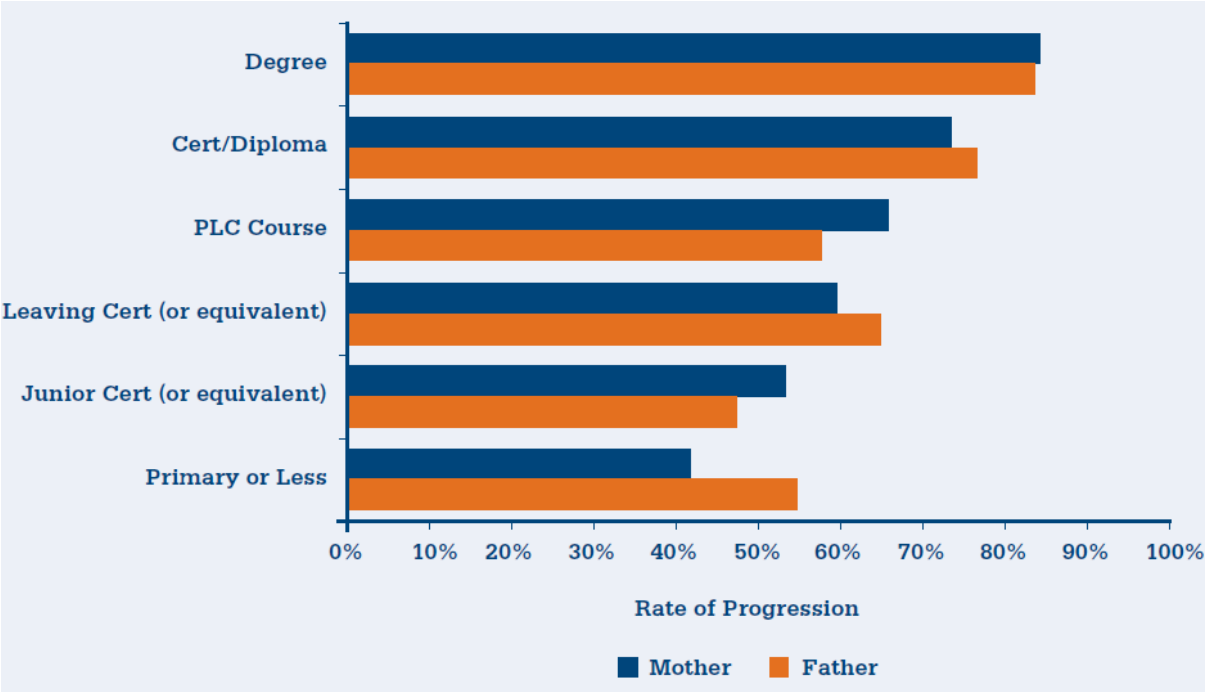

Figure 4. Rates of Progression to Higher Education (those who completed second level) by Parental Education, 2007 (Byrne, McCoy and Watson 2008 p.36)

If a child does not know anyone else who has progressed to higher education, this 'can lead to disaffection with the idea of going to college from an early age' (Kelly 2010 p.x). The information shown in the graph above highlights the 'crucial importance of the value placed on higher education for different social groups' (McCoy, et al. 2010 p.xi).

According to the 2006 Irish census, the main reasons for leaving school before finishing the senior school years included economic, employment and school factors. Other reasons included family or health issues (Byrne, McCoy and Watson 2008) as agreed is also the case in England by Conor (2001).

The table below shows that the educational attainment of a parent in Ireland can unfortunately be linked to the likelihood of whether their child is living in poverty or borderline poverty.

	% At-risk of Poverty	% In Consistent Poverty
No qualifications	35.2	16.2
Intermediate/Junior Cert	30.4	9.5
Leaving Level	14.4	6.4
Lower Tertiary Level	8.2	1.5
Higher Tertiary Level	2.6	0.0
Total	19.9	7.4

Table 1. "At-risk of Poverty" and Consistent Poverty Rates among Children by Education of Household Reference Person in 2007 (Russell, Maitre and Nolan 2010 p.43).

The above figures indicate that by obtaining the Leaving Certificate, passing the final secondary school exams, and then progressing to third level education considerably decreases the chances of a person and the next generation of their family ending up in poverty. Education acts as a buffer against poverty highlighted by the fact that half of the households in Ireland that were income poor had a parent with no formal education qualifications (Russell, Maitre and Nolan 2010). Other factors for a household to have little or no income included disability, ill health and lone parent families (Russell, Maitre and Nolan 2010).

Lone parent families account for 51 per cent of children living in consistent poverty in 2004, rising to 65 per cent in 2007 (Russell, Maitre and Nolan 2010). This is much higher in Ireland than in other EU countries (Frazer and Marlier 2007). Focusing on Ballymun in 2004 the percentage of lone parent familes that made up this community was 59 per cent, compared to the national average of 29% (Ballymun Partnership 2003a) which unfortunately is ominous when one takes into account the relationship between single parent families and children in poverty, as mentioned above by Russell et al. (2010). Swanson (2006) also suggests that 'single parent families and lack of support from parents' (p.11) are also barriers which can impact on students' educational progression.

3.3.6. EDUCATIONAL ATTAINMENT IN DUBLIN SPECIFICALLY BALLYMUN & COOLOCK

In Europe, even though there has been a considerable increase in the amount of young people attending HE in the last 20 years (Schleicher and Council 2006a), with 4 out of 10 young people in countries in the OECD going on to tertiary education (Osborne 2003), lower socio-economic groups are still underrepresented in third level education. Patrick Clancy (2001) highlighted the stark differences in educational attainment between various areas in Dublin by breaking down the statistics into the various postcodes. These statistics were part

of the results he obtained from carrying out a national survey of all those registered as new students in full time HE in Autumn 1998.

The students who attend the CAA programme live in the Ballymun , Coolock and the surrounding areas, which are in the Dublin 7, 11 and 17 postcodes. Clancy (2001) found that young people in these aforementioned postcodes were very unlikely to go on to third level education, according to his survey.

Research was commissioned by Ballymun Partnership, a non-profit organisation whose aim is to improve lives of the 20,000 (approx.) people in Ballymun, to profile the socio-economic background of the inhabitants in this locality. This study, compiled by Vision 21 (Ballymun Partnership 2003b, Ballymun Partnership 2003a), also gathered information on educational attainment & retention of the members of this community.

The findings from a survey carried out in 2002 as part of this study included the following worrying statistics:

Of the respondents no longer in full-time education,

- 32.5% of these finished their education in primary school.
- 63.1 % finished their education at secondary school level.
- Only 4.4% went on to complete a degree or non-degree qualification at third level education (CSO 1998).

(Ballymun Partnership, 2003b, p.5)

The size of the above sample was 10% of the Ballymun community, which equates to a 95% confidence level (Ballymun Partnership 2003b p.5)

The national average may seem low but this doesn't take into account students who entered HE and went on to study at postgraduate level. It is also important to bear in mind that the CSO figure for the national average was from findings from the 1998 census. According to the 2006 Census only 60 % of students who passed the leaving certificate in 2005 progressed to higher education (Byrne, McCoy and Watson 2008): these figures are more up to date and relevant. Unfortunately research complied from the 2011 census on educational attainment in Ireland will only be published in November 2012.

Ryan (2004) who undertook a separate study on educational attainment in Ballymun found the percentage of people from the locality who had progressed to third level education to be 6% (whereas Ballymun partnership say it's 4.4% according to their 2002 survey) compared to a 60% average for the rest of Dublin. While these statistics do differ, they both highlight the extremely worrying divide between the amount of children who reach third level education in Ballymun compared to the Dublin and indeed state average. This is the

lowest attainment level for any district in Dublin, with the community of Coolock (also involved in the CAA programme) having the second lowest attainment level of 16% (Northside Partnership 2012). In fact, just 12% of new entrants to all higher education institutions in Ireland in 2004 attended a designated disadavantaged school (O'Connell et al. 2006).

Other findings from Ryan (2004) are of a highly perturbing nature, that:

- 27.3% of the population of Ballymun are under 14 years of age versus 20.4% nationally.
- 59% of families are lone-parent versus 25% nationally.
- 26.5% passed leaving cert versus 74% nationally .

(Ryan 2004)

These statistics, highlighting the low educational attainment and high levels of unemployment and other worrying figures from Ballymun and Coolock are unsettling. However, there is strong evidence that both of these communities wish for more local children to go to university with 99.6% of respondents in the Ballymun study stating they wanted their children to progress to third level education (Ballymun Partnership 2003b p.9). The non-profit organisations of Northside Partnership, based in Coolock, and Ballymun Partnership make it part of their mission to facilitate more children to reach third level education.

3.3.7. LACK OF CONFIDENCE

One of the main barriers to educational advancement is a student's lack of confidence in their academic abilities and low self-esteem regarding what they can achieve in life, with Maslow (1970) listing high esteem as one of the seven basic needs a person must have to succeed in life. Maslow also recognises the importance of a person not being given false confidence in their abilities by others, but instead the importance of boosting someone's self- esteem by giving them 'deserved respect' (p.22) for what they have achieved and their actual abilities (rather than praising them just because they are a celebrity/in the public eye). 'Life circumstances' (Swanson 2010 p.137) have shaped how these young people see themselves and of what they think are capable. The former Prime Minister of Britain, Gordon Brown (2007) succinctly summed up this negative cycle of low educational attainment in a speech he made in 2007:

> Poverty of aspiration is as damaging as poverty of opportunity and it is time to replace a culture of low expectations for too many with a culture of high standards for all. (Gordon Brown 2007 cited in Warwick 2009, p219)

A negative self-image is harmful to a student's motivation and also hinders independent learning skills (Wallace 2009) and without encouragement and academic success early in education (Montgomery 2009) can diminish the chances of a youth being confident enough to apply to university.

Living in a society where there is a lack of positive role models who have experienced third level education makes it difficult for a young person to envisage him or herself in a higher education environment. There is a fear of the unknown, with many doubting their abilities to cope with the academic workload of college (Connor, Dewson and Tyers 2001).

To overcome low self-esteem 'creative and progressive education must start early in life' (Freire 1994 p.81). To boost confidence and also help with developing 'self-regulating learners', (Wallace 2009 p.68) it is vital to develop curricula that involves giving children small projects or activities to promote success and positive attitudes to learning (Eggen and Kauchak D. 1997). Low self-esteem can also be overcome with good school experience and other supports (O'Connell et al. 2006) and with a growth in self-confidence and flexibility in how they reach their goal (Giroux 1984).

In addition to boosting self confidence in these at-risk young people, it is vital more information is given to these youths regarding what attending college entails (Downes 2007). In these underserved populations there is unfamiliarity with what going to college involves, and what support schemes & scholarships exist. More information is needed on the reality and benefits of attending college (Connor, Dewson and Tyers 2001).

In theory the HEA are committed to implementing equity policies in Irish third level institutions (Higher Education Authority 2001), but whether or not they have been successful in practice is still undecided. To improve equity at third level education, there must be support programmes earlier in life for advanced learners from marginalised backgrounds, as well as engagement of parents and communities and aid for underachievers (Warwick 2009).

3.3.8. WHY IS HIGHER EDUCATION IMPORTANT BOTH TO THESE STUDENTS AND TO IRELAND'S ECONOMY?

Some children, in particular from underserved populations, are not interested in school. These students are called 'RHINOs' by Diane Montgomery (Montgomery 2009), 'Really Here In Name Only' (p.7.). They don't see the point in school or going to college as they want to earn money and be independent early in life and just want to get a job as soon as they can (Connor, Dewson and Tyers 2001). Many young people from a socio-economic disadvantaged background are unsure of the advantages of going to college (Connor, Dewson and Tyers 2001). Of course, it is totally acceptable that young people do not go on

to third level education if they are happy with this decision and a good alternative is available to them such as a trade apprenticeship or availability of a job that has training opportunities.

Unfortunately, however, due to the recession there are much fewer jobs in the construction sector and other industries, and it is important that young people are equipped with skills to find other jobs (Byrne, McCoy and Watson 2008). Being well educated is not just important for the individual but also for the Irish economy as a whole, where low educational attainment in the long term does have 'an effect on labour markets and also on social outcomes' (Byrne, McCoy and Watson 2008 p.xii). To climb out of this recession we need to build a stronger knowledge economy (Adnett 2006, Schleicher and Council 2006b)

> Our economic sustainability is increasingly dependent on the learning achievements and skills of all citizens.
>
> (Higher Education Authority 2008 p.10)

The youth of today are far more likely to find employment if they have obtained a degree qualification from a third level institution. According to a Labour Force Survey in the United Kingdom in October 2011, 86% of all graduates were in employment compared to 72.3% of non-graduates (Office for National Statistics 2012 p.2). According to other data in the same survey as above, graduates are also more likely to be paid more than non-graduates, with the median hourly rate of pay for all graduates between the ages of 21 and 64 to be £15.18, compared to £8.92 for non-graduates in the same age range (Office for National Statistics 2012 p.3).

Another equally if not more important reason for a student to continue his or her journey to third level is to break the cycle of poverty. If you do not attend higher education the likelihood of you being at-risk of poverty in Ireland is much higher than if you do go to university or college. This is confirmed by the figures gathered between 2004 and 2007 by the European Union Survey on Income and Living Conditions (Russell, Maitre and Nolan 2010).

3.4. GIFTED DISADVANTAGED

3.4.1. UNDERACHIEVEMENT

Underachievement is common in promising learners from disadvantaged background (Briggs & Reis 2008). Underachievers have a 'poor self-image' (Montgomery 2009, p.4) and it is important not to dwell on mistakes they make or weak areas of their study, and instead focus on praising their achievements and focusing on the positive areas of their work (Montgomery 2002, Ryan, Deci 2000). A non-supportive environment at home, in the community or school, where aspirations for students are low, can also be a contributing factor to underachievement (Downes 2007; Montg 2009)

Increased underachievement in gifted students in economically disadvantaged areas may be due to the following reasons, that:

- Teachers are less likely to notice gifted characteristics in the economically disadvantaged students compared to other identified students (Speirs Neumeister, 2007).

- If identified as gifted, some students had a 'skill deficit' in certain areas due to behavioural problems and lack of family support. (Spiers Neumeister, 2007) and had 'negative school outcomes' due to social and familial factors (Henfield, 2008).

These above factors strengthen the case for setting up additional learning programmes for these 'at-risk' students so that they have the potential to perform at the same level as their peers.

In fact, strong support networks were credited by Werner (1989) as the key factor in enabling successful academic development of disadvantaged students. This was discussed in his 30 year study of socio-economic disadvantaged students who had gone on to complete third level education (cited in Davis&Rimm 2002, p. 275). Whereas Van-Tassel Baska's (1989) study in the same field led her to conclude that it was family support and confidence in their child's abilities that led to successful academic development (cited in Davis & Rimm 1989, p.276).

The problem of some students in poverty dropping out of the educational system and not reaching third level needs to be addressed. As Borland (2000) puts it:

> The problem of disproportionate education failure among economically disadvantaged students. (p. 14)

3.5. POTENTIALLY GIFTED DISADVANTAGED

'Giftedness does not have cultural & socio-economic barriers' (Guggisberg 2010, p.9), it is independent of gender, ethnicity, geographical and economic backgrounds (Silverman, Gilman et al. 2004). However the identification and nourishment of these gifts in underserved gifted populations is extremely difficult, as students from disadvantaged background have less out of school supports for the development of their talents (Moon 2008).

However, if all children, no matter what their background, are given the same opportunities to educational programmes and resources, this will in turn lead to an equality in education, according to Dickson (Dickson 2003), though I am hesitant to agree that this can really be achieved.

At least 10% of children are potentially gifted in any given cohort, according to Gagne (2009) but traditional methods used for identifying gifted students, including the Stanford-Binet Intelligence Test and other IQ tests, have been criticised for use with those from vulnerable populations (Schroth, Helfer 2008, Snowman, Dobozy et al. 2009), as standardised tests can 'negatively influence' the results for culturally diverse children (Fletcher-Janzen & Ortiz, 2006, p.137). Coleman & Crosse, (2005) found that generally gifted children from a marginalised background scored at least one standard deviation below the norm using traditional IQ tests.

As these assessment instruments, such as IQ tests, can be language heavy (or culturally loaded verbal questions- Guggisberg, p.20) and require students to have an extensive vocabulary and previous knowledge of certain mathematical equations - they are not good at indicating latent abilities such a problem solving or creativity (Coleman, Cross 2005, Gagné 1994, McBee 2006). For these reasons the CAA uses teacher nomination select students to come on their courses.

Teacher nominations have been found to be an accepted identification tool especially for underserved gifted populations that do not score highly using traditional assessment methods (Stambaugh 2007, Van Tassel-Baska 2008). Teacher nominations can involve teachers using a teacher rating scale or a checklist to aid the educators on deciding whether any students in the class have gifts in a particular area (Peters, Gentry 2012). There are critics of using this method to identify students (Peterson, Margolin 1997), especially if students are hiding their abilities in order to fit in with their peers (Montgomery 2009). However, with many parents from a socio-economic disadvantaged demographic unaware of their child's high academic ability (Downes 2007) parent nomination may not be as suitable an identification tool. Teacher nomination seemed to be the best fit for the CAA programme especially as it was easier to liaise with already linked schools to find students

rather than 'flying blind' in trying to track down educationally disadvantaged students without the help of local schools.

3.6. ENRICHMENT PROGRAMMES FOR PROMISING LEARNERS FROM A SOCIO-ECONOMIC BACKGROUND

3.6.1. IMPORTANCE OF ENRICHMENT PROGRAMMES FOR GIFTED DISADVANTAGED STUDENTS:

As mentioned earlier, there are already enrichment programmes for gifted students available in Ireland (CTYI) and in other countries worldwide and there is a plethora of literature available that identifies and outlines these programmes, e.g the Centre for Talent Development (Olszewski-Kubilius & Lee 2004) and the Centre for Talented Youth (Barnett & Durden 1993). Unfortunately though as outlined by Frasier and Passow (1994)**:**

> The number and proportion of racial/ethnic minority and economically disadvantaged children in the public school population are not reflected in programs for the gifted and talent. (p.8)

However, in gifted programmes currently, students from socio economic and also ethnic minority backgrounds are underrepresented (Borland 2005, Coleman, Cross 2005, Dickson 2003, Frasier, Garcia et al. 1995, Fletcher-Janzen, Ortiz 2006, Moon 2008). This uneven balance of representation on gifted programmes is comparable to discrimination (Cross, Cross et al. 2010). Therefore an intervention is needed to ensure students from disadvantaged backgrounds are not overlooked for gifted programmes (Guggisberg, Guggisberg 2010, Moon 2008). In addition, if low-income students are identified and attend traditional gifted programmes they progress at a slower pace with the academic material than their more affluent peers (Plucker, Burroughs et al. 2010).

In order to start addressing this issue, more value-added education specifically for promising learners from disadvantaged backgrounds is needed to enhance their chances of success academically (Olszewski-Kubilius 2010). Students from at-risk backgrounds will struggle to realise their potential if their academic gifts are not identified early in their school life:

> The probability of identification will go down as a child's intellect receives no stimulation, particularly in comparison with a child of similar ability who is receiving an appropriate education. When such a situation repeatedly affects children in the same segments of the population, discrimination is occurring.
>
> (Cross, Cross et al. 2010, p.236).

Swanson (2006) another key researcher in the areas of gifted low-income students, is also a staunch supporter of the importance of enrichment programmes in aiding potentially gifted students from poverty to higher levels of learning and success.

3.6.2. VALUABLE INSIGHTS LEARNT FROM VARIOUS ENRICHMENT PROGRAMMES FOR UNDERREPRESENTED GIFTED POPULATIONS GLOBALLY.

Joyce Van Tassel- Baska, who set up the Centre for Gifted Education at the College of William and Mary twenty four years ago, is a strong advocate of additional supports for impoverished learners in order to enhance their talents, interventions that will 'catalyze their abilities and predispositions into talent development areas' (2010, p.7). So how exactly should enrichment programmes for advanced learners from disadvantaged areas differ from traditional gifted enrichment programmes? Enrichment programmes for these promising learners should still incorporate the same teaching strategies and models as developed by Renzulli (Renzulli 1976), and Feldhusen (Renzulli, Davidson 2005, Feldhusen, Kolloff 1986) amongst others as mentioned earlier, but additional teaching and learning strategies, as outlined below, should also be used. It is important that a greater emphasis is placed on understanding the cultural circumstances that frame their beliefs in order to shape lessons that are relevant to their contextual surroundings i.e. using examples and shaping problem solving tasks that fit in with everyday situations in their community.

According to Wallace (2009) a programme aimed at promoting academic advancement for non-traditional groups should aim to:

- Develop language skills.
- Develop range of 'appropriate thinking skills to promote self-esteem, independence and empowerment'.
- Design a curriculum relevant to the culture of the community.

(p.65)

Wallace (2009) set up the 'Thinking Actively in a Social Context (TASC) project, which is based in South Africa targeting an educationally disadvantaged community (a Zulu population). Like the CAA programme, the TASC programme did not focus on the skills that the students did not have but rather focused on developing their strengths and skills they already had, these skills being as suggested by Wallace (2009) to be:

- Strong powers of memory due to their rich oral culture.
- Well-developed group listening and leadership skills.
- Democratic ways of working through discussion and sharing ideas.
- Ease of, and enjoyment in, cooperative learning.

- A tremendous motiviation to learn as a means of self-development.
- A deep & incisive awareness of the political, economic, social & emotional dimensions within a country wracked by division and inequality.

(p.65)

All these above points were taken into consideration when planning the curriculum for the CAA program. But there were differences between these two programmes, as this TASC reflective action research project involved largely secondary school learners, and the background of inequality in South Africa would be different to the Irish school environment.

Tamra Stambaugh and Kimberley Chandler have developed an excellent model for developing curriculum for underserved gifted students (2012) though bear in mind this model is for use in a school environment focusing on interventions to make the existing school subjects more exciting, rather than for an outreach programme that focuses on subjects outside the school system. However, many of the key points in this model are extremely relevant, which include:

- Scaffold instructions and teach thinking skills (start with simple lower level tasks and develop students' skills over time to understand and follow more complex higher level concepts using a variety of methods including graphic organizers, 'hint & think beyond cards', more time for independent learning).
- Provide targeted professional development to teachers.
- Create opportunities for engagement including real-world problem solving and student choice.
- Emphasize the development of potential rather than remediation of skills' (don't assume a child isn't gifted because of their background, instead expose all children to engaging materials.

(pp.37-42)

The last point is essential for identification of previously unidentified gifted students, where challenging material and a variety of experiences will coax these children's gifts into the open (Swanson 2006).

Another enrichment programme that takes place within the regular classroom environment during the school year is the Realizing Equality and Achievement for Learners (REAL) Project (Warwick 2009). This project focuses on potentially gifted students from ethnic minority backgrounds living in London who are also financially compromised. The project provides support and develops resources for teachers to use in the classroom that will academically challenge promising learners. It relies on schools to implement the procedures so therefore is reliant on enthusiastic staff members for its success. Obviously there are various differences between the settings of the REAL

project and the CAA programme, but the REAL programme does offer some relevant insights into developing gifted programmes and focuses on the importance of:

- Strengthening the link between parental involvement & student achievement.
- Encouraging high expectations and aspirations in minority ethnic families.
- Improving the understanding of the learning needs of gifted children.

(Warwick 2009)

All the above points, albeit if the second point is modified to include socio-economic families, are relevant to developing the CAA programme.

Project Synergy (Borland, 2000), based in New York, was another programme that enthuses about the importance of parental input into an educational intervention. Borland found evidence of strong parental support where gifted 'at-risk' students had thrived: 'The parents view education as the means by which their children can rise in society' (p.24).

Stambaugh and Chandler (2012) also talk about the importance of parental input to advancing the gifts of their children, arguing against the misconception that parents of gifted disadvantaged students do not care about their child's progress in school. I would strenuously agree that the majority of parents living in a deprived area do want their children to succeed in school and go on to third level education, but unfortunately as outlined in the previous sections, it is extremely difficult for these parents to overcome the physical and mental barriers mentioned.

3.6.3. OTHER EXAMPLES OF ENRICHMENT PROGRAMMES

The 'New Challenge Program' in Texas, America targets students from economically disadvantaged areas and provided 'a learning environment that works for all gifted children and a curriculum that is thematic and expands upon the academic content that they learn in school.' (Goertz, Phemister et al. 1996). This summer programme is one of a small number that focuses not only on students with academic potential but specifically those from socio-economic disadvantaged backgrounds and is based outside the school environment.

'Project Breakthrough' (Swanson 2006) is a programme that ran in South Carolina, America for three years. This project developed advanced curricula and taught them to all students, no matter of ability, of a certain age in certain schools in the hope that it would 'positively affect students' achievements' (p.27) Swanson did find encouraging results where the curricula had helped many students increase their academic abilities.

Project U-Stars Plus is an enrichment programme involved in growing the academic gifts of impoverished students at primary school level (Coleman, Guo et al. 2007). Its aim as summed up by the title of the project is 'Using Science, Talents, and Abilities to Recognize Students – Promoting Learning in Underserved Students [U-STARS-PLUS] (Coleman, Guo et al. 2007, p.59). This American project, funded by the now defunct Jacob Javits Grant from the American Department of Education, gave 106 designated disadvantaged primary schools in four states the opportunity to focus on identifying potential academic ability at kindergarten level. In this programme the teachers used a supplied observational tool, the Harrison Observation Student Form (Coleman 2007, p.59), to systematically observe and identify advanced learners. Then this project supported these identified promising learners with hands-on science experiences and problem solving activities. Again, this programme occurred in the classroom and used a differentiated learning environment, again based on the existing school curriculum, to challenge all levels of learners in the classroom. This is different from the CAA programme, but it does have excellent core values that have helped frame the CAA programme.

These include:

- 'The provision of high end challenging learning opportunities.
- Teachers' systematic observation of their students, watching for indications of potential and using observations to help them inform their instructions.
- Hands-on enquiry based science that focuses on exploration, problem solving, higher level thinking, creativity, and persistence, and can be meaningfully integrated across the curriculum.
- Parental and family engagement in school and academic areas of interest.
- Systematic change through capacity building.'

(Coleman 2007, p.59)

All of the above points, bar the last one, are apparent in the CAA programme. These include the primary school teachers nominating students from their observations, interactive fun challenging courses for these children, the parental engagement at the graduation ceremony and the follow-up science packs for the parents to complete with their children at home.

3.7. CONCLUSION

Overall, it is evident that additional educational programmes are needed to ensure that 'at-risk' and minority students are also given the opportunity to develop their talents. McCluskey, Baker, & McCluskey (2005) support the stance that there are positive differences for gifted 'at-risk' students attending additional academic programmes outside the school environment. Reis & McCoach (2000) highlight the need for effective intervention programmes for underachieving students, which could include the 'at-risk' group. Additionally, strong support networks, including extra-curricular activities, were credited by Werner (1989) as the key factor in enabling successful academic development of disadvantaged students. This was discussed in his 30 year study of socio-economic disadvantaged students who had gone on to complete third level education.

There are many intervention programmes for potentially gifted 'at-risk' secondary school students, such as the programmes mentioned above, but there are no relevant programmes for primary school students found so far by the researcher mentioned in the literature (though there are probably programmes out there, they are just not documented). CTY does run enrichment programmes for under-represented high ability students in America, however these programmes are all aimed at students in secondary level education (Barnett, Albert and Brody 2005, Ybarra 2005). Also the Centre for Gifted Education, in Virginia, is introducing a new summer enrichment programme for advanced learners from financially impoverished backgrounds, called 'Camp Launch', but again this initiative is for post primary students (Cross T.L. 2012).

There are no programmes in Ireland apart from the CAA project that specifically target potentially gifted children from a disadvantaged background. CTYI offer scholarships and financial aid to students in need of financial support, but this can only be offered to a small minority of students due to the related cost to the centre. I am sure that there are similar institutions worldwide that offer financial aid to support entry into gifted or advanced programmes for disadvantaged students, but stand-alone enrichment programmes specifically for underserved potentially gifted or gifted children under the age of twelve years old seem to be few and far between.

CHAPTER 4: RESEARCH METHODOLOGY

4.1. INTRODUCTION

This section will outline how my own experiences and reflections are underpinned by a participatory world view with social constructivist elements. This philosophical stance has in turn led to the choice of an action research methodology being embraced for this study. This action research method is reinforced with critical theory, and it is hoped that adoption of this method will to lead to some level of social change. Focus groups, interviews and surveys are the data collection tools that have been used to aid in uncovering what changes the CAA programme has had for its participants.

4.2. PHILOSOPHICAL UNDERPINNINGS

4.2.1. MY PHILOSOPHICAL STANCE

Before any research study begins it is necessary to turn the investigative lens inwards and lay out the assumptions of the researcher undertaking the study. As it is the beliefs of the researcher that will shape how the study will be undertaken (Hammersley 2007) and ultimately, how the findings are interpreted and which conclusions will be made (Creswell 2009).

Kerlinger (1970) argued that the researcher's ontological assumptions lead in turn to certain epistemological beliefs being held by that person, which in turn led the researcher to choose a certain methodology to follow. I would agree that these factors are inextricably linked and will detail below my ontological and epistemological assumptions on the nature of inquiry that shape this particular study.

As my background was initially as a scientist before I entered the educational research arena it was with a certain reluctance I set out to read on the anti-positivist movement and ideals. However, the strong case, that was argued by these nominalist followers (Dilthey 1958, Lincoln, Guba 1985, Weber 1948) for the use of these subjective and idiographic strategies, in the field of social science anyway, was too hard to ignore. In fact, I now believe that when it comes to the area of educational research, and in my research in particular, it is essential that rich qualitative narratives and accounts are vital to adding to knowledge in this field.

I cannot believe that the social world is solely an external construct where objects must be concrete and everyone shares the same version of this reality. Instead a reality where each individual experiences their own version of events which is created by each individual's

consciousness, is surely the more likely reality (Schwandt 2007, Lincoln, Denzin 2003, Lincoln, Guba 1985). And, in turn, surely all great knowledge cannot be correlated to hard tangible objects and events? How can positivists believe that something isn't worth knowing unless it can be quantified and tested using generalisable rules and strategies (Nesfield-Cookson, Trevelyan 1987, Greene 2007). Conversely, it must be the case that knowledge can be obtained from a person's experiences and beliefs and this subjective knowledge, in turn, shapes how they perceive their future experiences and focuses their opinions and ideas (Carr 2003, Greene 2007, Hammersley 2007). Instead of valuing the 'gold standard of generalisability' (Phillips 2006) on the contrary, the localised account of the phenemona being studied is just as valuable (Greene 20007) as it highlights the relativistic nature of the world; that there is no absolute truth but rather many truths depending on each person's perception and specific situation (Burrell, Morgan 1979).

4.2.2. THE CASE AGAINST USING AN INTERPRETIVIST PARADIGM IN THIS STUDY

The importance of the post modernism movement cannot be ignored. Before interpretivism and other worldviews became acceptable, research was not considered research unless it held a positivist position that knowledge is representational of actual real things and the same findings can be produced and reproduced time after time using standards and procedures (Cuff, Payne 1979). These realists argued and that quantitative methods were the only valid strategies of inquiry in uncovering truth and knowledge (Cohen, Manion et al. 2000). But as Foucault and also Wittgenstein (1953) surmised the great questions of life were still left unanswered after all scientific questions had been addressed.

The majority of studies on gifted education use quantitative research as it's backbone with qualitative methods slowly gaining credence since the mid 1990s (Coleman, Guo et al. 2007, Parker, Jordan et al. 2010) . It is important to continue to increase the body of qualitative work in gifted education as a positivist enquiry with its emphasis on hard statistical evidence cannot detail the rich narratives that each stakeholder has to tell. To gain a better understanding of how an educational intervention affects these students following a post-positivist paradigm is necessary. As Hammersley (2007) and Carr (2003) amongst others concur social phenomena cannot be separated from the beliefs and understandings of the people involved, which is especially relevant for this thesis as social factors play an extremely large role for these students' academic future. So, is an interpretivist paradigm the answer?

Interpretivism is now widely used as a paradigm in the social sciences and in gifted educational research. This worldview being that human actions in a social context are meaningful (Schwandt 2007) and that researchers can only attempt to understand the world by interpreting it, and this process of interpretation involves verbal and non-verbal communication (Smith, Heshusius 1986). Interpretivism stresses that it is the subjective experiences of each person that shape meaning and so it is important to focus on the inner

ideals of the researcher, as well as the participants in the study. However, there are three main reasons why interpretivism is not suitable for this particular study.

1) Interpretivism does not consider shared concept of society by a group of individuals but rather each individual actor has his or her own version of what they construe reality to be (Creswell 2009).

2) Additionally, interpretivism does not take into account any external factors, such as culture or historical setting, outside the consciousness of the actors and inquirer in the study, as being of value or having an influence on peoples' beliefs (Gage 1989).

3) Lastly, interpretivism does not factor in the power imbalances that take place all around us in society (Bernstein 1974) and these 'inequalities in power are regularly imposed upon unequal participants' (Cohen, Manion et al. 2000).

Therefore, I would rule out the view of interpretivism for this thesis, and instead follow a participatory world view, where experiences and collaboration are key with the aim to encourage and incorporate some type of emancipatory action.

4.2.3. CONSTRUCTIVISIM AND SOCIAL CONSTRUCTIVISM

Social constructivism stems from the broader concept of constructivism. Constructivism in its simplest terms means that knowledge is not discovered but rather constructed in our consciousness (Schwandt 2007). This is an active process but most importantly it is not an individual construction of knowledge created in isolation, but rather through 'shared understanding and practices' (Denzin, Fields et al. 1997, p.245). It is by communicating and interpreting with others that this knowledge is created which is why society is so important. Potter (1996) also agrees that words and opinions are concocted by understanding the practices of society.

Social constructivists hold the view that it is important to understand the everyday world around us and how our collective experiences of the world frame how we as a group perceive the world (Brown, Metz et al. 1996, Vygotsky 1978). The multiple and complex meanings given by the actors explaining a certain phenomenon help create a more in-depth picture of how society perceives and experiences this event as a collective, and these participants views take centre stage.

Another crucial factor that sets social constructivism apart from other research approaches is the belief that the experience with external constructs can be meaningful. As Creswell (2009) expands:

> Often these subjective meanings are negotiated socially and historically. They are not simply imprinted on individuals but are formed through interaction with others (hence social constructivism) and through historical and cultural norms that operate in individuals lives. (P.8)

Berger & Luekmann (1967), Lincoln and Guba (1985), Crotty (1998) amongst others, also believe that it is the social and historical settings that shape a person's understanding of their environment, which is why it is important that researchers take these factors into consideration when interpreting the opinions that stakeholders give.

The beliefs of social constructivists have become respected and widely used in the field of social science. But is it enough to acknowledge the part that culture and society play in forming certain experiences and opinions, when the ideological and political contexts (Cohen, Manion et al. 2000) can act as a barrier to minority groups to succeed, and even in some cases survive, in society?

4.2.4. PARTICIPATORY WORLDVIEW

Research should be democratic with the stakeholders in a project being given the chance to shape the direction of the study and indeed be involved in all stages of development of the project. Educational research has for too long been a solitary affair with much emphasis on data collection and interpretation by an academic in a university setting. Instead, by undertaking practitioner research within a community setting a more collaborative approach can be taken; this is the backbone of the participatory paradigm. With groups of society, whose opinions do not normally make an impact on university research (Greenwood 2007), having the opportunity to advocate for themselves.

The participatory paradigm was first mooted in the 1980s following on from the work of Freire (1970) with his 'pedagogy of the oppressed', and then Habermas (1974). Heron & Reason (1997), along with Kemmis & Wilkinson (1998) in the 1990s, amongst others, thought that the theories laid down by the post-positivists did not represent the marginalised groups of society and not enough was being done to aid social change (Cresswell 2009). This worldview aims to accommodate 'multiple values perspectives' (McNiff, Whitehead 2002, p.17) in order to try to understand, as best as possible, the views of all participants. It could be said that this paradigm is similar to a trade union, where the

collaborators try to best represent the range of views of this cooperative in order to serve the best interests of this group, influenced by socialism and other Marxist theories. The trade union analogy also corresponds to the participatory worldview in that it is try to ensure that the voice of minority groups is heard and it tries to promote democracy/ equal rights for all its members.

Creswell (2009) succinctly sums up the key features of the participatory (also know as advocacy) worldview, using Kemmis s & Wilkinson's (1998) beliefs, as outlined below**:**

1. 'Participatory action is recursive or dialectical and focused on bringing about changes in practices. Thus, at the end of advocacy/participatory studies, researchers advance an action agenda for change.
2. This form of inquiry is focused on helping individuals free themselves from constraints found in the media, in language, in work procedures, and in the relationship of power in educational settings. Advocacy/participatory studies often being with an important issue or stance about the problems in society, such as the need for empowerment.
3. It is emancipatory in that it helps unshackle people form the constraints of irrational and unjust structures that limit self-development and self-determination. The advocacy/participatory studies aim to create a political debate and discussion so that change will occur.
4. It is practical and collaborative because it is inquiry completed with others rather than on or to others. In this spirit, advocacy/participatory authors engage the participants as active collaborators in their worldview.'

(p.10)

It is hoped that this study will incorporate as many of the above points as possible. However, I acknowledge that such a small individual piece of work has limitations and so the end results will not be a panacea to stop all educational disadvantaged area in Ballymun but rather one step in many in beginning to address this issue.

There has been a shift in qualitative inquiry in the last few years towards 'critical conversations about democracy, race, gender, class,…. freedom and community' (Lincoln, Denzin 2003, p.3), where advocates opine that it is our moral duty (Habermas 1972, Habermas 1974) to take social action to improve the lives of people in disadvantaged circumstances (Lincoln 1998). This critical theory, as outlined below, has given credence to action being used to advance knowledge while at the same time addressing the power and political issues at play (Bourdieu 2004, Foucault 2000).

4.2.5. CRITICAL THEORY

To address this neglect of these various external constructs in relation to knowledge formation, Habermas (1984) set up the critical theory movement. Critical theory is a normative research tradition in that it gives credence to what should be done to improve a situation, rather than just describing an event or experience (Fay 1987, Morrison 1995). Critical theorists believe in a more egalitarian and democratic society and their aim is to make inroads into achieving this through being proactive and producing practical knowledge in order to make society change (Lincoln, Denzin 2003, Cohen, Manion et al. 2000).

It not only vocalises the idea of change but aims to be emancipatory (Kemmis 2001, Noffke 1997) to use action to change an issue or experience in practice, especially in disempowered communities, and also the related theory for the better (Grundy 1987). In order to do this the participants themselves have to be the ones to act, to try new strategies, evaluate progress and embrace change (Lincoln, Denzin 2003) - not a challenge taken on lightly! These pragmatic changes need to add to theory and practice, they must be transformative and empowering, to make a worthwhile difference (Carr, Kemmis 1986, Dumas 2009).

Critical theorists hope to have a more trusting relationship with participants as they are acting for and with them for their well-being (Kemmis 2001), enabling the participants themselves to share as many of their views as possible through open-ended questions rather than relying on powerful outsiders to depict their views (Tierney, Lincoln 1997).

Habermas (1972), amongst others, believe that critical theory holds more impetus than the positivist or interpretivist positions, due to the belief that democracy and freedom are the most important of all values to uphold in society; a view that would mirror my own opinion. This is why critical theory links in so well with the participatory paradigm in this study where collaborative action can lead to social improvement (Tuck 2009).

This strong link between critical theory and a participatory paradigm has shaped my decision to use an idiographic methodology (Kirk, Miller 1986) specifically action research based on critical theory, where it is the participants views that shape change through praxis, and that this transformative emancipatory action is instrumental in the pursuit of worthwhile knowledge.

4.3. METHOD

> If the methods are not sound or not well described in the research, the strength of the conclusions of the research is unknown. (Brandon, Singh 2009, p.123).

4.3.1. ACTION RESEARCH METHOD

Critical theory has shaped my decision to use an action research method. Action research is a method of qualitative enquiry, and this method is, in this researcher's opinion, the most suitable for this thesis. One reason for this being that it has previously been used in other studies on enrichment programmes for gifted children (Coates 2009, Hughes 1999).

There are many definitions for action research with one of the most seminal definitions coming from Carr & Kemmis (1986):

> A form of self-reflective inquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out. (p.162)

However, this definition doesn't go far enough if it is going to be used in reference to action research with a grounding in critical theory. A better fit definition for this paper is:

> Action Research combines a substantive act with a research procedure: it is action disciplined by enquiry, a personal attempt at understanding while engaged in a process of improvement and reform. (Hopkins 2002, p.43)

Critical action research is recognised as a legitimate form of research (Farren 2011, Macpherson, Aspland et al. 1998, Whitehead, McNiff 2006) and has in recent years become an increasingly supported methodology in educational studies (Hopkins 2002).

Action research is when the researcher plans, monitors and makes changes to a programme in order to try and improve how the programme functions and to solve any problems that are encountered (Lomax 2002, Mills 2000, Whitehead, McNiff 2006). As mentioned, the action research cycles must initiate change but this change must be worthwhile (Bassey 1998). The researcher must be directly & dynamically involved in the programme being developed (Coleman, Guo et al. 2007) as part of the cycle involves the researcher, who is also the practitioner, reflecting on their work in order to improve it (Gunter 2001).

Stephen Kemmis and Robin MacTaggart (1998) devised a simple action research spiral, as seen below in Fig 3.1, involving two full cycles of action research, which was expanded from early work on action research by Kurt Lewin (1946) (1946).

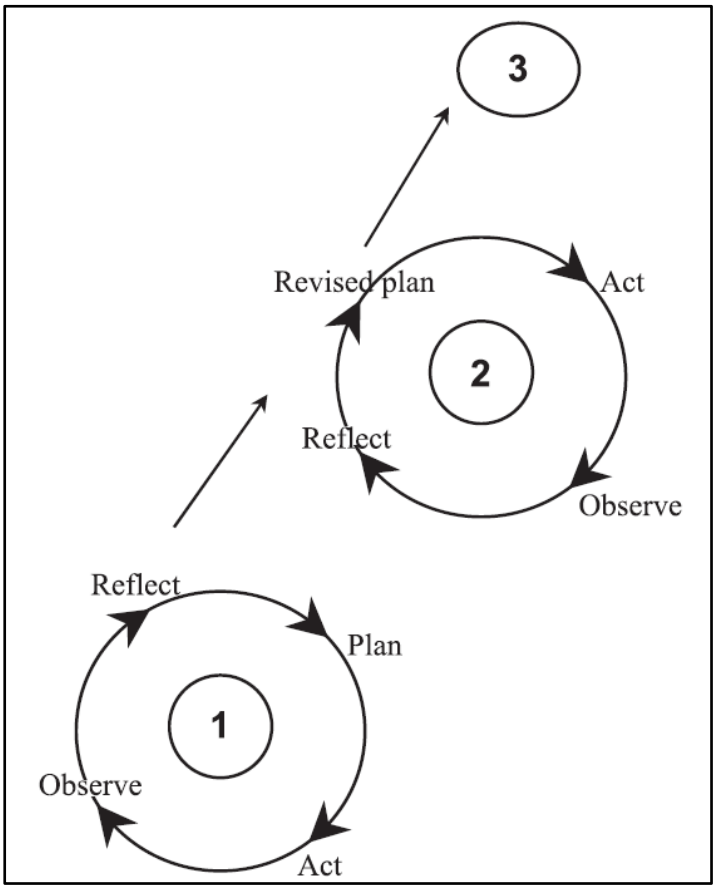

Fig. 5. Action Research Spiral (Zuber-Skerritt 2001, p.15)

There have been many variations of this cycle since then, for example Coghlan and Brannick's relatively similar 4 step cycle (2010), Stringer's simple three step *look, think, act* cycle (2007) (2007)or McNiff's *diagnosis, action, reflection* cycle (2002), to French and Bell's (1999) more complex multistep organisational framework cycle. However, Kemmis' model is ideal for my research as it consists of relatively simple steps which are suited to the time frame and size of the study being undertaken, and also as it emphasises the importance of at least two cycles of action being undertaken to constitute a gain of worthwhile knowledge and to improve practice (Whitehead 2011).

One of the steps involved is that of reflection, which is paramount to the success of knowledge development and change initiation in action research. Reflective practice is 'the process of examining one's own actions and learning about oneself' (Taylor, Rudolph et al. 2008, p.656). Self-reflection on the various actions that have been carried out and observed is necessary in order to critique the process and effects and to ensure that the next cycle will add positively to the advancements made in the earlier cycle (Lomax 2002). This

reflective practice is also key to improving understanding regarding one's own research practice within their situation (Kemmis 2001) with the aim in the case of critical action theory to 'maximise social justice' (Carr, Kemmis 1986, p.162).

It may be that the piece of research is localised and on a smaller scale say than large government research projects, however, this situated learning can be used to examine the effects of a real world intervention (Cohen, Manion et al. 2007). These 'individual epistemologies of practice' (, p.156Lomax 2002) can be used to create legitimate educational theory (Whitehead 2011) and be used as a forerunner and influencer for other related projects (McNiff, Whitehead 1993). Critics of action research would say the above isn't possible – that new knowledge cannot be generated through action inquiry, and in some cases this is true. Jean McNiff argues that 'Anyone can do action research….. All you need is curiosity, creativity, and a willingness to engage' (, p.16Whitehead, McNiff 2006). But unless this research is carried out using systematic and rigorous procedures along with careful analysis, the results will not lead to valid knowledge formation (Halsall, Carter et al. 1998).

In order to advance the case of 'doing action research' more guidelines need to be in place. Feuer (2002) argued for a 'set of norms and practices and ethos of honesty, openness and continuous reflection, including how research quality is judged' (p.4). As well as more guidelines in place to shape viable action research procedures, there must be a sharing of languages and meaning between practitioners so as when documenting the research other action researchers will be able to identify similar patterns and actions to be used to shape the meaning of their own study ((Groundwater-Smith, Mockler 2007). If action research is carried out using relevant guidelines and values and is proven beneficial to other academic peers it can be said that new knowledge has been created, or as some advocators suggest that 'living theory' has been generated (Farren 2011, Spiro 2008, Whitehead, McNiff 2006, Whitehead 2011), and that this living theory is an ideal blend of creating knowledge that is relevant to the real world, as well as producing changes for the benefits of society (Farran 2011).

4.3.2. PRACTITIONER RESEARCH COLLABORATION

Another unique aspect of action research is that it involves extensive collaboration with other stakeholders and/or researchers to shape the research, that it is a form of cooperative inquiry (Heron, Reason 2006) where the participants in the study themselves are involved in deciding the direction and the shaping the outcomes of the study (Gergen, Gergen 2008). This move to including the subjects of the study in the development study is a break from traditional academic research, where a subject is 'studied', and this move away from an individualist top down approach to field work has altered the nature of social research

(Pyrch, Castillo 2001), in my opinion for the better. This collective approach to creating knowledge and taking action is extremely apt when tackling issues such as disadvantage and discrimination.

And it is the collaborative nature of this form of inquiry that enables one study to be relevant not only to the researcher involved but also the participants and the community involved, and additionally pertinent to other similar communities and contexts (Cohen 2007).

4.3.3. CONTEXT OF ACTION RESEARCH IN RELATION TO THIS STUDY

In the case of this planned thesis, the researcher is indeed already and directly involved in the CAA programme so was in an ideal position to implement action research.

The first phase of action research was carried out between 2006 and 2009 when the idea of starting a project was discussed, and after planning, the centre held its first course in May 2007. The CAA grew in size and the programme was thoroughly observed and evaluated between October 2008 and May 2009 where improvements were suggested and changes that needed to be made reflected upon during the last stage of this cycle. In the first cycle of action research 298 questionnaires were filled in by various stakeholders, and 1 focus group involving 5 parents was carried out. A second focus group was scheduled but unfortunately no parents turned up, which was disappointing.

The second cycle of this thesis action research project involved planning the implementation of the suggested improvements, acting to facilitate these improvements and changes, with observation and then reflection allowing the researcher and participants to comment on how successful these changes were. This cycle involved individual interviews with 5 children and 1 school principal, 3 focus groups involving 3, 4 and 3 parents respectively, and 288 questionnaires filled in by various stakeholders. A more comprehensive breakdown of these figures and a timeline are included in the sample size & content section.

At all times the importance of ensuring that all changes made to the programme would positively influence the students experience of learning, and to a lesser extent their lives, was foremost.

The figure below shows a detailed timeline of when each step of the field work was carried out, and the number of focus groups, interviews, questionnaires, filled out at each stage.

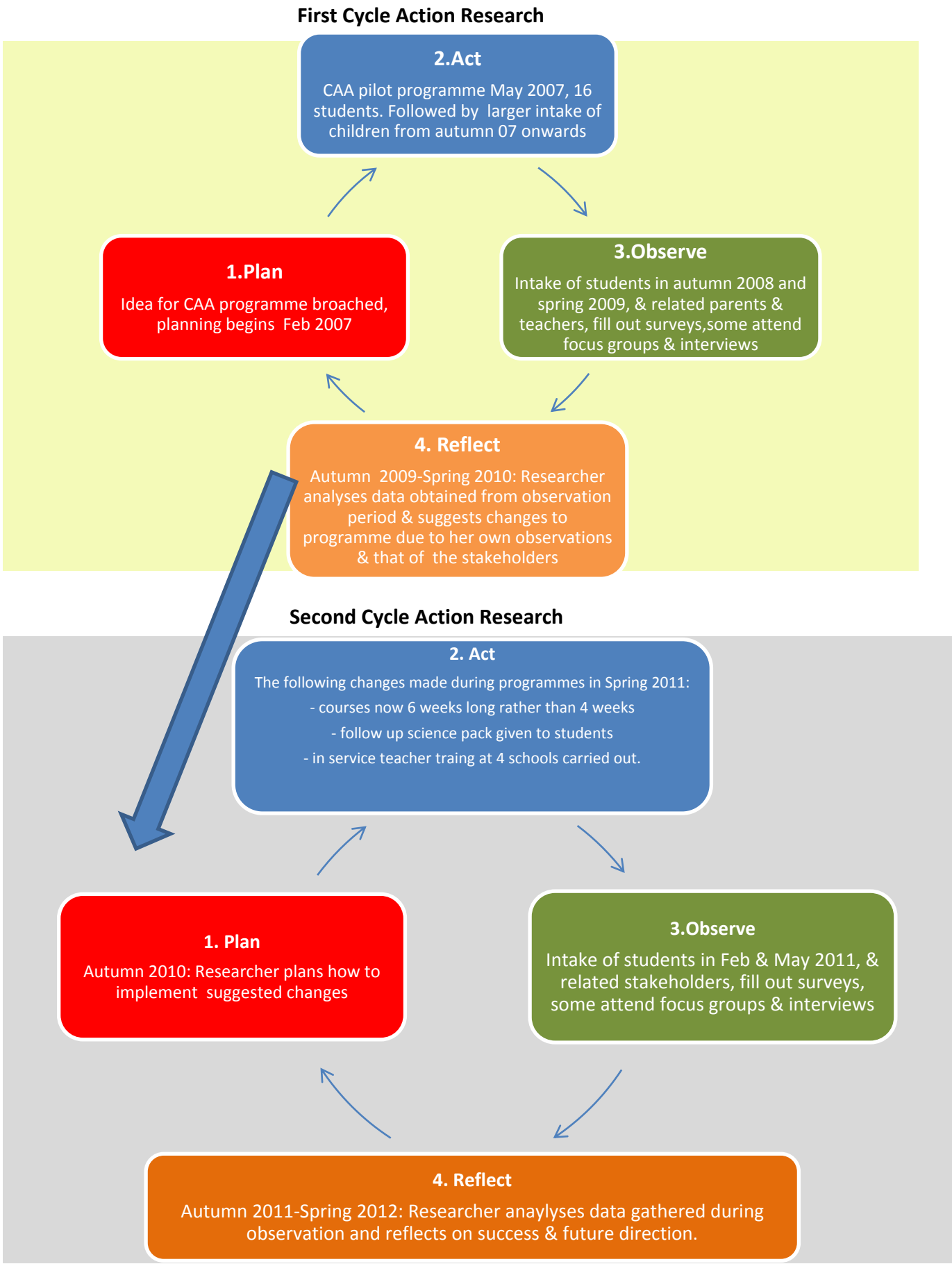

Fig 6. Action Research Timeline

4.4. DATA COLLECTION METHODS

> The strength of warrants supporting investigative claims depends in part on the quality of the methods used in the investigations.
>
> (Brandon, Singh 2009, p.123).

4.4.1. SAMPLE SIZE, ACCESS, CONTEXT

The participants in this thesis project included students who attend the CAA courses in the academic years 2008/09 and 2010/11, the parents of these students and the national school teachers who send students to the CAA programme.

This research was very practicable as when parents signed their students up for the CAA courses they also gave their permission for students to take part in research. 32 local schools are involved in the CAA programme, with 122 students taking part in the study during the first cycle of action research in 2008/09, and 108 taking part in the study in the second cycle of action research in 2008/09.

The majority of research was done in DCU therefore access was not a problem as the CAA project is already taking place on campus. Students and parents are on campus each Wednesday so finding participants for surveys, focus groups and interviews was easily obtainable.

Some research was done in the primary schools. This was easily set up as I already had strong links with these primary school staff, due to our on-going involvement in the CAA project. Access for in-service days and completion of questionnaires was therefore straightforward.

Figure 6 on the previous page, shows a detailed timeline of when each step of the field work was carried out, and the number of focus groups, interviews, questionnaires, filled out at each stage.

Questions asked in the surveys, interviews, and focus groups largely focused on the students' experiences during attending the CAA programme with questions aimed at finding out about the academic, social and personal benefits, or lack thereof, of participating on the programme.

The data from all the analytical tools was analysed and written up in the academic year 2011/2012.

4.4.2. ANALYTICAL TOOLS

In order to have as many multifaceted and in-depth descriptives as possible it is vital that the researcher tries to take a backseat and designs his interactions with stakeholders to be as open ended and flexible as possible for the participants (Creswell 2009).

Interviews and focus groups carried out with various parties involved, along with questionnaires filled out by all stakeholders, were the means to gather up qualitative and quantitative data.

4.4.2.1. QUESTIONNAIRES

A questionnaire can give a succinct synopsis of the overarching trends or attitudes of the people filling out this questionnaire (Creswell 2009) and the attributes related to the sample of the public who do fill out the forms may typify the attributes of a larger related population who hold similar demographics (Babbie 1990, Fowler 2009).

Questionnaires were given out to all stakeholders to aid in triangulating the data. The qualitative data from each questionnaire was coded and placed in the appropriate coded category (This method of coding will be discussed later in this chapter). The quantitative data obtained from any of the 'yes/no' or lichert scale answers was counted and put into graphical form if the numerical data highlighted any interesting points. I acknowledge that any quantitative findings are represented in simple graphs and would not count as detailed quantitative findings, however I felt that the volume of useful qualitative data gathered was so abundant and interesting it was more worthwhile to focus on this qualitative data for this study. However, I do hope to use the quantitative data that was gathered for this study but not discussed in future studies.

The original questionnaires for students, parents and teachers can be found in appendices 5-8 respectively. In cycle 1 & cycle 2 questionnaires were filled out by students at the start and end of the programmes, with 230 being filled in out of a possible 256 (90% response rate). The reason for only 230 out of 256 questionnaires being filled in was due to some students being absent when the forms where given out. In cycle 1 Parents and the related primary school teachers also filled out questionnaires at the end of the programme. 70 questionnaires were filled in by parents and given back to the research out of the maximum possible of 128 (55% response rate). Of the 32 national schools involved, teachers in 22 schools returned the questionnaires (69% response rate).

In cycle two, 55 parents out of a possible 108 returned surveys (51% response rate), and 25 teachers and principals returned surveys. In this second cycle 21 out of the 32 of the schools returned the surveys, with one school having 5 teachers fill out the forms. The teacher

survey was updated for cycle 2 as it was felt that more detailed information should be obtained regarding the effect on students attending the CAA courses when they returned to school. This updated survey is shown in Appendix 9. Additionally the students' surveys given out at the beginning and end of the course were also updated for cycle 2 to include more cartoons to make the surveys a bit more fun for the children to fill out, these update student surveys are laid out in Appendices 10 and 11.

The response rate of parent and teacher surveys was lower than the students' surveys because the parent and teacher questionnaires had to be filled out off campus and then brought or sent back in to the researcher, whereas in comparison the students filled out the questionnaires on site. Questionnaires were used with the parents and teachers, as teachers and parents lead very busy lives and it was thought that it was more likely that these groups would take the time to fill out a short questionnaire rather than be interviewed.

> Questionnaires asking about different individuals' experiences with a program enable one evaluator to collect information efficiently from a large number of people. (King, Morris et al. 1987, p.72).

Additionally, questionnaires were given out to teachers who took part in the in-service teacher training days. 8 teachers filled out these surveys, out of a possible 20, and one principal was also interviewed after the in-service day. These surveys (Appendix 12) were given out to the schools, and the interview with the principal carried out, 9 months after the in-service day to see if the teachers had used any of the activities demonstrated in the in-service day, with the pupils in their classes.

Students filled out surveys on the first day and last day of the programme. The main reason for them doing this was to see if any differences in attitudes emerged as a result of the students attending the CAA programme. The survey worked better in this case than focus groups/interviews as data could easily be gained from all attendees present, not just a sample.

Questions that were chosen to be included in the questionnaires were both closed and open questions and focused on if the children were enjoying the courses, if there was benefits from attending the courses and the need for the CAA programme. The layout of the student questionnaires was changed for the second cycle as the researcher felt the surveys were not 'child friendly' enough, and decided to change the criteria responses from a worded scale, i.e. very happy; quite happy; not happy etc to something a bit more fun: a cartoon face, as suggested by Hopkins (2002) for surveys for children, see appendix 10. The expression on the cartoon face changes depending on which response criteria it is linked to i.e. a smiley

face – to indicate happiness; not so smiley face to indicate ambiguity; a sad face to indicate disappointment; confused face to indicate confusion. The student then circles the face showing the expression that mirrors have they feel about the question being asked.

There is a major disadvantage to the use of questionnaires: that they do not give an in-depth look at a situation or event. So in a qualitative study other approaches are necessary to gain a more detailed insight such as interviews and focus groups.

4.4.2.2. INTERVIEWS

Interviews can, according to Kvale and Brinkman (2008) be thought of as mining excavations, where 'the knowledge is waiting in the subject's interior to be uncovered' (p.48). The face to face interviews for this study were designed as semi-structured, in order to give some shape to the interview and to guide the conversation (Ribbins 2007) but the questions remain loose enough so that the direction of the interview can change if the interviewee wants to mention points outside of the list of questions developed by the researcher (Cohen, Manion et al. 2007). Appendix 13 is a copy of the interview guide, where the primary focus of the questions was to gain information linked to the thematic research questions of this study.

There were no individual interviews with children done during the first cycle. At the time I thought that surveys from all the students were enough feedback from this group. In cycle two, however, I did carry out interviews with five children individually, as I was concerned that there may only be enough interest from parents to carry out one focus group, as in cycle 1, and therefore decided that interviewing some children in the presence of their parents was an additional useful data source. In some of the interviews with the children, the accompanying parents decided to contribute remarks in addition to that of their children, which was an added bonus. Appendices 14-18 are transcribed copies of these interviews.

4.4.2.3. FOCUS GROUPS

Focus groups are a useful tool for gathering insights from stakeholders and developing themes for further study (Kreuger 1988, Morgan 1988). An advantage of using focus groups, if carried out properly, is that the participants drive the discussion and direct the conversation to topics that they want to talk about rather than the researcher's agenda being forefront (Cohen, Manion et al. 2007).

In this study focus groups with CAA staff and also parents were exploratory. As this evaluation was a pilot project the researcher felt that the focus groups would be best as semi-structured in the hope as Borland (2002) remarked that assertions would emerge and

this would be the starting point to formulising the testing of these assertions. Appendices 19-22, the transcripts of these focus groups, show the loose questions that were starting points for the focus group discussions.

Focus groups were carried out with any parents who volunteered to be part of these discussion groups. Each parent was written out to regarding the dates and times that focus groups would be occurring and invited to come along if they were interested on contributing to these discussions. These were due to be carried out at the end of both terms in cycle 1 (December 2008 and March 2009), but no parents volunteered for a focus group at the end of the March course so there ended up being only 1 focus group with parents during cycle 1. In cycle 2, 1 focus group was carried out at the end of the Feburary-March 2011 course and, due to the amount of parents volunteering, 2 focus groups were carried out at the end of the April-June 2011 course. The breakdown of the dates and numbers attending these focus groups is outlined in Figure 6 on page 57.

4.5. CONTENT ANALYSIS AND CODING

Content analysis by coding and the amalgamation of data across sources were the means by which the qualitative data was processed. The reason that content analysis was chosen was that has been used successfully in previous studies regarding programme evaluation of similar education projects such as Van Tassel-Baska's (2006) project.

Coding was chosen in particular as it is a method of gaining uniformity while analysing various sources and patterns that could be searched for 'systematically through the data' (Bogdan, Biklen 1982).

The aim of coding is to try to link and then cross link connections and pathways (Miles, Huberman 1994).

> 'The purpose of this process is to present to the reader with the stories identified throughout the analytical process, the salient themes, recurring language, and patterns of belief linking people and settings together' (Anfara, Brown et al. 2002, p.31).

Coding focuses on 'language and linguistic features, meaning in context, is systematic and verifiable' (Cohen, Manion et al. 2007, p.475) but of course the reader must bear in mind that the meanings one takes from words and phrases is dependent on each person's background and experience (Krippendorff 2004).

I based my coding strategy on the constant comparative method of coding. This type of coding is particularly suitable to action research as the codes can be continuously tweaked and compared across categories as the process continues and new findings emerge (Glaser 1978) which is indicative of action research.

4.5.1. CODING SETS

After reading all the data gathered from cycle one, a simple coding system was set up using words that could sum up the essence of various points made by the people involved to find the key ideas. The code words picked to analyse the data are not just picked from reading of the material but are also shaped by the research questions to be examined. The same coding system was used to analysis the data gathered in cycle two.

And when these key ideas reoccurred often across more than one source they were then grouped into related categories (Van Tassel-Baska, Quek et al. 2006). For example in this study, the phrase 'It was fun', 'I was happy', can be grouped together under the 'enjoyment' category. For example: 'I feel better',' I am more confident' can both be put under the heading 'increase in self-esteem'.

> Content analysis takes texts and analyses, reduces and interrogates them into summary form through the use of both pre-existing categories and emergent themes in order to generate or test a theory. (Cohen 2007,p.476)

Weber (1990) argues that quantitative methods such as, taking note of the frequency of coded words, can benefit the qualitative analysis of the data by highlighting which issues are more prevalent. As how else should one choose which points made are more important than others? In this study, at least, the frequency of words will be taken into account as a factor that can sway which qualitative units may be more important than others. One can also learn from the absence of codes with Borland (2000) stating that: 'The absence of disconfirming evidence, or a very high ratio of confirming to disconfirming evidence, led us to accept an assertion.' (p.19)

Through data analysis of all the remarks made in focus groups, interviews and questionnaires, various findings emerged. These findings, which emerged from both the first and second cycles of action research, were first analysed and separated into various coding units and from there into different categories, such as: personal benefits; family involvement, ,programme management & design and others (See appendices 23-32).

4.5.2. OVERARCHING THEMES

After examining these various groupings of different strands of thoughts, again using the reflection phase of cycle one, some overarching general themes emerged (Anfara, Brown et al. 2002) into which the various headings above could be amalgamated.

These themes included: the importance of fostering links between the community, school & university; the importance of providing enrichment programmes for nurturing self-esteem in promising learners; the academic benefits of after school interventions for promising learners from poverty; and the importance of using action research to continue to improve educational programmes and the lives of the participants involved from underserved gifted populations.

4.6. ENSURING VALIDITY

Van Tassel-Baska (2006) highlights the importance of collecting data in a rigorous manner to ensure to show 'positive learning gains in student populations [are] directly attributable to program impact' (p.209) which is also vital for this research undertaken as part of this thesis to show.

To ensure the results were as accurate as possible many sources of data were used and the same methods of dissecting the information were used e.g. the same basic coding units were used on all qualitative data. This is in accordance with Van Tassel-Baska's research ideals (2007).

In this research process, it is hoped that validity was accomplished by describing thoroughly what was carried out and why, as in McNiff's (2005) importance of 'describing theory of practice' (p. 102), and by following Habermas' (1979) criteria of validity as cited in Olivier (2007) as 'comprehensibility, sincerity, truthfulness, authenticity and appropriateness' (p.168). These common sense criteria are followed by this researcher to the best of her ability, to which ethically she is under compunction to follow. It is hoped that this piece of research provides: 'Enough description and details to allow validity judgements to be made by the reader' (Anfara, Brown et al. 2002, p.29).

Creswell & Miller (2000) recommend that two of the following 8 factors are undertaken by researchers in their study to ensure validity:

1) Prolonged engagement & persistent observation.
2) Triangulation.

3) Peer review or debriefing.

4) Negative case analysis.

5) Clarifying research bias.

6) Member checks.

7) Thick description.

8) External audits.

(p.126-7)

In this study 'triangulation, clarifying research bias, negative case analysis and thick description' are all used as validity checks. This researcher has also consulted Eisenhart & Howe's (1992) 'Five general standards of validity' as an additional check on validity for the study. These standards as cited in Anfara (2002) are:

1) Ensuring a fit between research questions, data collection procedures, and analytic techniques.

2) Ensuring the effective application of specific data collection and analytic techniques.

3) Being alert to and cognizant of prior knowledge.

4) Being cognizant of both internal and external value constraints.

5) Assessing a study's comprehensiveness.

(p.30)

By making public all the raw data gathered (focus group minutes, surveys) and showing all the results and explaining the background of the study it is also hoped that this research study will be rigorous. Where rigor is defined as:

> The attempt to make data and explanatory schemes as public and replicable as possible (Denzin 1978, p.7).

4.7. TRIANGULATION

It is important to make sure that any bias by, or reliance on, any one particular party (e.g. one teacher's opinion in a focus group) is 'neutralized' (Anfara, 2002, p.22). This can be done by 'triangulating' data to hopefully lead to multiple perspectives and multiple meanings (Greene 2007, p.2) being taken into consideration in order to move ' toward a collective generation of better understanding of the phenomena being studied' (Greene 2007, p.13).

> Triangulation is the process of corroborating evidence from different individuals, types of data, or methods of data collection… This ensures that the study will be accurate because the information is not drawn from a single source, individual, or process of data collection. In this way, it encourages the researcher to develop a report that is both accurate and credible *(*Creswell 2002, p. 280).

It is hoped that the linking of qualitative data by coding across data sources along with using quantitative methods to highlight reoccurring important points will lead to the truest picture of events been shown. Of course researcher bias must also be taken into consideration.

4.8. RESEARCHER BIAS

All researchers, and indeed participants in a study, have a certain set of individual beliefs, assumptions, and values, which are unique and influenced by their background. This can be called a 'mental model' (Greene 2007, p. 10). As mentioned earlier to avoid bias from any particular party the use of many methods and triangulation should take place, but what about bias from the researcher? A researcher's mental model will lead to him/her being biased in some way towards their study, in many cases without even knowing it. It is for that reason that it is important that a researcher explores how he/she could possibly be biased towards the study and how these biases can be overcome in order to ensure the project's validity is not affected.

In this pilot study the researcher is aware of the following bias that may affect the results of the evaluation. This researcher works for the Irish Centre for Talented Youth, who along with the ACCESS department run the CAA programme. Both CTYI and the ACCESS department are keen for the CAA programme to continue so already this researcher has a vested interest in the results of the programme. Also both CTYI and ACCESS are funding this researcher's tuition in DCU so it is important to them and the researcher that new findings are unearthed. However CTYI and ACCESS both strive to improve the CAA findings so the researcher is confident that even negative criticism of the project through this evaluation will not be met with consternation so the researcher does not feel under pressure to come up with particular findings over others. It is hoped that the depth of the investigation and triangulation will negate any bias by the researcher.

4.9. ETHICAL CONSIDERATIONS

Informed consent was sought from parents, in the form of a letter, including a plain language statement regarding their child taking part in this research before the research began (Appendix 33). The letter to the parents outlined why the research was being done and it also gave information on how the data would be gathered. The letter also highlighted that the research findings were highly confidential with no-one but the researcher and the supervisor having access to the raw data. When the findings were written up all quotes and comments used remained anonymous on this final report to protect the identities of participants.

Also outlined in letters to the parents as well as an additional letter to the primary school teacher involved was the following information: that any student was free not to take part in the study and could still attend the CAA course, and parents along with teachers were similarly not obliged to take part in any part of the study if they did not wish. During the research any participant was free to drop out of the research for any reason and this did not affect a school's or student's chances of attending another CAA course in any way. All findings from this research will be made available to any participant who wishes to read them after the research project is finished, and contact details of the research were given if any participant wished to ask any questions or obtain further information on the study.

All raw material gathered (surveys, transcribed recordings from focus groups/interviews) is be locked in away in a filing cabinet and all computerised data stored is password protected.

There were obviously two important ethical implications that must be addressed. The first implication was that both the students and parents involved in the research live in a socio-economic disadvantaged area. It would have been inappropriate for me to ask about financial matters or draw attention to that fact that economically they may be less 'well-off' than other families. Instead, I was able to state that these students were from a socio-economic demographic due to them attending a designated disadvantaged school. Additionally one of the requirements for students to attend this programme was that teachers only chose students from their class that they knew for certain to be from a low income family (see appendix 1).

The second ethical implication that needs to be addressed is that the majority of participants in this study were children between the ages of 10-12 years old and therefore 'vulnerable' members of society. For this reason it was important that parental permission was obtained, which is why the informed consent letter to parents was vital. The researcher also asked the parents involved to tell their children that during the CAA course the students will be asked to fill in some feedback forms and they may be interviewed (with their parent present) and to ask their children if they were ok with this. If the child or parent preferred not to take part in the research then the parent just needed to let the researcher know. This

could be done by the parent by either filling in the relevant section in the consent form or phoning the researcher directly, and then that child would not be asked to partake in any research. However, all parents gave their consent for their children to be involved in the research so this matter never arose. Additionally when children were interviewed it was always in the presence of their parents.

For the CAA programme the students were picked by the school so all national school teachers involved in sending children on the courses were informed via letter as to the purpose of the research and to check that they were happy to nominate students for a programme where research was undertaken.

4.10. OUTCOME FOR FINDINGS OF THIS STUDY.

Findings from this thesis will be presented later this year to the director and the advisory board of the Irish Centre for Talented Youth. This will be carried out in the form of a short oral presentation during their annual review of projects undertaken by CTYI staff, of which this researcher is one. The purpose will be promote the importance of the research in order to justify further research in the future and to also ensure that the CAA project itself continues to practice (as without evidence of thorough evaluation of the programme, the project could be deemed less important). The CTYI department will also receive a copy of the thesis for their records.

The findings will also be presented to DCU ACCESS services staff. The CAA programme is a joint project between CTYI and the ACCESS department. One of the reasons the ACCESS department became involved with the CAA project was to carry out more research into the area of disadvantaged students and to promote learning to these 'at-risk students' therefore the ACCESS staff will be keen to hear about the findings. The researcher will make a presentation to the director of ACCESS services along with any other interested ACCESS staff. The ACCESS department will also receive a copy of the thesis for their records.

In any parents or national school teachers show interest in the findings, a short summary will be sent out to them including any specific area of the research if requested. Additionally I will inform the schools involved that I am willing to come out and talk about the findings at any of their staff meeting if they wish.

It is hoped that some of the findings from this thesis may be published in some of the related academic journals in or order to support the argument and raise awareness that afterschool enrichment programmes are advantageous for potentially gifted from socio-economic disadvantaged areas and that there are numerous benefits both academically and socially for students taking part. Another purpose to publish the findings is so that interested educators can set up similar programmes outside Dublin and worldwide, using

the model in this thesis as an exemplar, and hopefully assist even more potentially gifted 'at-risk' students reach their potential.

4.11. CONCLUSION

It is hoped that the methodology I have chosen and the related findings will aid in the emergence of new knowledge. That it will also improve the existing CAA programme, and most importantly be a positive intervention for the students and other stakeholders involved in this study. The remaining chapters will examine the effects of implementing this action research project and whether I have been correct in making the above assumptions.

CHAPETER 5. RESULTS

5.1. INTRODUCTION

This chapter will explore in great detail the qualitative findings from the coding analysis. The suggested results will be supported by an abundance of quotes from the participants who were involved in the study. To further validate these findings some qualitative results in the form of graphical representations will also be included in relevant sections. Figure 7. on the next page succinctly summarises the key findings from this study and acts as an aid to further guide readers through this chapter.

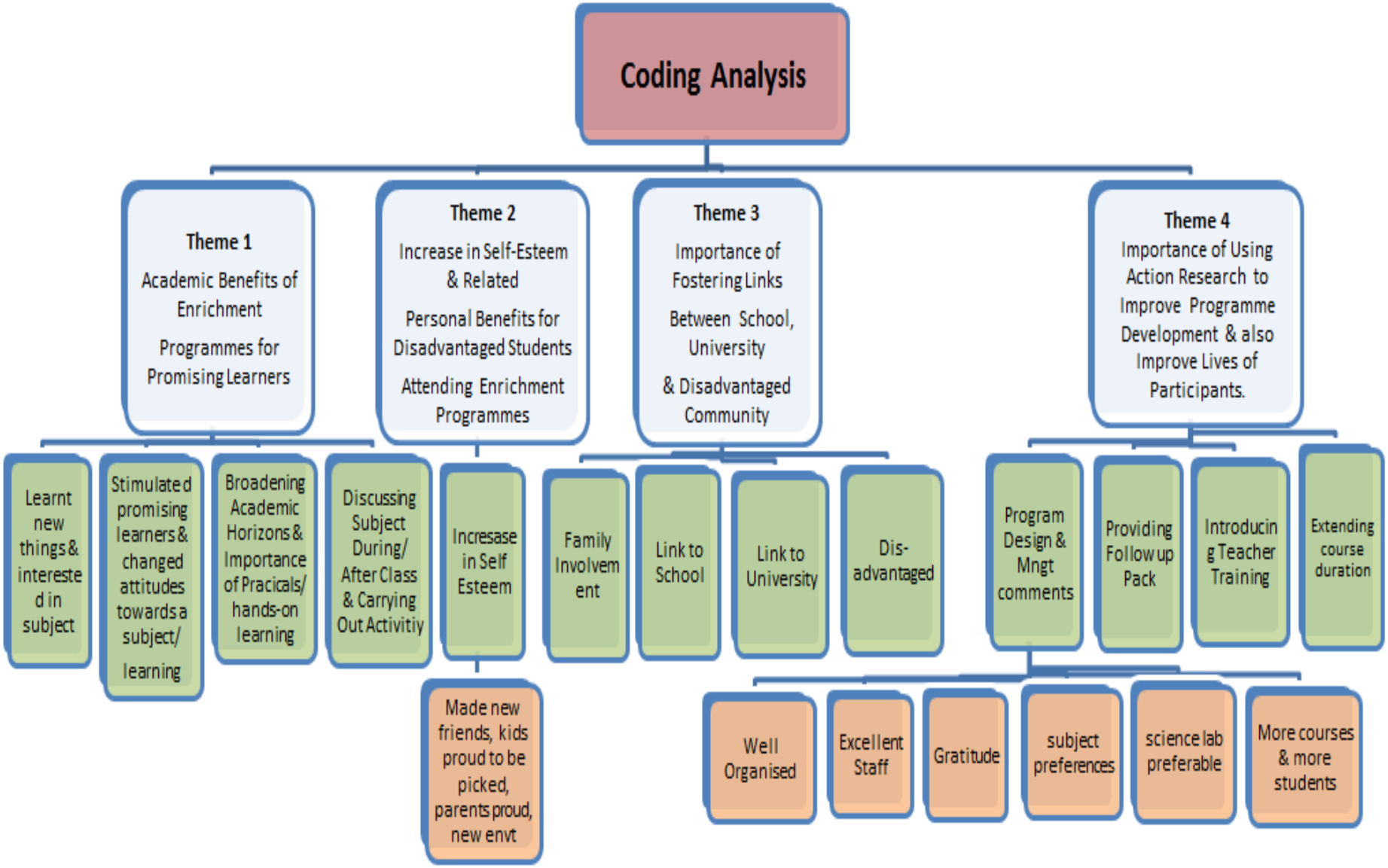

Figure 7. Diagram depicting the findings and the levels of coding analysis undertaken.

5.2. CODING

5.2.1. CATEGORIES OF CODING:

All the qualitative data was read through four times. After this extensive reading and a period of reflection the constant comparative method was used to separate the data into various codes and from there into different categories. This involved initially testing trial codes to see if they were the best fit to encompass all comments given in a focus group and also an interview. Then some codes were changed and then retested and finally they were used to code all the data collected. For example 'longer courses needed' (parent feedback form March) and 'I wish more kids could participate' (teacher feedback form March) were listed together with other similar phrases under the category: 'programme design & management'.

Each data source was coded, and various codes similar to each other were grouped together, irrespective of their source (interview, focus group, or questionnaire), into different categories. The categories mentioned below best encompassed all the coding units found in the data. All the results from the coding can be found in the appendix listed beside each heading below, a brief summary of each category is below:

Personal Benefits **(Appendix 23)**
Any comments relating to a change in a student's behaviour or personality e.g. an increase in confidence. Any negative comments on a student's behaviour or development will be noted.

Social Benefits **(Appendix 24)**
Any comments relating to whether a child makes friends with other children, or other related comments will be compiled in this section.

Academic Benefits **(Appendix 25)**
Evidence of any educational gain will be noted.

Programme Management + Design **(Appendix 26)**
'The teachers were lovely', 'the students were in a safe environment', any comments relating to how the programme was run are included in this category.Also, any comments relating to the planning of the courses, e.g. if the subject chosen were popular, if the duration of the course was sufficient are listed here.

Link to University **(Appendix 27)**
If a student, teacher or parents mentions that the child is affected by studying on a university campus or is less/more likely to study in DCU or any third level institution, comments such as these will be listed in this category.

***Link to school* (Appendix 28)**
Any comments relating to the CAA course tying in with school work or the CAA course benefiting subjects chosen in school are included. Also mentioned are any comments on the importance of the programme to schools.

***Family involvement* (Appendix 29)**
Did the child have another sibling that attended a CAA course also? Did the student and a parent discuss or work on material for the CAA programme at home? Any positive answers to these questions and similar comments are included in this category.

***Disadvantaged Factors* (Appendix 30)**
If any of the following terms are mentioned they will be coded in this category: poverty, disadvantaged, single parent family, bad environment, negative influence or any similar phrases.

***Enjoyment* (Appendix 31)**
Any comments relating to whether the child was enthusiastic or enjoyed the course will be noted.

***Gratitude* (Appendix 32)**
Any sentiments of thanks regarding the programme are included in this category.

The categories 'future' and 'interest in DCU' were also originally on the above list, but after deliberation and data checks it was decided that these two categories could be integrated into either the 'link to university' or link to school' themes (where school can refer to either a primary or secondary school). Another category that was originally on the list was 'need for the programme' but again it was shown that other categories such as academic and personal benefits encompassed all the phrases that were also mentioned in the 'need for programme' category.

5.2.2. IDENTIFYING CODING FROM THE VARIOUS DATA PIECES.

Below is how each of the data pieces which are placed in each coding category are annotated depending on their source, e.g. the following quote if from the student questionnaires cycle 2:*"doing something different is great" (SQ2)*

Data Source	Cycle	Annotation	Data Includes:
Student Questionnaires 1	1	SQ1	Surveys 1-120
Student Questionnaires 2	2	SQ2	Surveys 121-234
Parent Focus Group 1	1	PF1	3 Parents comments
Parent Focus Group 2	2	PF2	4 Parents comments
Parent Focus Group 3	2	PF3	3 Parents comments
Parent Questionnaires 1	1	PQ1	Surveys 1-33
Parent Questionnaires 2	2	PQ2	Surveys 34-88
Teacher Questionnaires 1	1	TQ1	Surveys 1-22
Teacher Questionnaires 2	2	TQ2	Surveys 23-57
CAA Staff Focus Group 1	1	SF1	6 staff attended
CAA Staff Focus Group 2	1	SF2	5 staff attended
Interview 1	1	I1	1 CAA instructor
Interview 2	2	I2	Child '1' present
Interview 3	2	I3	Child '2' present
Interview 4	2	I4	Child ' 3' present
Interview 5	2	I5	Child '4' & '5' present
Interview 6	2	I6	Primary School Principal

Table 2. Guide to annotations of the various data pieces.

5.3. FINDINGS IN THE 'PROGRAMME DESIGN AND PROGRAMME MANAGEMENT CATEGORY

Along with the coding category 'Academic' Benefits' this is the category where most comments fitted. After all parents were filling in the feedback and attended the focus group in order to give their say on the programme, how it was run and how to improve it for the future. Due to the size of this category, the comments have been placed, as relevant, into different groups of findings, and any changes made as a result of reflection and observation in the first cycle are mentioned in the related sections below.

5.3.1. DURATION OF CLASS, NUMBER OF CLASSES

In cycle 1 of the action research, the most popular response by far was that there should be more than four classes on any one topic:

> Longer courses needed , more subjects needed. (PQ1)
>
> Wish the courses lasted longer. (TQ1)
>
> The class should be longer, Why is this class only four weeks? (SQ1)
>
> I wish this wouldn't end so fast. (SQ1)

From repeated readings of the data it can be taken that 'longer' refers to extending the number of classes that each child attends on one course, rather than making each class longer each day (e.g. from 1.5hrs long to 2hrs). When asked about increasing the duration of each class, all the teachers in the March and May focus groups thought that 1.5 hours was sufficient:

> C1. Em, no I think the class is a pretty good length. Yeah when you're doing practical, you know when you have enough practical things to do to fill it up, I think it's fine. Definitely the length of it's ok. (I1)

Though two teachers did admit it was hard to get through all the material in the allocated time:

> 5. It is tough to cover the entire topic in an hour and a half. But at the same time, I don't think you're gonna hold their attention span on a weekday for much more than that. (SF2)

Action Research Change: As a result of these concerns voiced by the parents, it was decided to extend each CAA course in duration, from each course running for four Wednesdays in cycle 1, to each course consisting of six Wednesday classes for the second cycle. This change was extremely successful, with no stakeholder wishing to return to the four class course, with one parent commenting in their questionnaire filled out at the end of cycle 2:

> The length of time was just right, any shorter would not have been enough time but any longer the children would probably lose interest in that class and become a bit giddy or maybe bored. (PQ2)

Whereas some stakeholders wanted the course be even longer:

> You should add more weeks onto it. (Child 4, Interview 5)

> He's enjoying the classes so much I wish they lasted longer, but understand there are other children waiting to do classes. (PQ2)

The vast majority of teachers in both cycles 1 & 2 strongly agreed that the CAA beneficial for the students who attended courses.

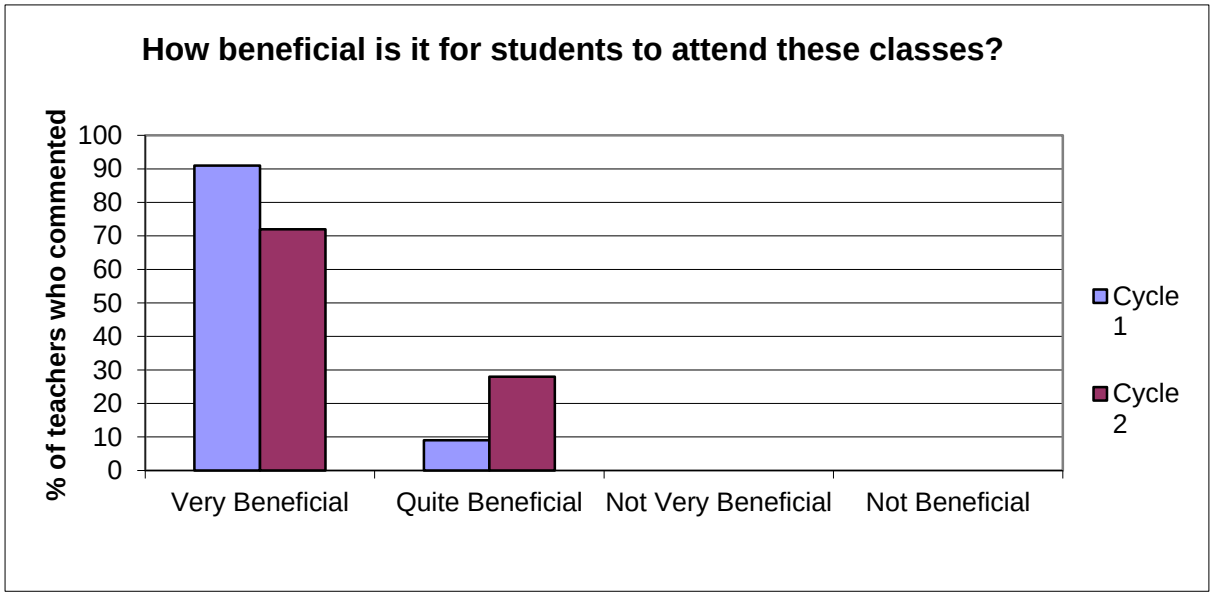

Fig.8. Graph detailing how beneficial it is for students to attend CAA classes, according to the involved primary school teachers in both cycle 1 &2. N= 57.

5.3.2. ATTENDING THE COURSE- WHAT WAS GOOD/NOT GOOD ABOUT IT?

Overwhelmingly all the comments given by those who took the time to fill out feedback forms/attend focus groups were extremely positive (with a few minor exceptions – discussed in negative feedback section).

Many commented on how well organised, well supervised and how good the staff were:

> Well organised, Well supervised, I felt the students were safe, (PQ1)

> The Classes were well prepared, Teachers friendly (PQ1)

I like my teachers at DCU (SQ1), This class was the best (SQ1),

This one of the best schools. (SQ1)

The staff are very friendly and patient with the children and the children get very involved with the class. (PQ2)

And

I thought the teachers were excellent with the kids. The kids were spoken to like young adults and I think they liked that. (PQ2)

In fact the most popular comments when students answered the 'Anything more to say?" question in the feedback forms was that they wanted to come back, surely a good indicator that they had enjoyed the course and learnt something new:

Can I come again? (SQ1), I would love to do astronomy again? (SQ1)

Would like to study same subject again (SQ1), Put me into forensics, please, please, please. (SQ1)

In fact 96% of all students in cycle 2 who were asked if they wanted to come again said yes (unfortunately this question was not on the questionnaires in cycle 1). With many parents agreeing with this sentiment:

If you have any more courses that would be brilliant if they could do any more. (Parent 2,FP2)

The thing you can do is offer another course later in the year. (Parent 3, FP3)

5.3.3. EXPERIMENTS, PRACTICAL ELEMENTS

Many participants in this study highlighted the importance of including a practical element to each class: if this was a science class then this referred to giving the students experiments to do or observe; if it was a non-science subject it was important that some participatory element was included (e.g. plenty of discussions or use of other medium, like clips from 'YouTube' to keep students interested):

The experiments are, I think, the best thing. Like the hands on things and things that they can do themselves and stuff like that. (I1)

So it was really practical he's big into sports but it was really practical stuff about your pulse and he could relate to it real easy you know your pulse has to be I can't remember (laughter) shame on me what's a healthy pulse and how high it should be and knowing where to take your pulse and it was just that you know he had an interest in that so it was very easy for him to relate to it. (PF1)

I think they love anything to do with hands on stuff especially. (Parent 3,SF2)

They definitely respond better to a lot of practical and eh visual stuff as well like as supposed to getting hand outs they read through them fine but they respond a lot better to the videos and pitches. (Teaching Assistant 1,SF1)

Jasmine seemed to like the practical approach to learning. (PQ2)

The importance of letting the students ask questions about the topic during class was also highlighted:

Staff person 4. I think Dana [instructor] though, she, Dana was very funny, she gets them talking to them and asking them questions and kind of react. They want to tell her what they know.- Teaching assistant talking about instructor, (SF2)

Great that students allowed to ask questions and participate. (PQ1)

He not afraid to answer questions. (PQ1)

5.3.4. SUBJECTS ON OFFER/ PREFERENCES

The comments on which subjects parents/teachers wanted their children to study could be divided into two camps: those who wanted new subjects ; and those who wanted more children to get their first choice, which in all cases was either forensics or computers(which have been run on numerous occasions), or do to the same subject they studied again.

New Course Comments	More Of The Same Courses
Too much repetition of what had been done in previous classes. (TQ1)	No my lad wanted to do that [forensics science course] but he was disappointed that he couldn't get that.(PF1)
The possibility of non-science subjects in the future was mentioned: *My daughter mentioned English and history*", "*Creative Writing.* (PF1). Art was the 3rd most common new course suggestion in both cycles after forensics & chemistry.	Yeah my lad wanted to do that [forensics] it was his first course choice and Tadhg was the same.(PF1)
Just the medicine (PF1), lego robotics (PF1)	*4.mine wanted to do [forensics'] like an episode of csi*. (PF1)
Want possibility of courses through Irish -2 parents also mention this in focus group (PF1)	17% of students during both cycles wanted to study the same subject again

Table 3. Comments on necessity of new courses and also more of the same courses.

5.3.5. ANYTHING YOU WOULD CHANGE ABOUT THE PROGRAMME?

When staff from cycle 1 were asked if there was anything was asked the following suggestions were given:

> I suppose a [science] lab would be great. (Instructor 1,SF1)
>
> Probably for the practical stuff its like a designated area to go as much as anything. (Instructor 3, SF1)

The author agrees that it would be great to have a science lab to use, but unfortunately a science lab is not available in DCU for the CAA programmes on Wednesdays. As, unfortunately, the university science laboratories are very busy on Wednesday afternoons with practical classes with third level students.

5.3.6. MORE STUDENTS NEED TO BE GIVEN THIS OPPORTUNITY

Finally, the only other comments regarding programme design centred on parents and a teacher wishing that more children could have the opportunity to attend CAA courses or a similar programme:

More children should be given the opportunity. (PF1)

I would like if you had more places to offer. Keep up the good [work]. (TQ21)

What about the kids that aren't as clever but they need to be pushed to come into university. She loved it now, she wanted to go to uni, but she was clever anyway. (PF1)

5.3.7. FOLLOW-UP MATERIAL

Some parents in cycle 1, in both the questionnaires and also the focus group, mentioned that they would like for students to be given some material that they could work on further at home or at school. The reasons included so that the parents could get involved and help the students learn more about the topic they had studied that day, so they could prepare more for the next class, and to share the information from the CAA programme with others in their class at school.

Is it possible to get list of list of experiments to do at home? (PQ1)

2. Some of them do, but they don't, they've been actually going home and doing a bit more of the story in during the week. (SF2)

7. But if you had an information pack say whatever class you're doing if you had an information pack saying session one they're going to be covering x, y and z. session two, whatever. So then it just, I just find it gives you something tangible to kind of work with when you're talking to them, cause I don't know, especially boys I find, I've a girl and a boy, and boys are just one syllable, no, yes. You know, sometimes, then other times they can be. But if you know what they're doing you can say 'so did you learn about whatever it is. And it gives you a little bit more room to kinda chat to them and or even extend their learning a bit as well at home. (PF1)

Action Research Change: Follow-up science pack given to all CAA students in cycle 2.

For this reason the researcher decided to design and develop a follow-up science pack that would be given to each child attending CAA courses during cycle 2. All experiments chosen were simple and the materials cheap and easy to find in local shops. It was hoped that these 'kitchen science' experiments would encourage the students to keep on learning, in a 'hands on' way, once they had finished the CAA courses, thereby hopefully

adding to the impact and benefits of the CAA programme. As two different parents aptly summed it up:

> Provides an opportunity to practice. Program becomes more than just a "couple of hours a week. (PQ2)

> Because it wasn't just then once a week, that they can, they can do it when they feel like it at home. (Parent 3, F4)

It was also hoped that this additional intervention would aid in involving the parents and other family members in this child's learning development at home and thereby aid in positively changing the attitudes to education and learning which would be invocative of critical theory ideals.

Of the 96 students who filled out the questionnaire on the last day of their course, 48% said they enjoyed the experiments in the science pack. This may seem a little low but bear in mind there were a few factors that affected this: that some of the children were off sick when the packs were given out to the children during class; that some students probably never gave the pack to their parents or even told their parents about the pack; some children mentioned they were going to do the experiments in the pack they just hadn't had a chance yet.

When the parents were asked, as part of the questionnaire, if their child found the follow-up pack useful 96% of the parents said their child did find the follow-up science pack useful. It may be that this figure is inflated and not truly representative as it could be that a parent did not want to admit on the questionnaire that their child hadn't tried the experiments. An additional question in the survey would have been useful: ' Did you receive the follow-up pack?' – this would have assisted in gaining more true representation of how useful the follow-up pack was if it was received. However, the fact that almost 50% of the students did try out some of the experiments is extremely heartening and suggests that the follow-up pack was a worthy additional the programme. This is backed up by many statements from the parents and students on the benefits of the follow-up back, a sample of which are listed below.

> He loved the pack, there was a lot of experiments he tried. (PQ2)

> They were fun. (Child 7,I5), It was really fun. (CQ2)

> Helps him learn without sitting at a desk (PQ2), I tried everything. (C5, I4)

Some children found the experiments challenging academically – in a good way!

> I liked the slime most because I couldn't get my head around it as it was hard & soft at the same time. (SQ2).

And this child comment below shows how she continued to investigate further by examining the egg that she used in one of the experiments in the pack, she wasn't directed to cut open the egg:

> I actually sliced an egg that was… (inaudible) but when you cut it in half you see that everything is squashed up together. (Child 5, I4)

There was evidence that the parents and other family members were, as hoped, involved in some of aspect of the experiments. When asked which experiment in the pack was the best, this student answered:

> Slime because I did it with my mam and we enjoyed it. (SQ2)
>
> She is trying to do experiments with sister at home from book plus her sister is in first year and also found this book helpful. (PQ2)
>
> He loved the lava lamp experiment and showed myself and did one for his little sister. (PQ2)
>
> We did every experiment. (PQ2)

Surprisingly, it had a much greater impact than ever hoped: not only was it used in the home place but some students also brought into schools were it was used by teachers and other children. This could equate to a positive change in many members of a community's attitude to science education atypical in a minor way of critical theory. This is discussed below as part of the 'Link to School' Category below.

5.4. FINDINGS IN THE 'LINK TO SCHOOL' CATEGORY

5.4.1. USE OF FOLLOW-UP PACK IN SCHOOLS

Three parents and nine of the CAA students mentioned that the follow-up science pack had been brought into their school, and not just shown to the teacher but actually used in the classroom setting:

> He brought it to school, to show this teachers and class. (PQ2)
>
> Yes, the boys in his school had a field day. (PQ2)
>
> April tried a few of the experiments & brought the pack into school for her teacher to try. (PQ2)
>
> Brought the pack into school where the teacher photocopied it to do the experiments with the rest of class. (PQ2)
>
> His teacher even sent home a note in his journal…to say thanks for sending in the coursework cause you gave him a booklet…and thanks for sending it in because they had great fun in school with it. (Parent 1,FP4)

5.4.2. EFFECT ON SCHOOL WORK

Importantly as well as the success of the follow-up pack, there were also many mentions of how attending the CAA project had had a positive effect when it came to school work:

> Helped her essays. (PQ1)

Figure 9. below outlines the results of the primary school teachers, who send students to the CAA programme, being asked in the questionnaire 'were students more interested in learning when they returned to school?

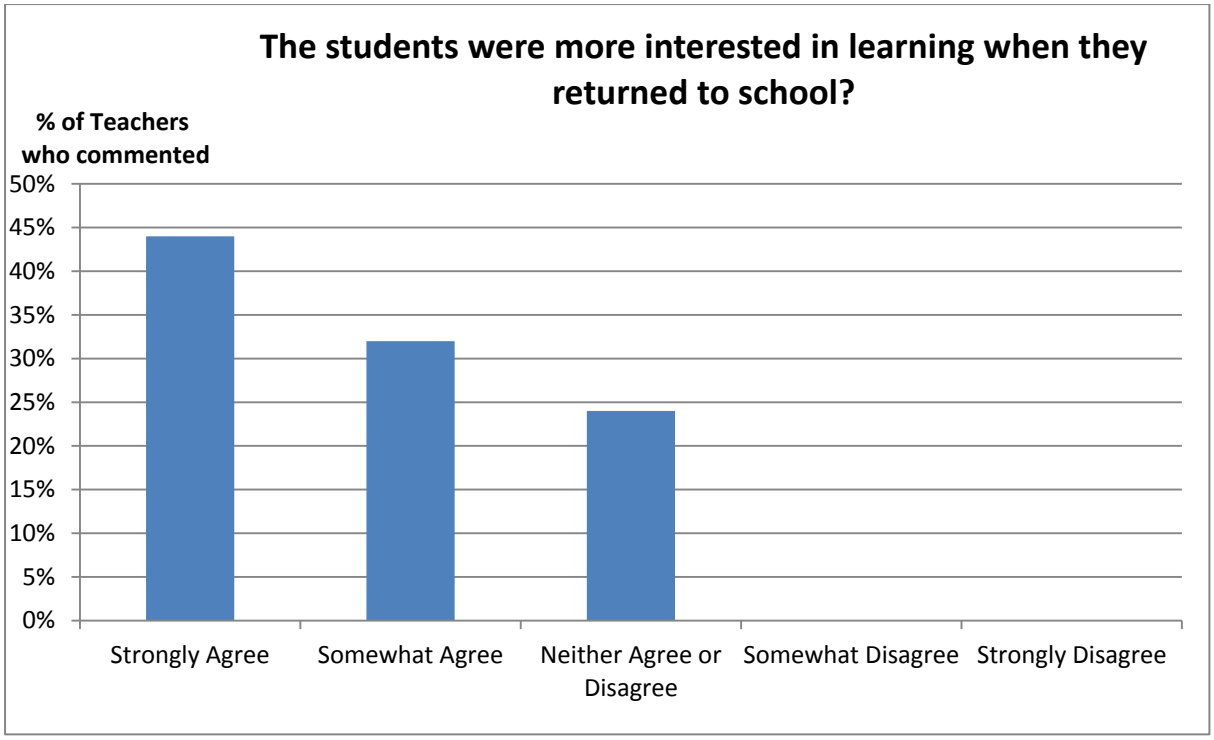

Fig.9. Graph detailing whether students were more interested in learning when they returned to school, according to teachers involved in cycle 2. N= 25.

Some students even shared what they did in DCU with their classmates when returned to school:

> My daughter came here before and what her [school] teacher done, and she was a great teacher now, when children came out of the class (CAA), and what she done was for the benefit of the other class, they would come in [to school] and talk about and kind of give a little session about what they learned. (Parent 3,PF1)

> The 2 pupils were delighted to tell the class some of the information they learned and it linked in with the curriculum. (TQ2)

> Both were enthusiastic to convey what they learned every Thursday morning. (TQ2)

> I think it gave him more confidence. He stood up in class and told his mates and teacher what he done. (PQ1)

Also, in some cases, attending the CAA course did seem to have an effect when it came to a student having to make a course choice when in secondary school:

> And he enjoyed it now and he said actually now when I go to secondary school I'm taking science up now he said. (PF1)

> It encouraged her love of science & re-affirmed to her that it's a subject she would like to do in secondary school. (PQ2)

When teachers in cycle 2 were asked in the questionnaire whether students came back to class with a greater interest in science 68% said they strongly agreed with this statement.

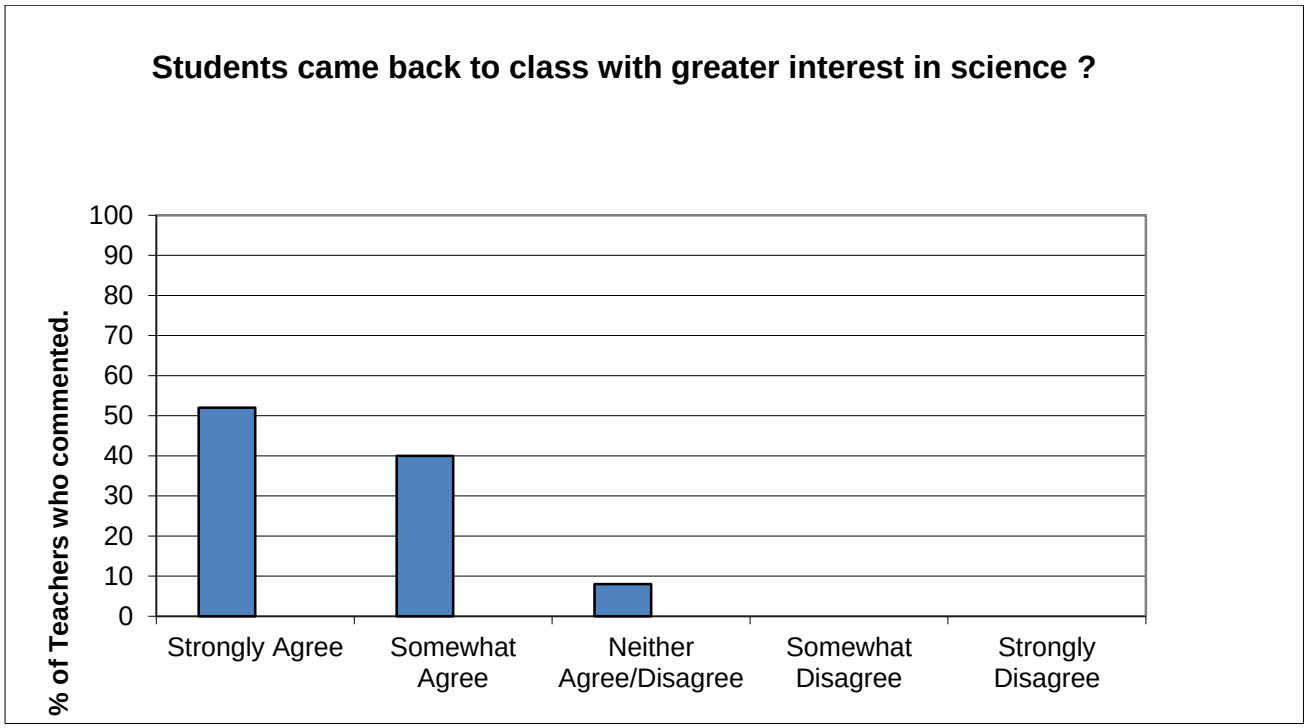

Fig.10. Graph detailing whether students came back to class in school with a greater interest in science, according to teachers in cycle 2. N= 25.

One teacher filled in her answer to the 'any other comments' section to their evaluation form with:

> The programme is a great resource available to schools. (TQ1)

A few parents in the focus group mentioned how important it was to even increase the links between the CAA and the students' schools:

> The issues around some of the areas are that there needs to be even stronger links with the schools in the area because the children need to have the expectation, exactly what the director said. (PF1)

After reflection of this matter at the end of cycle 1, the researcher decided that one way there could be more links with the schools involved with the CAA project was to carry out in-service teacher training sessions in these local schools, thereby hopefully increasing

the impact of the programme and making a transformative change in attitudes to education that could be said in a small way to be indicative of critical theory.

5.4.3. IN-SERVICE TEACHER TRAINING: AN ACTION RESEARCH CHANGE

The researcher was in agreement with the comments of some parents in cycle 1 that there should be more links between the CAA enrichment programme and the schools themselves. To this end, it was decided that the best course of action to meet this need was to introduce some in-service teacher training on the topics ' science experiments for the classroom' and also 'how to challenge promising learners in the classroom environment', at no charge to the schools involved. Due to financial and time limitations in-service teacher training could not be offered to each school. It was also decided that it was best to pilot this initiative on a smaller scale to ensure that it was a useful tool to offer to schools. The 32schools involved with the CAA programme were written to informing them of this opportunity and the schools of the first four school principals that replied were selected for these workshops. This in-service teacher training involved visiting the school to carry out a demonstration of science activities and a presentation on stimulating gifted learners to the staff in the school. This workshop lasted between 1-2 hours, depending on the times that suited that school. However all the four schools that were selected gave preference for more time to be spent on demonstrating fun science experiments to the teaching staff rather than hearing about possible methods to stimulate gifted children. Therefore three quarters of the time of each workshop was spent demonstrating experiments and only one quarter of the time was spent presenting information on gifted children.

Each of the 4 schools had at least 20 teachers present for the training session, and all four schools were delighted with the in-service workshop with 100% of all teachers who filled in feedback forms strongly agreeing that the presentation of the experiments was interesting. 88% of the teachers who filled in feedback forms strongly agreeing that the experiments demonstrated were interesting & beneficial to the teacher. Below are some of the comments made from teachers and principals who attended an in-service training session:

> We were delighted with your talk & experiments this year. (TQ2)
>
> The experiments presented were very beneficial & helpful. The experiments are easy to carry out, with materials that are easy to source. The science behind the experiments was explained well, making it easier to explain to students. (TQ2)
>
> The in-service was great, lots of useful practical ideas. (TQ2)
>
> Very useful, got lots of great ideas. (TQ2)

> Great for hands on. Lets you see how simple it is to bring science simply into children's lives. Children love magic and that is what these experiments seem like to them, and to me also. Experiments make teaching fun and many thanks. (TQ2)

5.5. FINDINGS IN THE CATEGORY 'PERSONAL BENEFITS:

5.5.1. INCREASE IN CONFIDENCE AND SELF ESTEEM.

An increase in confidence is mentioned in by number of sources during both cycles of the action research in the parent questionnaires, the parent focus groups and the staff focus groups:

> And it was great because like (childs name) is extremely shy and really really quiet kid and coming here it just brought her confidence. (PF1)

> And even the quiet ones I think, even this week I've noticed they were kind of talking more so to the people in their group. So they're kind of edging their way in there and kind of getting a bit more confident. It's good. (SF2)

> Gained confidence & meeting new people. (PQ1)

> Personally it has helped with his confidence and has made a few friends from the class. (PQ1)

> He looked forward to these classes every week and gave him more confidence and made him want to learn more. (PQ2)

> She was very happy to attend each day & I also think she benefited in confidence & self-esteem. (PQ2)

> I think it gave her a great boost of her self-esteem & she joined the Order of Malta on the same day as she started in DCU. (PQ2)

When the primary school teachers were asked as part of the questionnaire if students came back to the classroom with more confidence, 52% strongly agreed that the students had returned with more confidence and 40% somewhat agreed.

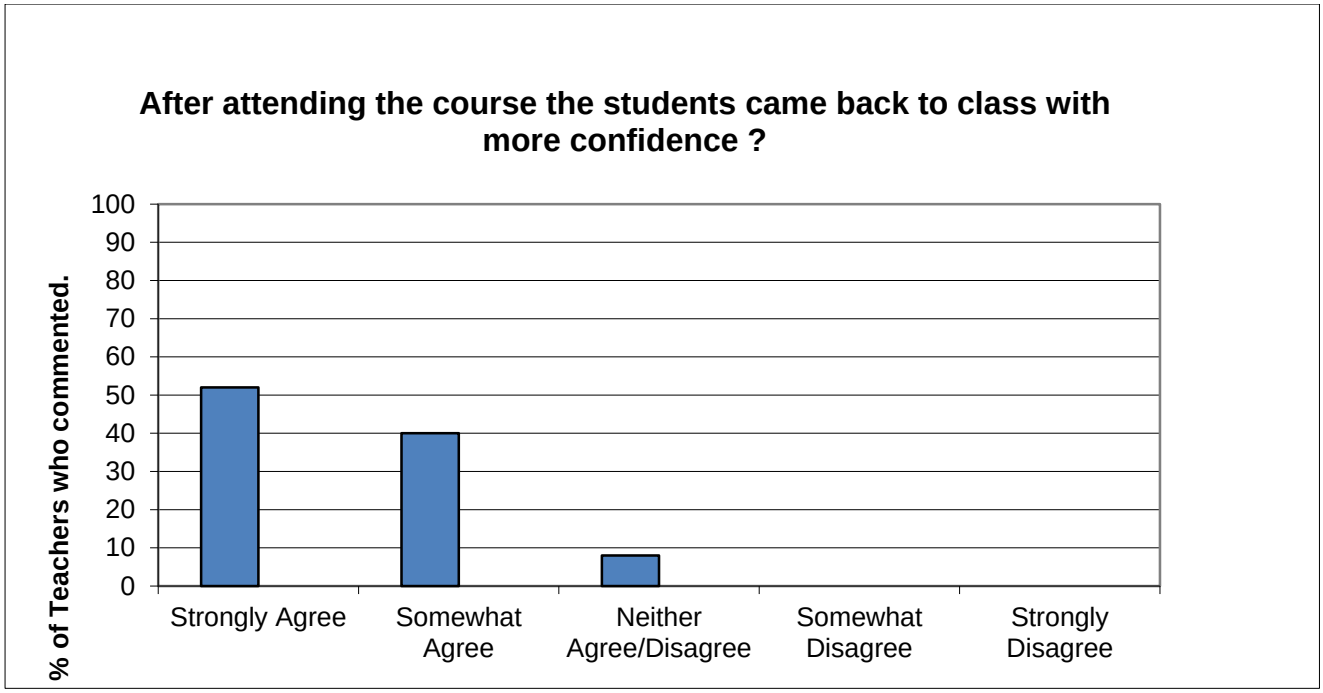

Fig.11. Graph detailing whether students came back to class in school with more confidence, according to teachers in cycle 2. N= 25.

Both Staff and parents also commented on a few of the students talking more. Parent Feedback forms also noted that the students were '*not afraid to answer questions*' and it was '*great that they were allowed to ask questions and participate*' (PQ1)

Students were proud to be chosen by their schools (student feedback forms May + Parent Feedback Forms) and parents remarked it have increased their belief in themselves:

> I was glad I was chosen. (SQ1)
>
> Felt special to be chosen. (PQ1)
>
> She feels quite special having been chosen for the course. (PQ2)
>
> He was delighted cos he said it was, I think his teacher said it's an honour to be able to do it. (Parent 3, FP3)
>
> My son is shy now and I'd say he's the last person you'd say to me I'm coming down here. (Parent 1, FP3)
>
> She was actually delighted when I showed her the letter I received and she was ah skipping round the place. (Parent 1, IC2)

In fact one parent when asked how the programme had benefited their child commented:

> Finding out that being clever is not a bad thing. (PQ1)

One teacher commented that it was not only the child who was increasing their self-confidence but also the parents were having more confidence in their children's abilities too:

> Also shows parents their children have great potential. (TQ1)

Both of the above comments suggest that critical theory is indeed being deployed in a minor level in this project in that the mind-set of some parent and students is changing to believe that they are capable of succeeding academically.

Instructors involved in the first cycle commented on how much the students enjoyed taking part in the graduation ceremony:

> It's nice that they're so enthusiastic, they're really looking forward to their graduation. (Instructor 1,SF1)
>
> Yeah. (Instructor 2, SF1)
>
> Yeah I think they really liked that yeah yeah getting their diploma, certificates like. (Instructor 1, SF1)

What is very apparent from analysing the data is the amount of stakeholders who mention this 'increase in self-esteem' of the child. This benefit to the children who attended the programme was not one I had envisaged before this study began. The above comments reinforce the programme's positive affect on students' belief in themselves and how proud the students are to graduate the CAA programme.

5.5.2. BROADENING HORIZONS AND GIVING THEM EXPERIENCE

Many participants (teachers in particular) commented on how attending a new experience and doing something different had broadened their child's horizons:

> Doing something different is great. (PQ1)
>
> Experience gained. (TQ1)
>
> It is interesting and rewarding for students involved. (TQ1)

The broadening of experience tied in with a link to the future goals of the students. This area will be explored more as part of the 'link to university' category below.

5.6. FINDINGS IN THE 'LINK TO UNIVERSITY & FUTURE CAREER' CATEGORY

Some students found the CAA programme useful in that it made them comfortable with being on a university campus:

> My son got to see what a 3rd level college is like and to see it on a normal daily routine and be part of it once a week. (PQ2)

> I loved the university. (SQ1)

> The fact that it's local, you're not a million miles away from where they live. It's accessible and it's not, I suppose it's just another place. (PF1)

As before the students had attended the CAA classes only 39% of them had been on this university campus before (Appendix 27) and of these students who had been on campus the vast majority stated that it was to visit an event in the Helix theatre, or attend a sports camp, rather than for any academic events.

More importantly many students or their parents thought the programme had led to the children thinking of going to DCU or a university when they were older:

> When I grow up I'm coming here to study science and be an Einstein. (SQ1)

> The expectation that this is a reality that they can come here. (Parent 8,PF1)

> Taking place in DCU has motivated her to go to college. (PQ1)

> Seeing the college. It's very much a case of "when I go to college" as opposed to "if I go to college". (PQ2)

> It sets the child's mind up for a different kind of education and what is available further down the road for them. (PQ2)

Teachers also commented that the students who attended CAA classes now thought that coming to DCU could be a reality:

> Wonderful opportunity for the children to see that university is an option open to them and also for their parents to see this. (TQ1)

> Gives them incentive to work towards third level. (TQ1)

> I personally feel that these courses greatly benefit the more disadvantaged of our students i.e. those who are very severely disadvantaged. It has opened up a possibility for them – children & parents who have never crossed the threshold of a university now see that going to university is an option and something towards which they can set their sights, thank you for affording them this option. (TQ1)

The above comments from many parents, teachers and students highlight the impact of the CAA programme on the participants. It could be suggested that this does equate to critical theory at work in that there is now a belief by these stakeholders that third level education can be a reality to children in their community.

Other parents and teachers commented on how attending the CAA courses had influenced their choice of career:

> My son now wishes be becomes a doctor. He is now more interested in further education and can't wait to learn. (PQ2)

> He wants to do something like this as a career so he is getting a feel for it. (PQ2)

> Maybe giving an idea of future career. (PQ2)

There were no negative comments about attending classes on a university campus.

5.7. FINDINGS IN THE 'ENJOYMENT' CATEGORY

The most frequent answer to the question: 'any other things you would like to say?' on the student feedback forms in both March and May was how much they enjoyed taking part in the classes.

> I enjoyed the class (SQ1), I really enjoyed the class. (SQ1),

> I enjoyed it very much. (SQ1)

Figure 12 below shows the results to students being asked whether they enjoyed the CAA course they attended. 96% of students who attended either cycle 1 or 2 either enjoyed the course very much or quite a lot.

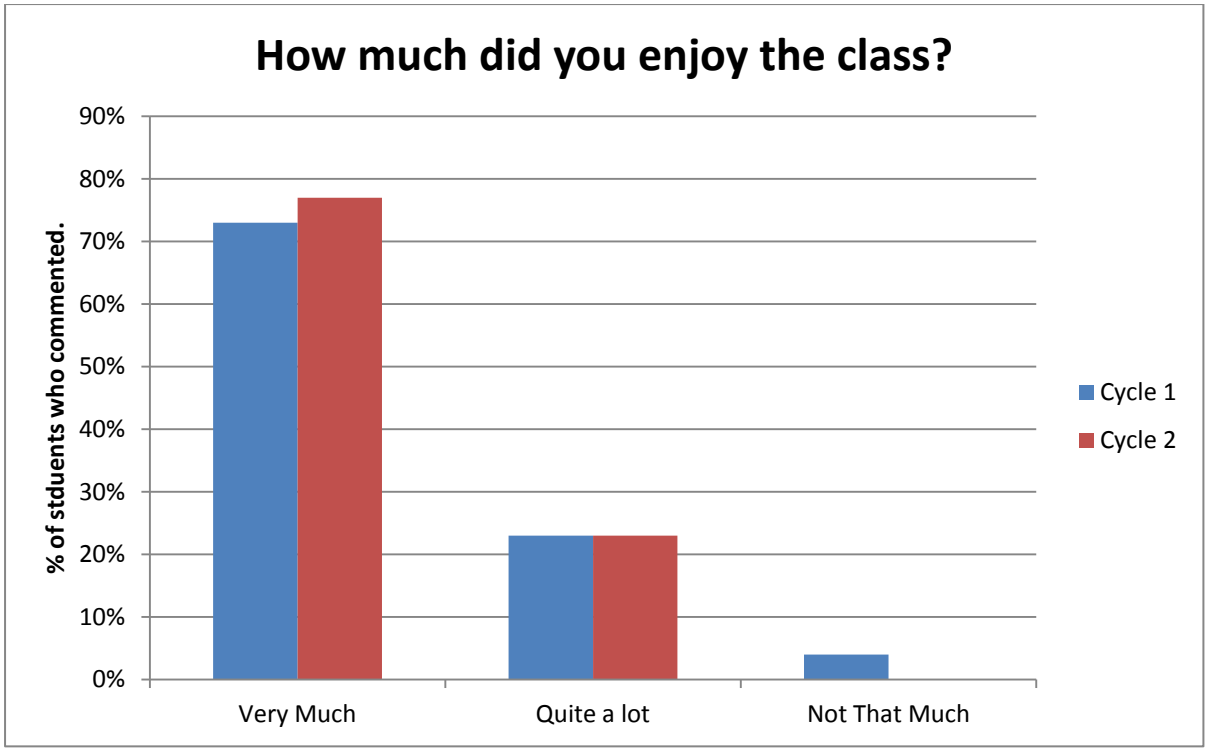

Figure 12. How much did students in both cycle 1 & 2 enjoy the CAA course? N = 209.

Other comments that were related to enjoyment were also prevalent.

> Wow! (SQ1), Brilliant(SQ1), I think the course was fun (SQ1), I had a good time here at DCU, (SQ1)
>
> The children who took part were so enthused each Thursday morning that it was obvious the course was very beneficial to them. (TQ1)
>
> She was excited about this course from beginning to end. Her curiosity for the next class was very high which is really appreciated. (PQ2)
>
> They get giddy sometimes, like when like some experiment has very drastic results they get all very excited. (I1)

Comments on whether they could come back and study again in the CAA where included in this section as in my opinion they must have enjoyed the courses if they wanted to return.

> Can I come again? (SQ1), Would like to study same subject again, (SQ1)
>
> If you have any more courses that would be brilliant if they could do any more'. (Parent 2,FP2)

5.8. FINDINGS IN THE 'GRATITUDE' CATEGORY

In fact there was no student who filled out a questionnaire that did not enjoy the class. Many of the parents, teachers and students mentioned how much they appreciated the opportunity for their child to attend course. A sixth of all students who attended the classes in cycle 1 said "thank you" as their comment when asked on their feedback forms, 'anything more to say?'

> I would like to say thank you I really enjoyed it. (CQ2)

> Thank you for giving my child the opportunity to make friends and do something he likes. (PQ2)

5.9. FINDINGS IN THE 'SOCIAL BENEFITS' CATEGORY

The most obvious social benefit from attending the CAA classes was the fact that the children came into contact with other children they had never met before from different schools and so made new friends. This was highlighted in reports from the students in March and May, in the parent's focus group and the parents reports in March and May.

> Made new friends(PQ1), Meeting pupils from other schools (PQ1), I will miss everyone(SQ1), I made good friends (SQ1), making new friends (PF1)

One parent commented that some of the boys they knew, who didn't have friends in school had made friends in the CAA:

> I could even see with the boys that didn't make friends in the school class they were in like. (PF1)

And there were a few stakeholders who mentioned how it was a great experience for them in that they got to meet other students who had similar interests to them:

> I also think it's been good that they, they see, that there's other kids that have the same interest as them.… Like, my daughter loves science, and she's going to take science books out of the library and whatever, she'll come home and she'll go, "They said I'm a weirdo because I'm reading these books. Where all of a sudden,

she mixing with kids that have the same views or the same interests that she has… so from that point of view, that's good. (Parent 3, FP4)

Everyone has the same level of intelligence. It is a good way to get a taste or feedback of college. (CQ2)

He got to interact with students on his own level. (PQ1)

And of course finding a peer group with which a student fits in is very important for a child's academic development, as well as social development.

5.10. FINDINGS IN THE 'ACADEMIC BENEFIT' CATEGORY

Many comments were coded into this category and various different areas emerged within the 'Academic Benefits' field. These included:

- Helped stimulate these promising learners that may not be challenged in school.
- Learnt new things
- Interested in the subject during class
- Broadening academic horizons
- Want to do more about that subject or come again
- Change of attitude towards a subject/learning
- Importance of practicals
- Opportunity to discuss subject in class or with classmates
- Talking about the subject/doing an activity related to the subject after class

Below is a breakdown of the various areas with examples in each section.

5.10.1 HELPED STIMULATE THESE PROMISING LEARNERS THAT AREN'T CHALLENGED IN SCHOOL.

Two teachers mentioned the importance of giving these promising learners an opportunity to learn in a stimulating environment that sometimes is missing in the classroom:

> She was interested in telling me about what she was learning. The course helped her to expand her knowledge and experience in the sciences, an opportunity which she might not have in a whole class setting. A very worthwhile experience for her. (TQ2)

> Too often time in school spent dealing with weak pupils and behaviour issues. These [gifted] pupils can often fall into a comfort zone and these courses show them that there are others as able or more able than them. (TQ2)

Unfortunately, this may be the case in many schools, that there just aren't the resources to cater for and challenge the most capable learners in the class. It seems that the CAA programme is helping to address this issue to some degree:

> The children in our school who have attended these courses have benefited hugely. (TQ2)

More of the academic benefits for the students are discussed in the remaining sections of the 'Academic Benefits' coding category below.

5.10.2. LEARNT NEW THINGS

A number of parents, students, instructors and also a primary school teacher commented that the courses gave the children the opportunity to learn new things. An example of this is when the chemistry instructor of the May classes said during a focus group:

> We were talking about exothermic and endothermic reactions, and I was talking about a reaction which absorbs heat, endothermic, and one little boy said, well why don't they put a big endothermic reaction in the north pole and it would absorb all the global warming. So I thought that was quite a good question as well. (I1)

Parent mentions:

> She loved having to look at the different packs of stars the constellations. (PQ1)

> Learning in more detail how the body works giving a chance to learn something that he probably would not have ordinarily picked himself. (PQ2)

When asked if they had learnt new things on the questionnaires 97% of all students in both cycles said they had learnt new things.

5.10.3. INTERESTED IN THE SUBJECT DURING CLASS

Some students, parents, a primary school teacher and two instructors involved in the cycle one programme mentioned how interested the students were in the subjects and attending classes, indeed it was apparent that they enjoyed the academic challenge of the subject. For example, one instructor noted:

> And you know, they're tackling the different subjects, you know, that I've been dealing with each week. They've been very involved. (SF1)

Another instructor comments:

> B. Eh, I actually had to add some more material to keep with their thirst. (SF1)

A parent adds:

> Learning in more detail how the body works giving a chance to learn something that he probably would not have ordinarily picked himself. (PQ2)
>
> He thought it was brilliant like he said he knows what to do before he does a sport and to stop himself from getting an injury do you know what I mean? (Parent 3,PF1)

Five students in cycle 1 wrote down that the course was *"very interesting"* (SQ1) when asked if they had anything more to say.

97.5% of all students in both cycles 1 & 2 said they found the CAA course material either very interesting or quite interesting. See the graph, Figure 13. below for more info.

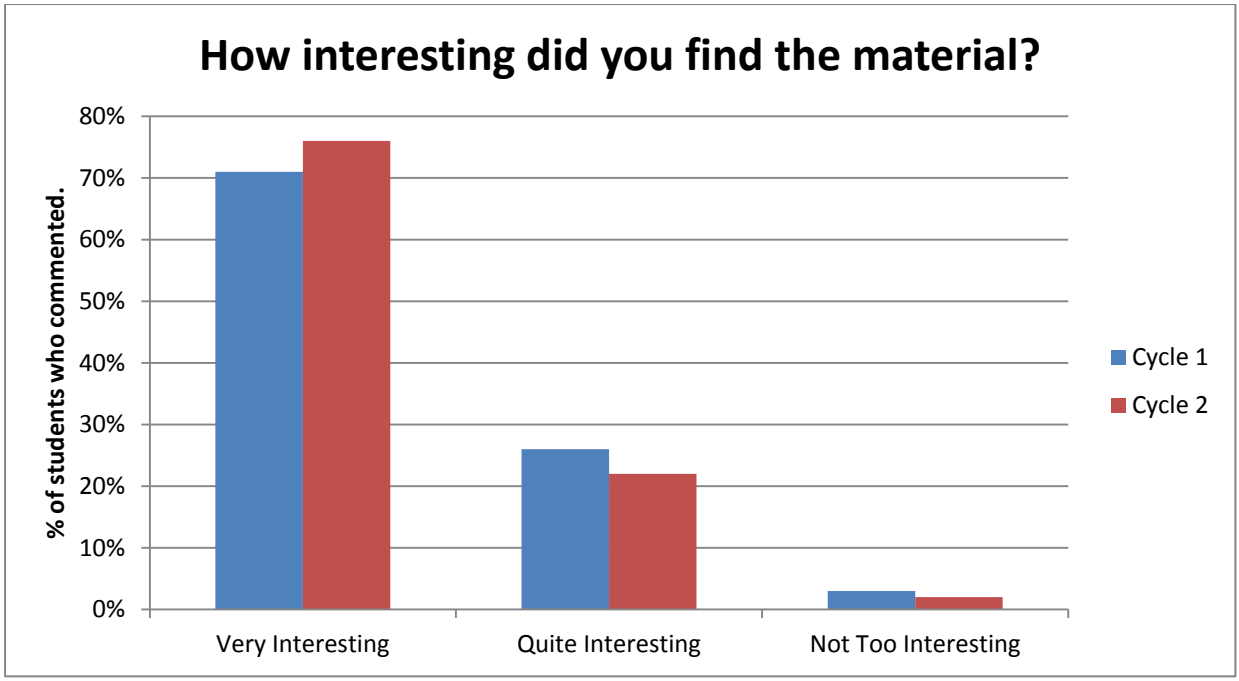

Figure 13. Graph showing the interest of students in both cycle 1& 2 in the course material. N = 209.

5.10.4. BROADENING ACADEMIC HORIZONS

Many participants noted how doing something different was the benefit. The classes gave them a chance to broaden their horizons and gain new skills. Also importantly one national school teacher noted:

> Reinforces they have plenty of ability. (TQ1)

Some examples of comments made in this section are below:

> Doing something different is great. (PQ1)
>
> I think the afterschool is a great idea. Any opportunity for the children to further develop academically is always welcome. (TQ2)
>
> So I think they're kind of happy about doing something different. (SF2)
>
> Horizons broadened (TQ1) , Skills gained/learned (TQ1)

5.10.5. WANT TO DO MORE ABOUT THAT SUBJECT OR COME AGAIN

This will be explored more fully in the results from the 'programme design' coding category but it is worth noting that students do mention that they would like to do the

same subject again which highlights that they are interested academically in the subject they studied at the CAA course.

> Can I do astronomy again? (SQ1), Would like to study same subject again. (SQ1)
>
> If you have any more courses that would be brilliant if they could do any more. (Parent 2,FP2)

5.10.5. CHANGE OF ATTITUDE TOWARDS A SUBJECT/LEARNING

In the 'parent focus group' quite a few parents commented on how their children's attitudes had changed towards a subject or to studying. A student who attended the course in March and an instructor from May also commented on how there seemed to be more interest in the subject. See below for examples:

> But there was also a lot that said no, science was boring and stuff like that. And I think some of them have been converted because there's two little boys in particular that were very sceptical at the start, and now they're getting really involved and they want to be trying things and they wanted to add the potassium iodide today. They both wanted to add it and stuff like that, so yeah no definitely. And as well like, they've become more involved, like at the start some of them were too cool for it. So definitely, they have changed a lot yeah. (I1)
>
> Same with my child ,like he's mad into history. He's obsessed about history. Aw, everything is history, history. Like he keeps saying 'oh I'm definitely doing history' and remember he said there last Monday you know 'I'm going to college and I'm going further in history. But now he's kind of saying I like science as well. Do you know what I mean? (PF1)
>
> Researcher: Do you think it made them more interested in science?
>
> Parent 3. Well I know it did my lad because he said he's definitely doing science when he goes into secondary school. (PF1)

When primary school teachers were asked in the questionnaire whether students came back to the class [their national school class] with a great interest in science 68% agreed that they had come back to school with a greater interest in science, see Figure 10 on page 86.

5.10.6. IMPORTANCE OF PRACTICALS

Quite a few commented on how much they enjoyed the practicals and experiments. Some of the selected comments are below:

> Enjoyed doing experiments. (PQ1)

> But she also really liked they were doing something on the computers. (PF1)

> So it was really practical he's big into sports but it was really practical stuff about your pulse and he could relate to it real easy you know your pulse has to be I can't remember. (PF1)

> You know, the, the experience means more to them than the theory. (Parent 3, FP3)

5.10.7. OPPORTUNITY TO TALK ABOUT SUBJECT IN CLASS OR WITH CLASSMATES

Three parents, in their feedback forms, along with the instructors in cycle 1 mentioned that it was an important opportunity for students to vocalise their interests in a subject and to ask questions:

> He got to interact with other students on his own level & this helped him enjoy the course as he was not afraid to answer questions & he was comfortable with other children who shared his interests. (PQ1)

> Great that students allowed to ask questions and participate. (PQ1)

One teaching assistant commented about the teaching methods of the instructor she worked with, in getting the students to participate:

> 4.I think the instructor is very funny, she gets them talking to them and asking them questions and kind of react. They want to tell her what they know. (SF2)

5.10.8. TALKING ABOUT THE SUBJECT/DOING AN ACTIVITY RELATED TO THE SUBJECT AFTER CLASS

As well as talking about the topics during class, students also talked about the subjects and experiments covered in class with members of their family and also to other students and their teacher in national school.

> Told others in their school what they studied. (PQ1)

> No he talked about it every time like I stay here when they were dropped down like and he would relate to exactly everything they done for today like. (Parent 2,PF1)

> She came home talking about what she had learned. I think this will really benefit her in the future.(PQ2)

Some of the children who attended also continued working on a written piece they had started in class or doing more research at home, and some even did some experiments with their family:

> She always came home wanting to do experiments and had interest when watch the TV (National Geographic Station). (PQ2)

> They've been actually going home and doing a bit more of the story in during the week. (SF1)

5.11. FINDINGS IN THE 'DISADVANTAGED' CATEGORY

There was no mention from any of the parents of any factors pertaining to being 'socio-economically' disadvantaged e.g. poor/single parent, about any students attending the programme. The only time that anything relating to students being disadvantaged is when one parent in the focus group mentions that more students from disadvantaged areas need to get more support at home and go to college, see below, it is clear that she does not see herself or her family as being in the same situation:

> I don't know how you're going to do it, but I just see it every day and I see the, you know, people that are coming in, and you work with them as your own kids and work with them and work with kids up to sixteen. And then you just look and you just see they're not getting the support at home because whatever the reasons are and em they're chances of going to college are very very slim. (PF1)

> You know there's a whole big chunk of kids who, you know, and relating to peer pressure and the pressures that are on them growing up in certain areas and certain environments can lead them the wrong way or a way that gives, whereas you know they could, they could. Say those kids were living in Castleknock, Malahide or whatever, they probably would be going to college. But there's that whole big chunk of kids who because of various other factors, they never move on to. (PF1)

However, quite a few teachers mentioned the negative impact of poverty on children's' education:

> Excellent opportunity for pupils who would not otherwise get such a great chance. (TQ2)

> We are very grateful to DCU for the opportunities afforded to our pupils who ordinarily would not be in a position to avail of this experience. (TQ2)

> I personally feel that these courses greatly benefit the more disadvantaged of our students i.e. those who are very severely disadvantaged. It has opened up a possibility for them – children & parents who have never crossed the threshold of a university now see that going to university is an option and something towards which they can set their sights, thank you for affording them this option. (TQ2)

5.12. FINDINGS IN THE 'FAMILY' CATEGORY

As mentioned earlier in the 'Programme Management & Design' Category, some parents asked if a follow pack could be given to the students so the children could do experiments at home with family members. As a result of this follow-up pack being given out to the CAA students in cycle 2 some parents and siblings did indeed get involved in helping with the activities in the pack. As this was already discussed in detailed, it will be omitted from this current section. Other findings in the 'Family' Category are detailed below.

A couple of parents mentioned a shared interest in the subject, studied at the CAA programme, with their child:

> Well their families were interested in astronomy as well. (Instructor 2,SF1)

> She already shares a natural curiosity with me in all things associated with space, (PQ1)

In fact, the astronomy class were asked to go outside and look at the stars and try and work out which as which, and one parent at least seemed to increase their interest in astronomy too!

> And then she was given a map of the constellations and we had to go out one night and look up. Unfortunately there was cloud cover, but you know they, it was something practical to do that night. She was told about nine o'clock that night with the map and then look at the stars and find whatever. 6. Just unfortunately

> we couldn't do it that night because there was too much cloud but that was something as well she was all excited about going out at nine o'clock and doing this. So like that was a nice practical thing for her to do. (PF1)

And some students shared the knowledge they had learnt that day in the CAA class with family members:

> When the lungs were been done she could tell her brother about it as he was learning it for 2nd year science. (PQ2)
>
> 'I loved biology so of course when he's talking about it all it's kind of dusting off the old shelves. (Parent 3, FP3)
>
> After every class she would take out her notebook and go through it with me. She said about smoking, about too much fatty acid. (PQ2)

5.13. CONCLUSION

The amount and variety of findings has ensured that this study has been worthwhile and that action research was an ideal method to use for this on-site study. There were three action research changes suggested as a result of observing and reflecting on the success of the first cycle. These alterations were then implemented during the second cycle. Below is a diagrammatical summary depicting the action research changes made and whether these

changes were a success according to the stakeholders involved.

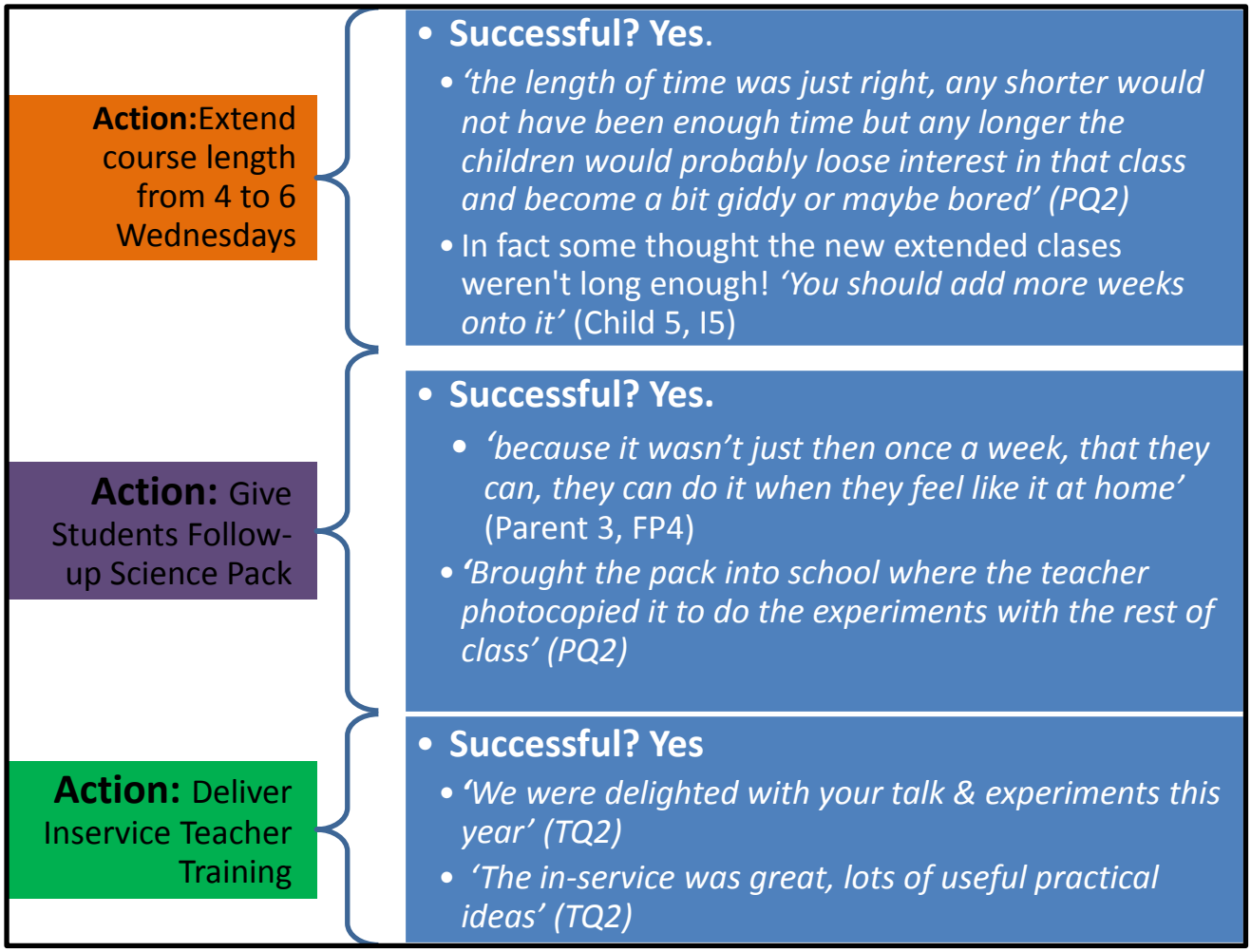

Figure 14. The Action Research Changes implemented in cycle 2.

More importantly, did the cycles of action research produce worthwhile knowledge? I suggest that this has been the case. Many coding units were identified and detailed findings in each category were analysed. During reflection of at the end of cycle 2, the researcher analysed all of the data from both cycles and felt that the knowledge themes suggested during cycle one could be refined. This step was taken as the researcher found during the reflection period in cycle two that many of the themes could be incorporated together as many of the categories overlapped. In-depth analysis and contemplation yielded a more concise relationship between the themes and subgroups. These streamlined overarching themes identified are detailed in the graphic, figure 15, on the next page (which is the same diagram used in the introduction section of this chapter, and will be the main focus of the discussion chapter).

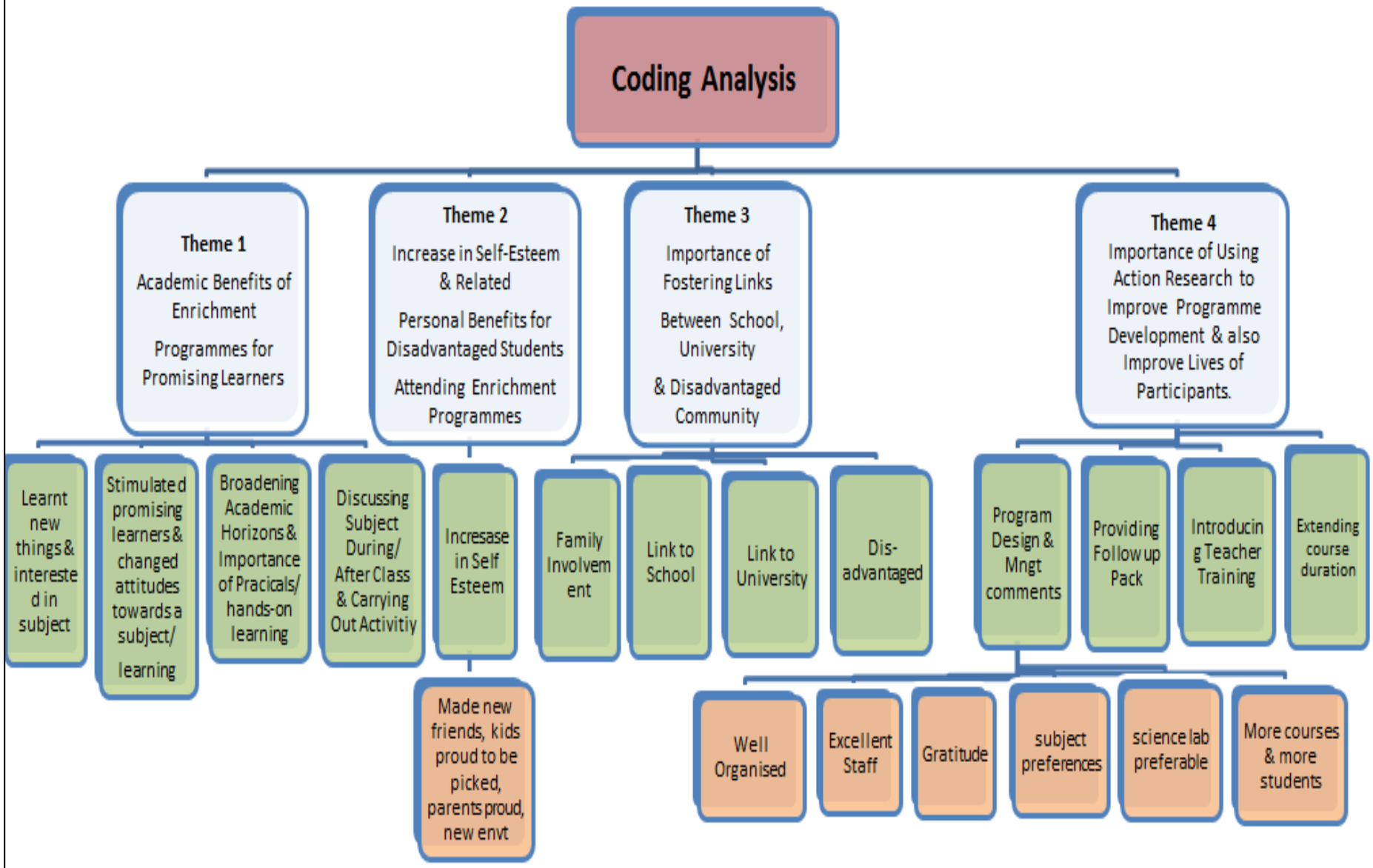

Figure 15. Diagram depicting the findings and the levels of coding analysis undertaken.

CHAPTER 6. DISCUSSION

6.1. INTRODUCTION

The results from this study that are now grouped into four themes are discussed in this chapter. These four themes that have been generated from the coding analysis are:

- Probable academic benefits for promising learners that attend enrichment programmes.
- A perceived increase in self-esteem for disadvantaged students may be linked to attending enrichment programmes
- The importance of fostering links between school, university & socio-economic disadvantaged communities
- The importance of using action research to improve programme development & also to help improve the lives of participants.

Each of these themes and the new contributions to knowledge that they have yielded will be considered in relation to current and seminal literature that is available in each area. The lack of literature, especially concerning the use of action research in gifted studies, will also be examined. Finally the overall merit of the findings and implications of this individual small action research study will be debated.

6.2. THE PROBABLE ACADEMIC BENEFITS FOR PROMISING DISADVANTAGED LEARNERS THAT ATTEND ENRICHMENT PROGRAMMES.

Many educators unfortunately think that students from socio-economically disadvantaged background cannot be gifted (Taylor, Pearson et al. 2000), this is of course untrue. But without additional supports students from impoverished backgrounds may never fulfil their potential and may remain in poverty (Downes, Gilligan 2007) as their parents and grandparents have before them. Educational interventions are a necessity to try and counteract the vicious cycle of poverty and educational disadvantage (Connolly 2003, Wolery, Bailey Jr 2002).

> This becomes a self-fulfilling prophecy as students who are rarely exposed to advanced material and have little possibility of engaging in accelerated activities are not going to learn how to work at high legless of achievement because of this lack of exposure (Stambaugh, Chandler 2012, p.38).

The CAA programme has proved, in my opinion, that it is one such educational interventional that does make a difference academically to this underserved gifted population. 97% of all students attending the CAA courses during the duration of the study said they had learnt new things (Appendix 25). The large volume of comments outlining the addition of new knowledge gained by the children highlights the success of this programme academically. Many stakeholders commented on how the students were given the opportunity to study new subjects that in turn stimulated them academically.

> Giving him a chance to learn something that he probably would not have ordinarily picked himself. (PQ2)
>
> I actually had to add some more material to keep with their thirst. (Instructor 2, FI2)
>
> Really got her engaged and she enjoyed the approach the teacher took with the class. (PQ2)

The last two comments above highlight how the high standard of teaching and the in-depth learning opportunities were the main reasons why these students progressed academically in this programme, these same reasons are the reasons, as agreed by Kulik (2003) paramount to a successful learning environment for gifted students.

Even more significant is the evidence suggesting a change of attitude by certain students on the programme to learning or to a subject.

> And I think some of them have been converted because there's two little boys in particular that were very sceptical at the start, and now they're getting really involved and they want to be trying things and they wanted to add the potassium iodide today. They both wanted to add it and stuff like that, so yeah no definitely. And as well like, they've become more involved, like at the start some of them were too cool for it. So definitely, they have changed a lot. (I1)

Ian Warwick (2009), through his work on the REAL project, an educational development programme for impoverished secondary school learners in England, and O'Reilly (2010) with his research with students at CTYI, also agree that additional educational interventions can change students attitudes to specific subjects and learning.

Additionally the benefits of bringing together a group of high ability learners from similar backgrounds can raise academic achievement (Feldhusen, Moon 1992, Kulik, Kulik 1992). This was also apparent on the CAA programme:

> He got to interact with other students on his own level & this helped him enjoy the course as he was not afraid to answer questions & he was comfortable with other children who shared his interests. (PQ1)

> Everyone has the same level of intelligence. It is a good way to get a taste or feedback of college. (CQ2)

Some researchers may argue that a short-term enrichment programme could not increase scholastic ability to any degree, but there is evidence to suggest that even a short term intervention can make a difference academically (Rogers 1991). I would agree that providing an additional learning support can only do good even it is just to change the mind-set of these children to show they are able for advanced material, but I would suggest that additional courses and opportunities are needed to ensure that this rise in academic achievement is a long-term change.

One of the main reasons that the CAA programme did prove to be such a positive educational experience was due to the curriculum and hands-on activities that were taught on the programme. Students were introduced to interesting theory that was made relevant to them by placing the principles in real-life contexts relevant to them, a strategy that does work according to Stambaugh & Chandler (2012). Students were encouraged to share their ideas, with instructors tasked with developing the children's creative thinking skills and encouraging their imagination, areas that help promote higher level thinking skills (Van Tassel-Baska 2010) . By basing the courses in a university setting the students were able to gain access to computer labs and science labs where experimentation and other practical elements were introduced. The students thrived in this interactive environment and their enjoyment in doing these activities was evident:

> He loved making his own video games' (PQ2), Enjoyed doing experiments. (PQ1)

> He did enjoy that part when they went out and did the pulse. (PF1)

The most important fact about carrying out experiments and activities was that 'it was fun' for the children (reported in most of the child survey in cycle 1), and if they are having fun the likelihood is that they will want to come back and learn more. The practical approach was a different and essential way for these children to learn and to encourage their interest in the subject. After all how interesting is science to a child if they don't get to visit a lab or carry out and develop their own experiments? By getting the children to do their own experiments in a university computer or science lab they get to have an authentic science experience and get a taste for what academia is really like in college (Bell, Blair et al. 2003, Freedman 1997) .

This inquiry based learning approach, used on the CAA programme, equips the student with educational tools that they can use later in their academic journey, such as: asking questions; learning how to use microscopes, computers and other technologies; analysing and evaluating any results gathered (Luehmann 2007):

> She really liked the crime scene investigation also the observational exercises & tests. (PQ2)

> He learned a lot about using the computer, how to draw, how to colour and make cartoons. (PQ2)
>
> She used to do power- point presentations to bring them into school to, to show them all she had learned like. (Parent 3,FP4)

This practical and exploratory approach is strongly recommended to anyone interested in using the CAA model for developing their own enrichment programme.

All the above areas discussed highlight the success of the CAA programme as an educational support for these at-risk students. This positive academic impact caused by special programmes for potentially gifted disadvantaged learners has also being outlined in papers by Olsweski Kubilius (2010) and Gentry & Owen (2004). Supplementary educational services for the underserved learners not only help these students advance academically but there are also personal benefits to be gained by attending such courses.

6.3. AN INCREASE IN SELF-ESTEEM FOR DISADVANTAGED STUDENTS MAY BE LINKED TO ATTENDING ENRICHMENT PROGRAMMES

There is evidence that enrichment programmes outside the regular classroom environment also nurture the social and emotional needs of gifted students (Peine 2003, Robinson 2003). Promising learners from poverty are just as much, if not more, in need of additional educational opportunities as research has suggested this at-risk population can suffer from low self- esteem (Connolly 2003) and also low motivation (Montgomery 2009).

If students do not think highly of their own abilities, and don't believe themselves capable of succeeding then the chances are they will not succeed, as 'expectations significantly impact on outcomes' (Dunne 2012). As well as affecting a student's belief in themselves low self-concept can also negatively affect a person's academic development (Freedman 1997). Therefore interventions are needed to boost these potentially gifted learners self-esteem in themselves and also in their academic abilities to succeed at the highest level. The CAA has, according to the perceptions of stakeholders involved, shown itself to be beneficial in nurturing many of the students' self-confidence in themselves and their own scholastic abilities.

> She was very happy to attend each day & I also think she benefited in confidence & self-esteem. (PQ2)
>
> She feels quite special having been chosen for the course. (PQ2)

> It raised their sons' self-esteem. It made them feel important and put a value on their academic achievement. (TQ2)
>
> Personally it has helped with his confidence and has made a few friends from the class. (PQ1)

This positive self-concept is a key component to motivating and empowering the leaner (Wallace 2009). The CAA has also boosted many of these children's aspirations in that they can progress to college and can be whatever they want to be if they work hard. This increase in self-esteem can nurture belief in respect of what they are capable of doing (Coleman 2003):

> The social benefit of this course cannot be underestimated for her. It's great that kids who have never had family go on to third level education, see it is possible and achievable with the right application. (PQ1)
>
> I mean there whole self-esteem goes up because of oh the aura of college. (Parent 3,FP2)
>
> My son is shy now and I'd say he's the last person you'd say to me I'm coming down here to college. (Parent 1, FP3)
>
> My son now wishes be becomes a doctor. He is now more interested in further education and can't wait to learn. (PQ2)

Increasing a child's aspirations is crucial to improving their chances of escaping from poverty (McIntosh, Greenlaw 1990). It is also vital to change the belief of the family and the disadvantaged community as a whole that this is possible for their children. One of the reasons these disadvantaged students do not believe in their ability is because members of their family or the community that they live in don't believe that these children will be able to make it to higher education. This is because there has been no history of previous generations of family members or other members of that community proceeding to college (Russell, Maitre et al. 2010). It is crucial that these children don't reach the point where they think no-one believes in them (Sternberg, Davidson 2005). A family's positive influence on their child's learning is key to the child succeeding academically (Coleman 1998, Ryan, Deci 2000).

So for these reasons the CAA programme involved the parents as much as possible with the programme in the following ways:

- Staff members engaged in friendly discussions with the family parents who were dropping off the children each week.

- Parents were involved in focus groups & filled out questionnaires to improve the courses.
- Some parents carried out experiments from the follow-up pack with their children at home.
- Parents and other family members were invited to a graduation ceremony for the CAA students at the end of each term.

The positive results of these interactions with the parents has been profound, with all the parents turning up to the graduation ceremonies and being so proud of their children, to some parents realisation that their children can go to college, and much more. A lack of success can lower a student's self-esteem (Montgomery 2009) and the CAA graduation ceremony, in particular was extremely effective in highlighting the students' academic success and thereby raising self-esteem, which is essential according to Barnett (2005). Some of the many pertinent comments from parents on the benefits of their involvement with the programme and also on the pride they felt in their children's abilities are mentioned below.

> It mattered to us, I was honoured. (Parent 1, FP3)

> But I think it's given them more confidence as well like you know in themselves and that like.. I'm telling everybody she's graduating today like, I think it's a great thing to say we're going up to DCU… I mean god wow and they're and peoples reaction to them when they say DCU..Is like, what are you doing up there you know and it's really nice for them to be able to say that they're going to college, you know what I mean. (Parent 2, FP3)

> Also shows parents their children have great potential. (TQ1)

> Children & parents who have never crossed the threshold of a university now see that going to university is an option and something towards which they can set their sights, thank you for affording them this option. (TQ2)

The benefits of strategies to work with parents to engage with their child's learning have a proven track record (Warwick 2009), and it is apparent that the CAA programme has proved itself, in my opinion, to be an exemplar in this field.

The importance of increasing a child's self- belief in their abilities, especially for disadvantaged learners, in relation to improving academic ability cannot be denied. To achieve this it is necessary, as I have shown, to try to provide opportunities, in this case courses, to boost confidence and also to improve the belief within the community that third level education is possible for their offspring. To encourage this transformative journey, forging links between schools, families, and the community (Kitano 2007) as well as universities is vital, something which the CAA programme has achieved.

6.4. THE IMPORTANCE OF FOSTERING LINKS BETWEEN SCHOOL, UNIVERSITY & SOCIO-ECONOMIC DISADVANTAGED COMMUNITIES

6.4.1. COMMUNITY

The community in which a child lives does influence that child's educational journey. If the community is based in a socio-economic disadvantaged area factors including unemployment, alcohol & drugs addictions, unsafe neighbourhoods, under-education (Robinson 2003) all negatively impact the people who life in this environment. Students are more likely to drop out of school if they come from an impoverished background (Jimerson, Egeland et al. 2000) and if one or more parents has not finished secondary school the chances of their children progressing to third level education declines rapidly (Russell 2010).

Social exclusion, as calculated in terms of employment levels, housing provision, family arrangements and education progression (Burtenshaw Kenny Associates 2012) is an effect of our unjust society. This inequality needs to stop. To do this participants need to be empowered so as they can change their own lives (Downes 2012), and education is paramount to this goal (Department of Education and Science 2003). Therefore early educational interventions to stop this cycle from reoccurring are a necessary

The white paper on adult education published by the Department of Education and Science in 2000 advises that informal education programmes must be included as part of a community education strategy for adults, in order to nourish academic outcomes in disadvantaged communities, a strategy that I argue is surely just as applicable to children in a deprived area as to adults. Societal pressures can influence how a person shapes their life (McCoy 2010), but this peer pressure does not necessarily have to be a negative influence but could be turned into a positive factor if a community attitude can change to use their influence for the better, as is the case in critical theory. Downes (2007: 2012) is an advocator of this community education approach in Ireland and highlights the importance of schools, community groups, and families working together to overcome educational exclusion. The CAA programme does fit into this remit and even goes further by having the students do the course on a university campus, thus encouraging them to aim high early in life. The CAA involves the community in many ways:

- Basing the CAA programme within a university that is in the environs of the community involved.
- Allowing teachers in the local schools to nominate students to attend the programme, and in some case teachers drive their students to the CAA programme.
- Involving children from 32 schools within this community.

In addition, many of the students and their parents commented on how their children had made friends with students from other schools, *'meeting new children from other schools'*(PQ2). But other valuable contributors from the community were the family units whose children came on CAA courses. Parents and other family members must involve themselves in their children's education in order to make emancipatory progress (Mulkerrins 2007) so as to stop future disadvantage for the next generation (Russell, Maitre et al. 2010).

6.4.2. IMPORTANCE OF SUPPORT OF FAMILY

The majority of the parents whose children attended the CAA programme did not continue to third level education and it is hard for children to envisage themselves going to college if past generations of their family have not (Kelly 2010). In addition, if their parents or peers haven't been to college they may, even without knowing, emit negative feelings about the value of college (Passow 1972). Jimerson et al. (2000) found that children were more likely to drop out of school if there was a lack of parental involvement in the child's schooling and also a lack of participation by the parents when the child was doing their homework or other activities in the home, a belief that was also shared by Bloom & Sosniak (1981), Montgomery (2009), Porter (2005) (2005); Van Tassel Baska (2010) amongst others. Ian Warwick (2009) also found that parental involvement was the most crucial factor to a child's successful education, and even placed this factor above parental background or education, in its influence on a child's education. Therefore provisions that involve the family must be introduced to ensure families are a positive support to their children's education, and currently there is a dearth of outreach family initiatives (Downes 2012).

Currently there are 'outreach gaps for family support' (Downes 2012, p28) and it was hoped that by involving families both in the graduation ceremony at the end of each term on the CAA programme and by also providing a follow-up science pack that the children could do at home with their parents, that in some way the CAA has achieved greater family involvement. There is evidence that this has happened which is witnessed by the numerous comments on how proud the families were at the graduation ceremonies and also the amount of families who carried out experiments with their children after the CAA class, activities that the children had either learnt during the CAA course or supplied by the follow-up pack: 'We did every experiment. (PQ2)

Some students also carried out experiments from the follow-up pack that was given out to them with their siblings thus involving the family unit even more in the education experience:

He loved the lava lamp experiment and showed myself and did one for his little sister. (PQ2)

If the child feels that their parents or siblings are interested in what they have done during the course or are keen to do an activity from the follow-up pack with them, this positive attention may increase their motivation, which according to Montgomery (2009) is lacking in underachievers from impoverished backgrounds. There is also evidence that if you change the beliefs systems of a family to have faith that third level education is a viable option for their children then this will in turn impact positively on the child's inner strength to reach this goal (MacFarlane, Feng 2010). I suggest that the praise given to the CAA students regarding their academic abilities at the end of term CAA graduation ceremonies, along with delightedness of the parents that their child has been picked to attend the CAA programme -due to teacher's belief in their academic prowess, does indeed make a change, no matter how small, to the parents confidence that their child can progress to third level education, and thereby is an example of critical theory in action.

> But I think it's given them more confidence as well like you know in themselves and that like.. I'm telling everybody she's graduating today like. (Parent 2,FP2)
>
> The parents were delighted that their children were chosen to take part in the course. It raised their sons' self-esteem. It made them feel important and put a value on their academic achievement. (TQ2
>
> It mattered to us, I was honoured, do you know when he said, when he brought it [invitation to attend CAA] home. (Parent 1, FP3)

More evidence of the benefits of the CAA course to a child's self-esteem, and also an increase in confidence in the parents regarding their child's academic talent, and also the right of their child to aim for higher education, is discussed in the 'Increase in Self Esteem' and 'Link to University' sections.

6.4.3. BETTER LINKS WITH SCHOOL:

MacFarlane & Feng (2010) discuss the importance of not just support from families but also support from schools for potentially gifted students to improve academically.
Swanson (2010) concurs that encouragement from school teachers is just as important for potentially gifted learners in ensuring that self-confidence, resilience to difficult challenges and important communication skills are developed. Crucially a child spends just as much time in a classroom environment as he or she does at home, during the school year, so it is important to involve teachers as much as possible in nurturing children's abilities and confidence so they make the right choices for their future (McCoy 2010).

For these reasons it was critical to involve school teachers with the CAA programme. This was pointed out in cycle one by both parents and teachers

> No I don't know whether you could make that linking through the school or make a suggestion. (Parent 3, FP1)

Additionally by involving the schools, the CAA can target more children, as due to funding restraints only two children from each of the linked DEIS schools can come on the CAA each term. There were a lot of stakeholders who wanted more children to benefit from the experience of the CAA courses:

> I wish more children could participate. (TQ1)
> More children should be given the opportunity. (PQ1)

The CAA did link up with schools in a number of ways, some planned and others unplanned:

- Involving the schools in nominating the children for the CAA programme.
- Inviting the teachers to the students' graduation ceremony at the end of each term.
- Students returning to schools and sharing what they had learnt during the CAA course each week with their teachers and other students in their class.
- Students bringing the follow-up science pack to school and the teachers photocopying this for themselves and to give to the other students in the class, and by doing these experiments during part of their school day.
- Providing in-service teacher training to four schools as part of a pilot programme, that will hopefully be rolled out to all schools involved, funding permitted.

The above strategies all proved to be extremely successful. The unplanned schemes reaped many rewards with so many CAA students sharing knowledge with their primary school classmates through their experiences directly through the CAA courses or through the follow-up pack:

> Couldn't wait to get into school the next day to share the experiments and the knowledge with, with his classmates… Absolutely, his teacher even sent home a note in his journal…to say thanks for sending in the coursework cause you gave him a booklet…and thanks for sending it in because they had great fun in school with it. (Parent 1, FP4)

And these unplanned benefits to the primary schools of the CAA course were the main reason why the in-service teacher training workshop was piloted in four of the linked schools. These workshops on gifted education and hands-on science activities were extremely successful, with far more than the four schools who took part requesting this service. There were no negative comments regarding the in-service training with 100% of all teachers who filled in feedback forms strongly agreeing that the presentation of the experiments was interesting. 88% of the teachers who filled in feedback forms strongly agreed that the experiments demonstrated were interesting & beneficial to the teacher.

Comments on the experience from the teachers centred on how applicable and easy to carry out the science activities demonstrated were to the classroom environment:

> The experiments presented were very beneficial & helpful. The experiments are easy to carry out, with materials that are easy to source. The science behind the experiments was explained well, making it easier to explain to students. (TQ2)

Even though the teachers in the teacher training sessions did find the gifted education presentation relevant and enjoyable, 'We were delighted with your talk' (TQ2), they were more interested in learning about fun science experiments they could do in their classrooms. I suggest this is because of the lack of in-service science workshops currently available to teachers, and also the high interest in science by primary school students. But there were no negative comments regarding the presentation on challenging potentially gifted learners in the classroom. Swanson (2010) states that globally there is not enough in-service teacher training on gifted education being done currently. According to Hansen & Feldhusen (1994) training teachers in gifted education & enrichment activities, which does include fun science experiments, does make a difference. Training teachers in gifted education creates a better classroom environment and they challenge their students to higher level thinking and discussion. (2002) concur that teacher training on the topic of giftedness does effect a change for the better in classroom practice. This research coupled with the success of the in-service teacher training workshops in the four schools highlights the success of and need for more teacher development workshops in gifted education and enrichment activities to be carried out in the future. If these in-service teacher workshops continue to be part of the CAA programme it is hoped, as suggested by Montgomery (2009) that:

> A wider range of pupils can be engaged and motivated when these strategies are incorporated into the ordinary curriculum for all pupils.
>
> (p.12)

6.4.4. LINKS TO UNIVERSITY & FUTURE CAREER

Can an initiative aimed at 10-12 year olds relate to a child's entry into higher education or indeed can it influence what career a child embarks on in the future? There is considerable evidence that the experiences of a child when young do influence events and decisions related to education later in life (Kelly (2010). Early childhood interventions are key to students from impoverished or low-income backgrounds succeeding in progressing to study at third level (Adnett 2006, Connor, Dewson et al. 2001). These interventions must raise the

aspirations of these underrepresented groups and must start when they are young as negative perceptions of college can snowball (O'Connell, Clancy et al. 2006).

As the statistics from the 2006 Census highlight, as outlined by McCoy 2010- there is a high dropout rate of at-risk students before the end of secondary school so the issues that influence school performance and the benefits of going to college, more employable etc, (Connor, Dewson et al. 2001) should be addressed early in a child's education.

The CAA programme, has in my opinion, made a positive impact in influencing these disadvantaged students that they can progress to higher education if they wish, due to the following reasons

Because it

- Placed the classes in a university setting & gave students the opportunity to use the college facilities (parents haven't been on campus before, or some kids).
- Gave the students the opportunity to study university styled subjects that they wouldn't normally get to study in school.
- Used extremely well qualified teaching staff. All teaching staff were doctorate students and thus encouraged the students to aim high and staff also acted as mentors to these children.

Connor (2001) mentions the importance of children who don't know anyone in college having access to young people, mentors, who are in or are have attended higher education, a view shared by Olszewski-Kubilius (2010) and Bradley & Corwyn (2002) amongst others. All the CAA staff fall into this category, with one staff member coming from a disadvantaged background herself, and all staff members are extremely encouraging and supportive of these students. Inspirational role models can lead children to aspire to a greater academic performance (Bradley & Corwyn 2002).

> I thought the teachers were excellent with the kids. The kids were spoken to like young adults and I think they liked that. (PQ2)
>
> I am pleased with the fact that the teachers were very supportive. (PQ2)

By placing courses in a university setting and having them study university styled subjects, this inspired the students to learn and boosts their confidence, a technique called 'place based' learning (Smyth, Down et al. 2010, p.37). This did work in the case of the CAA courses, as witnessed by the amount of students and parents who mentioned how attending classes in the university had encouraged them.

> My son got to see what a 3rd level college is like and to see it on a normal daily routine and be part of it once a week. (PQ2)
>
> Their whole self-esteem goes up because of the aura of college I suppose. (Parent 3, FP2)

For many of the parents and their children it was the first time they had set foot on a university campus, only 39% of the CAA students had been on this university campus before (Appendix 27) and of these students who had been on campus the vast majority stated that it was to visit an event in the Helix theatre, or attend a sports camp, rather than for any academic events.

By attending these classes and more importantly understanding the teaching material, with the excellent teaching skills of the staff playing a part, they realised there was nothing to be intimidated by – it takes the fear out of the unknown:

> Yeah, I think it takes out the illusion…or the mystique from a college maybe, you know. (Parent 3, FP2)

Additionally there is some evidence that parents and children started to believe that it was their right just as much as more economically advantaged groups to attend college:

> I personally feel that these courses greatly benefit the more disadvantaged of our students i.e. those who are very severely disadvantaged. It has opened up a possibility for them – children & parents who have never crossed the threshold of a university now see that going to university is an option and something towards which they can set their sights, thank you for affording them this option. (TQ2)
>
> The expectation that this is a reality that they can come here. (Parent 8, FP1)

Evidence suggests that the CAA programme has been successful in fostering the belief in the students themselves that these students can go on to third level education:

> Seeing the college. It's very much a case of "when I go to college" as opposed to "if I go to college. (PQ2)
>
> When I grow up I'm coming here to study science and be an Einstein. (PQ1)

It is hoped that this intervention will, even if on a small scale, help to redress the issues of social justice and equity (Osborne 2003).

Conversely, as well as the university being of benefit to the CAA students, the CAA programme does benefit the university, as it is part of the university's remit to increase student numbers from disadvantaged areas (DCU 2010). On the wider stage, the CAA programme also supports the National Access Plan's strategic target of having 'at least 54% of each socio-economic demographic of the relevant age cohort participating in higher education by 2020' (Higher Education Authority 2008, p.12) and meets the NAP objective to invest in widening participation at third level institutions (Higher Education Authority 2008). The CAA also fits in with two out of the three outreach national access strategies by forging links with both schools and the community (Murphy 2002).

There is also an indication that the CAA programme has helped the students to think more about what careers they may want to do when they are older, with some parents and children mentioning the impact that the CAA course has had on awakening or encouraging their interest in a subject and from there a possible career.

> My son now wishes be becomes a doctor. He is now more interested in further education and can't wait to learn. (PQ2)
>
> 'He wants to do something like this as a career so he is getting a feel for it. (PQ2)

6.4.5. MORE COLLABORATIONS BETWEEN UNIVERSITIES AND COMMUNITIES, EMPLOYERS & SCHOOLS NEEDED

As mentioned in the above sections it is vitally important to form links between third level institutions, schools, families and communities to nurture the academic talents of promising learners from disadvantaged areas. What is most important is that each link shouldn't be thought of as an individual relationship, but instead the various links should collaborate together to improve the educational advancement of these at-risk children (O'Briain 2008) . Partnerships between schools and parents are key to increasing learning motivation in children (Council of the European Union 2011).

The HEA (2008) and the Action Group for Access (National Development Plan 2001) agree with the above recommendation and go a step further by incorporating the need for community collaborators to be involved in partnerships advocating social inclusion of this section of society at third level.

However, none of the above government bodies integrates a fourth partner into this collaboration: universities themselves. I suggest that the CAA is a unique programme in bringing together collaboration between universities, schools, families and the community to nurture learning in potentially gifted at-risk learners, and suggest that more joint projects between these different partnerships, rooted in critical theory ideals, should be advocated.

Woodrow & Thomas (2002) even push these boundaries and suggest that workplaces should be included in a collaborative strategy to promote learning in all abilities from impoverished backgrounds by providing opportunities for children to visit their company or for the company to provide guest lectures or other support. I would agree with this recommendation and hope in the future to include interesting guest speakers from companies to come in and do workshops as part of CAA courses or special events.

I suggest the model below effectively summarises the linked relationships that need to be made in order to ensure that a promising leaner from a disadvantaged background has the best chance to reach their potential.

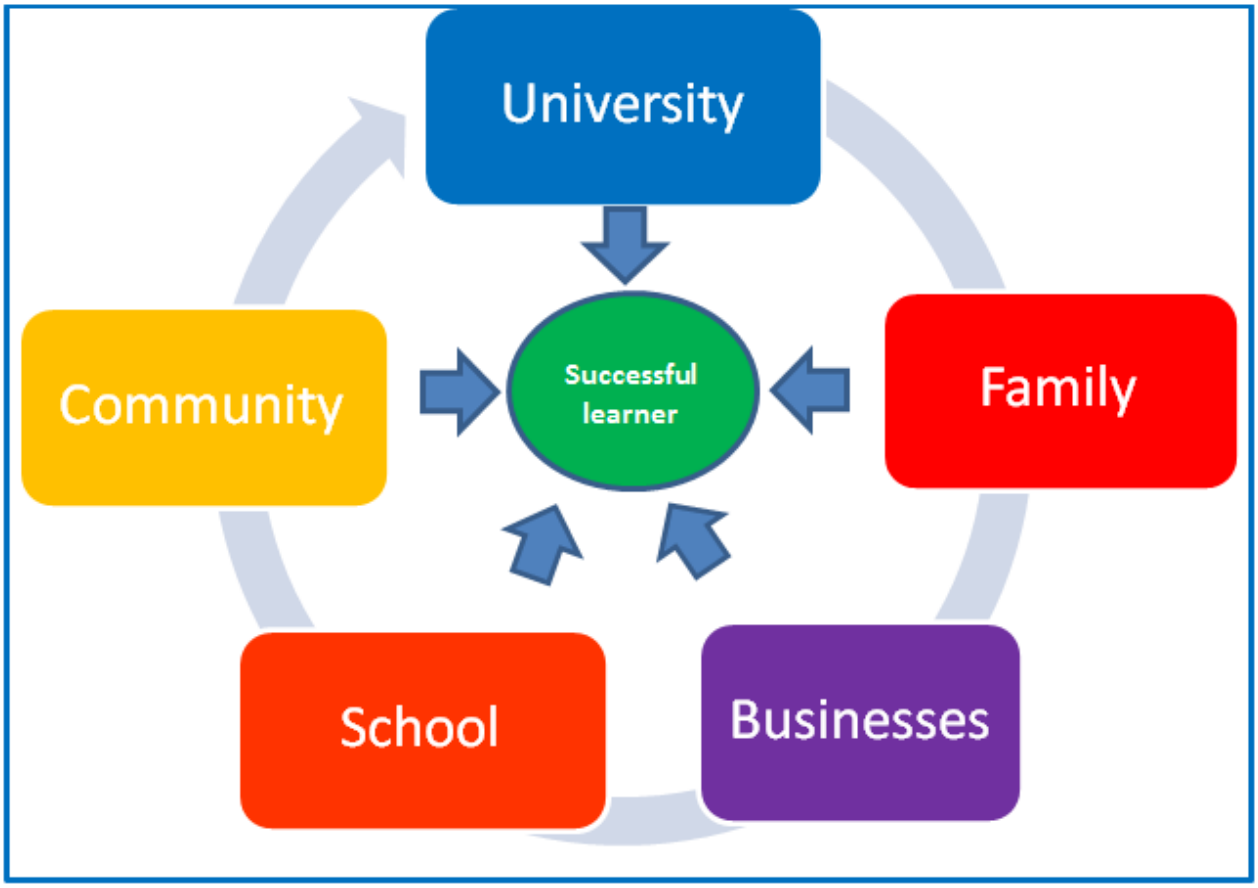

Figure 16 . Collaborative partners that maximise the success of a high ability learner with a disadvantaged background.

6.5. ACTION RESEARCH & PROGRAMME DESIGN

6.5.1. SUCCESS OF THE PROJECT

The CAA programme that has been the focus of this study has been extremely successful. This is due to the excellent staff, challenging and fun lessons, the involvement of enthusiastic and well-mannered children, and the support of their family and schools. As mentioned in the previous sections of this chapter and also in the results chapter, students have being stimulated academically, enjoyed learning outside the school environment, have become more confident in their own academic abilities and many now view higher education as a realistic opportunity available to them.

This action research project has been an effective intervention and this afterschool enrichment programme for potentially gifted children from a disadvantaged background is, in my opinion, a transferable model rather than 'merely an interesting idea' (Warwick 2009, p.252) that could be used with other disadvantaged populations, and not necessarily solely high ability children, to increase academic ability and also self-esteem.

6.5.2. HOW ACTION RESEARCH DEVELOPED AND IMPROVED THE PROGRAMME

The action research changes implemented have improved the programme for the better. The data gathered during the first cycle led to three major changes in the programme for cycle 2:

1) Duration of each course extended from four to six Wednesdays.
2) A follow-up science pack was given to each of the children on the programme.
3) In-service teacher training in science activities and gifted education was carried out in four of the linked DEIS schools.

Initially when the CAA programme began the duration of each course was only four sessions. However during observation and reflection various stakeholders voiced their concern regarding the brevity of the courses:

> Maybe longer for six weeks. (Instructor 2, SF2)

> Wish the courses lasted longer (TQ2), I wish this wouldn't end so fast. (CQ1)

I also agreed that only four sessions would not have as great an impact on the children's academic and social development than a longer course. Therefore when planning cycle 2of the action research project the duration of the courses was extended to comprise of six sessions, with the length of each session remaining at 1.5 hours. This alteration proved to be extremely successful, with no-one unhappy that the courses had lengthened:

> The length of time was just right, any shorter would not have been enough time. (PQ2)

Additionally during the reflection stage at the end of cycle one, I felt that more needed to be done to increase the impact of the programme. One of the methods of doing this was suggested by a parent during the parent focus group in cycle 1:

> But if you had an information pack say whatever class you're doing if you had an information pack saying session one they're going to be covering x, y and z. Session two, whatever. So then it just, I just find it gives you something tangible to kind of work with when you're talking to them. (Parent 7, PF1)

Another parent in this focus group added that it would be great to have something to 'bring it into your home and extend the learning' (Parent 6, PF1). As the students already got handouts on the experiments they did on class, albeit after the class rather than before, I felt that giving them an information pack with more information on the same experiments wouldn't be the best use of materials. Instead I agreed with Parent 6's comment that extending the learning would be more useful, but that this could be done with an information pack that they could do at home with their parents but the pack would be filled with new exciting experiments that would be simple and cheap to carry out. The fact that the participants in cycle one highlighted how much they enjoyed the practical element and the fun experiments were the instigator in the choice of science as the core element of the pack:

> Enjoyed doing experiments. (PQ1)

> Like some experiment has very drastic results they get all very excited. (Instructor 3, SF1)

The follow-up science pack proved to be an extremely successful inclusion, with 96% of parents saying their children found the science pack useful, and many of the parents did mention how they had done the experiments with their children, with parental or sibling involvement in these activities being a key aim of the inclusion of the pack:

> We did every experiment. (PQ2)

And just as importantly the students did enjoy & learn from the experiments in the pack:

> I liked the slime most because I couldn't get my head around it as it was hard & soft at the same time. (CQ2)

After reflecting on the findings of cycle 1 the other area that I thought could extend the influence of the course was teacher development. Teacher development in this case referred to giving primary school teachers more aids and teaching ideas in the form of in-

service training days to support their high ability learners. One parent directly asked for more links between the CAA and schools:

> Whether you could make that linking through the school or make a suggestion. (Parent 3, PF1)

I felt that the easiest way to forge more links between the schools and the CAA programme was to offer in-service teacher training workshops on the topics of 'science experiments for the classroom' and 'identifying and stimulating potentially gifted students'. Due to funding limitations this scheme was piloted in four schools. These free in-service teacher training workshops, carried out in the schools themselves, were appreciated and valued by the teachers who took part in them, with no negative comments being mentioned in any of the questionnaires or the interview carried out with one of the school principals involved.

> The in-service was great, lots of useful practical ideas. (TQ2)

An unexpected added bonus was that another link was forged with the schools with the CAA students bringing in the follow-up science packs to school and sharing these experiments with the teachers and pupils. This last point highlights how the importance of fostering as many links between schools, families, communities and universities as possible, as there is so much overlap, resources and expertise that could easily be shared between these groups for the benefit of these deserving children.

6.5.3. HOW THIS ACTION RESEARCH ENRICHED THESE STUDENTS LIVES AND LED TO SOME LEVEL OF SOCIAL CHANGE

All the above additions to the programme increased the time that the CAA could impact on the students and other members in their communities and in this respect these action research changes have increased the value of the CAA project in fostering a critical change in the beliefs of this community. The action researched has empowered the individuals involved by including them in the focus groups, interviews and questionnaires letting them help shape the programme, a key part in action research according to Mills (2000) and Tomlinson (1995). The CAA action research project has also empowered the children involved by giving them access to educational opportunities they would not normally have had at their disposal and in some cases has better equipped them with skills, computer programming, graph drawing ability, power-point presentation skills that will be of use to them throughout their educational journey. This development of student competencies can play an essential role in empowering young people as agreed by Bognar & Zovko (2011) and the ability of students to learn through inquiry, which is a strong element in the CAA programme through its problem-based learned and experimentation approach is advocated by Dewey (1916).

The CAA programme not only involved the parents and other adult stakeholders when making decisions about the changes to the programme but more importantly always made sure to give the comments by the children foremost consideration. The children were asked for their feedback through questionnaires which they filled in at the start and end of each course. Some students agreed to be interviewed in order to hear their views about the programme. As the CAA programme has been developed for these children, it is vital that a child centred approach (Alderson 2000) is taken in order to include their perspectives and the issues important to them, spoken in their own voices (Foucault 1980) when evaluating and improving the programme .

As well as adding to the students' knowledge and skill set, the CAA programme has raised many of the students' aspirations regarding the possibility of progressing to third level education, and given them new ideas regarding future possible careers. The project has also injected the majority of students with a boost in self-esteem and confidence in their abilities.

Reason (2006) sums up a successful action research project as having four elemental pieces: 'worthwhile practical purposes, democracy and participation, many ways of knowing, and emergent elemental form' (p.187). I argue that the CAA action research includes all four of these attributes. The project itself has proven itself to be worthwhile and beneficial to all involved as highlighted by all the positive comments detailed in the results chapter. In addition, developing, instigating and managing this successful inquiry based physical project has fulfilled the practical criteria.

The remit of democracy and participation has been met by giving high ability children from a socio-economic disadvantaged background the opportunity to learn new subjects through an enrichment model that has only used before on gifted programmes where low income and impoverished learners are rarely present (Frasier, Passow 1994, Ford, Grantham 2003, Montgomery 2009). The CAA programme has therefore helped readdress this issue by providing a unique enrichment course to stimulate these potentially gifted children who have never been offered any additional educational supports before, helping to increase their academic abilities and thereby aiding social inclusion. The CAA programme also acts as a stepping stone to entrance to the CTYI gifted programme with many of these CAA students now studying on the main CTYI programme on scholarships after being successfully assessed. Preparatory programmes act as a useful foundation course in acclimatising these children to a challenging academic environment and building their confidence in their skills and abilities so they will be at ease when they move on to a specialised gifted programme (Grantham 2002, Robinson 2003).

Regarding the criteria 'many ways of knowing', the CAA study gathered data from all groups of stakeholders, using focus groups, interviews and questionnaires, and has incorporated the comments and beliefs of all these groups to make positive changes to

the programme. The CAA was set up in the first place as a result of a needs analysis being carried out by a group of school principals in the community, with staff from the DCU access department also being present, so the project was set up by the people, for the people.

Lastly, the CAA study has met the criteria that new knowledge has emerged. Firstly, no other action research project for gifted disadvantaged enrichment programme exists as far as I have gathered during an extensive search. Studies of general education remain largely focused on the classroom or the individual student rather than the larger social or economic contexts that affect education (Nolan 2009). The majority of all papers in the field of gifted education are not research based but worryingly are opinion pieces, interviews or programme descriptors (Parker, Jordan et al. 2010) and of the research based studies present there are less qualitative than quantitative studies (Parker 2010). Coleman, Guo & Dabbs in their (2007) paper bemoan the quality of the qualitative studies that are present, with only 32% of all qualitative articles between 1985 and 2003 in gifted education being valid research, according to these authors, and none of these article focus on action research on enrichment programmes. I have also found no articles on action research on enrichment programmes, let alone action research for enrichment programmes for diverse learners, during the time period they examined or after this period up to present day.

As well as the CAA project providing new knowledge, as it is the first action research study on an enrichment programme for gifted or potentially gifted learners, other new knowledge has emerged. This new knowledge as detailed earlier in this discussion chapter includes the 'importance of fostering links between schools, communities, and families in influencing the academic success of high ability learners from a disadvantaged background' and 'the importance of enrichment programmes for increasing self-esteem in children from a disadvantaged background'.

For the above reasons I argue that the CAA programme has been an extremely successful, valid and important piece of action research.

6.6. NEGATIVE OUTCOMES, LIMITATIONS AND IMPROVEMENTS FOR THE FUTURE

As I have outlined above, the CAA project has proved itself to be a very significant, beneficial and fruitful study. However, this piece of research does include some negative implications and aspects that need to be discussed and addressed. The most glaringly obvious limitation should be considered first: that this study is currently only a short-term intervention in these children's lives. As one parent astutely noted:

> And great as the number of weeks this is, I suppose I wanna ask where does it go from there? (Parent 8, FP1)

There have been many positive benefits for the students and their families from attending the CAA programme, including increase in self-esteem, increase in knowledge and development of new skills, development of aspirations to progress to third level education. However, if the students who have flourished by attending these CAA courses do not have access to further educational advancement opportunities then the benefits of the CAA course are limited. The students must be invited to attend future courses to build on their knowledge and confidence to ensure that there is enough support for them to develop their scholastic ability to advance to higher education. A one-off educational intervention, such as the CAA programme, is not enough to nourish their abilities and confidence through secondary school and towards college. Change, including social change, is a slow process (Foster-Fishman, Nowell et al. 2007, Montgomery 2009) which is the main reason why more interventions are needed to permanently change the mind-sets of these socio-economic children and their communities, where no-one has gone to college, from 'I can't' to 'I can' go to college if I wish.

> Seeing the college it's very much a case of "when I go to college" as opposed to "if I go to college. (PQ2)
>
> I personally feel that these courses greatly benefit the more disadvantaged of our students i.e. those who are very severely disadvantaged. It has opened up a possibility for them – children & parents who have never crossed the threshold of a university now see that going to university is an option and something towards which they can set their sights, thank you for affording them this option. (TQ2)

To this end, CTYI has secured funding to offer all the students who have attended the CAA programme during the action research cycles places on more educational after-school and summer courses as they progress to secondary school and up until they finish secondary school. CTYI has also secured funding for a PhD student to carry out research on monitoring the effects of this hopefully long-term intervention on these children's lives.

Another limitation of the study was that not all the students carried out the experiments in their follow-up pack with family members. This could be for a number of reasons. Firstly, a few students were sick on the day the packs were given out to the children. Secondly, some of the students probably never told their parents about the packs they were given. Thirdly, some of the parents probably just didn't have the time to carry out these experiments with their children. Lastly, perhaps either the children or the parents weren't interested in doing the experiments. However, the majority of students did carry out the experiments and did find them enjoyable and useful. I am of the opinion that the follow-up pack could have had a greater impact. For the future I intend to post the follow-up packs to each of the student's home address to ensure that the packs are definitely received and the parents are aware of these packs. Additionally it is hoped that funding can be secured to provide all the materials

that go with each pack (corn flour for the slime, vinegar for the alien eggs..) so that the children will be able to carry out the experiments easily at no charge to their parents. Furthermore, I intend to organise some family events where the whole family can come to the university and partake in some type of educational (and also fun!) event, such as science magic shows, experiment workshops and more. This will ensure that not only will the family unit become more involved but also the CAA programme will have a greater impact on the participating children.

Another disadvantage regarding the CAA study was that during cycle two, due to time and financial constraints, only four schools got to avail of the teacher training workshops. As these workshops proved to be hugely successful, I intend to offer teacher training sessions to all 32 schools involved in the programme, as long as funding can be acquired. Additionally, due to the unexpected success and use of the follow-up science packs in many of the schools, I will be posting all schools follow-up science packs next year, and these packs will contain new experiments that all students, no matter what their ability, will enjoy at some level.

A limitation regarding the design of this study was that the success of the graduation ceremonies were not captured on any of the data collected as all the focus groups, interviews, and questionnaires filled, took place before the graduation ceremony on the last day of each course. The reason for this was that the data was always gathered when there was easy access to all stakeholders – while the classes were taking place. It would be much harder to interest stakeholders in participating in focus groups or interviews if they took place after the programme had finished. However as the graduation ceremony has proved itself, in my opinion, to be a core element of the success of the programme, I intend to hold a focus group directly after the ceremonies in the next cycle of research so as to capture the opinions of the stakeholders regarding the effects of graduation ceremonies then.

Lastly, the only other significant limitation to this study was that more parents and teachers wanted more children to be given the opportunity to take part in the CAA programme:

> More children should be given the opportunity. (PQ1)
>
> I wish more children could participate. (TQ1)

To fulfil this request, which I agree is crucial in ensuring that the CAA is as effective as possible in affecting social change, next year I am going to run an additional course each term, so allowing an extra sixty students to attend each year. If additional funding can be found it is hoped that even larger numbers can attend. Additionally it is hoped that the implementation of the teacher training workshops at each of the linked schools and also the inclusion of a follow-up science pack for each school will indeed increase the number of students who benefit from some of the CAA activities.

6.7. CONCLUSION

The CAA programme has proven itself to be an exemplar in using action research for developing and improving an enrichment programme for promising learners with a disadvantaged background. Even though it is only a small project, evidence suggests that it has improved the lives of the participants by increasing their self-esteem, improving their academic ability and raising their aspirations, as supported by existing literature in this field. New contributions to knowledge have been made, as this is the first time an action research project has been carried out using an enrichment programme; the importance of fostering links between schools, the community, and universities, to increase the academic abilities of these learners has come to light; and the importance of enrichment programmes for increasing self-esteem has been highlighted. However, to ensure that the academic abilities and confidence of these students continue to develop more educational interventions are necessary with the same children until they finish secondary school. Ideally it would also be extremely worthwhile if the CAA programme could target more children so that as many children as possible from a disadvantaged background can improve their scholastic abilities and increase their confidence, this has partly being achieved by the addition of follow-up science packs and in-service teacher training with some of the schools involved.

CHAPTER 7. CONCLUSION

7.1. INTRODUCTION

This study has been a journey of discovery. From the beginning, developing an educational programme, using action research, to stimulate these potentially gifted socio-economic disadvantaged children has been a challenge. It is not often that researchers have the occasion to be directly involved in a practical scheme and also have the opportunity to not only produce new knowledge but to also effect change for the benefit of others. Being able to conduct research in the field has been a memorable experience and working closely with many of the parents, children and teachers has been for me the highlight of this project. This chapter will summarise the findings from this inquiry, detail the limitations of the research and make suggestions for further study.

7.2. THE SUCCESS OF THIS ACTION RESEARCH METHOD IN AFFECTING POSITIVE CHANGE

The CAA programme has proven itself to be an exemplar in using action research for developing and improving an enrichment programme for promising learners with a disadvantaged background. As a direct result of action research the CAA programme was successfully altered as the research progressed in order to make the programme as beneficial as possible for its participants. There were three major amendments to the programme design, made as a result at the request of stakeholders, which proved to be extremely effective, these were that:

1) The duration of each course was extended from four to six Wednesdays.
2) A follow-up science pack was given to each of the children on the programme.
3) In-service teacher training in science activities and gifted education was carried out in four of the linked DEIS schools.

All three of the above interventions proved to be successful. These changes shared the common link of increasing and extending the impact of the CAA programme on the involved students, and in some cases there was also positive benefits to some degree for family members and school classmates and teachers (through the use of follow-up science packs and in-service teacher training).

7.3. RESEARCH QUESTIONS ANSWERED

In the introduction chapter it was noted that four research questions would be answered during this study. These questions were:

1) Is the programme well managed and respected by the children's parents and primary school teachers?
2) Do the students benefit academically from attending the programme?
3) Does the programme benefit the students' personal and/or social development?
4) As a result of attending a course, are the students more likely to attend DCU or another third level institution when they are older?

After analysing all the data using coding, all four questions were answered with the affirmative as detailed in the results and discussion chapters.

All of the parents or school teachers who filled out questionnaires, or attended focus groups, perceived the programme to be extremely well run and were very satisfied with the management of the programme. There were no negative comments regarding any aspect of programme management and this leads me to suggest that the programme was indeed well respected by the parents and teachers. This statement is supported by the fact that both parents and teachers wanted the CAA to offer more places to children to attend, and also by the fact that the courses were always full.

The students benefited academically on this enrichment programme by

- Learning new material.
- Having the opportunity to experiment.
- Being given the chance to question and express their opinions.
- Having exposure to a new learning environment.

It was not surprising that there were academic benefits for the students in attending the CAA programme; after all if an education enrichment programme does not produce any scholastic advantages then this programme should not be operating.

However, more surprising were the personal benefits for many students attending the courses. Evidence as detailed in the results chapter showed that attending courses at the CAA had raised the self-esteem of many of these students, as perceived by many parents and teachers, with the majority feeling more confident in their academic abilities. As well as many students feeling more comfortable with their academic talents, many parents also expressed their pride at their children's abilities. Some teachers also emphasised how special it was for these children to be picked to take part in the CAA project. It is hoped that this positive change in the belief in the student's abilities by themselves, their parents and also to some extent their school teachers, is evidence of a critical change in this community. Hopefully this generation of children can start to believe that they too can progress to third level education if they wish.

Ample proof has been given, during the results chapter, that attendance on the CAA programme has raised the aspirations of many of these students, and their parents, that these children can indeed attend higher education when they are older. It should be said this change in attitude as a result of attending a six week course can become a permanent change in belief is doubtful. More continued educational and emotional supports are needed as these students continue their educational journey through both primary and secondary school in order to cement this transformation.

7.4. NEW KNOWLEDGE

Even though this investigation has included successfully carrying out two cycles of action research as well as answering the proposed research question it cannot be considered a valid piece of research unless new knowledge has emerged as a result of the inquiry. I can confidently confirm that this has been the case in my study. The most obvious formation of new knowledge being that this is the first time that action research has been carried out to investigate the effects of attending an enrichment programme on high ability children from a marginalised background in the world. Additionally, there are no other enrichment programmes for potentially gifted at-risk primary school children in Ireland or anywhere else in Europe. There have also been no other papers published worldwide on the effects of using the CTY enrichment model for potentially gifted children from a poor background who fall between the ages of eight to ten years, as far as my extensive research has found.

As already noted an increase in academic ability by attending an educational enrichment programmes yields no new knowledge as expected. However new knowledge has been created by the discovery of a possible link between an increase in self-esteem in many students and attending a CAA course. As discussed in the previous chapter I suggest that if more afterschool educational interventions were set up for more children in other areas of Dublin or Ireland using the CAA model, this perceived increase in self-esteem would be replicated. Due to the wealth of evidence present in this paper I have no hesitation in suggesting that attending an enrichment programmes will increase the self-esteem of many high ability learners with a disadvantaged background.

Lastly, I suggest that analysis of the data in this study has highlighted the importance of fostering links between schools, the community, families, and universities in order to ensure that these underserved children have the maximum chance to fulfil their academic potential. Other authors have promoted links between schools, families and communities in fostering children's' learning (add sources) but none of these sources have included the importance of collaborating with a third level institute. As also outlined in the discussion chapter, I advise that an additional collaborative partner from one or more business organisations be appointed to enhance the chances of students maximising their abilities, as suggested by (add source). I have graphically represented this relationship as shown earlier in figure 16 I also advise that fellow academics should consider this model for use with non-

gifted learners, as I believe it is transferable for learners with all levels of ability and could also be used in for children who do not have a socio-economic disadvantaged background. Of course, more research needs to be carried out to see if this model can be used outside the context of the CAA study.

New contributions to knowledge have indeed been made, as this is the first time an action research project has been carried out using an enrichment programme; the importance of fostering links between schools, the community, and universities, to increase the academic abilities of these learners has come to light; and the importance of enrichment programmes for increasing self-esteem has been highlighted. And social change to some extent has occurred. But I am aware this is a short term intervention.

7.5. CRITIQUE OF THE STUDY AND LIMITATIONS

Of course I am the first to admit that this study has its limitations. I suggest there could have been more collaboration between the researcher and the participants. Many stakeholders were indeed involved in the design of the programme from the beginning, through their involvement in focus groups and interviews as well as giving their feedback through questionnaires. Additionally many other parents, teachers and children gave feedback on their experiences and suggested improvements of the course in cycle 2. However, I felt that a valuable opportunity had been missed not to have the participants even more involved. After analysing the data in cycle one I did identify that I had made an error in only having the views of the students themselves expressed through the questionnaires. However even though I did decide to amend this in cycle two by interviewing seven children, the interviews were not as fruitful as I had hoped as many of the children gave monosyllabic responses and were too shy, or perhaps afraid of getting into trouble, to discuss in any detail their opinions in the programme. Instead if more research is carried out using the CAA programme I intend to try out children focus groups or even some type of game to try and help them feel comfortable at expressing their opinions on the project.

Also on this topic of participant collaboration, on one occasion I did advertise for any interested parents to attend a focus group on the last courses run in cycle one but no parents showed up for this (though I did have parents attending on the dates of the other three focus groups I organised). This could have been because parents were busy or were just not interested but it may suggest that running a different type of forum other than focus groups could be a better option for some parents. In hindsight one area I could have developed that interested parties could take advantage of would have been to set up a steering group or even an advisory board so as to hear the comments or suggestions of these key people on a more regular basis. At the time I didn't have the resources to set this up but it is something I will consider including if the CAA programme continues.

Perhaps the most obvious criticism is that this piece of research is only a short term intervention. It has indeed affects positive changes in many of the students including increased academic abilities, greater aspirations now to progress to higher education, and a boost to self-esteem. Other literature (source) does support that short term educational interventions can have profound effects on their participants. However I agree with (sources) that more educational and personal development opportunities are needed over the span of these students' childhoods to make a permanent positive change in self-esteem and aspirations in these marginalised high ability learners.

7.6. WHAT WILL BE DONE WITH THE RESEARCH?

I intend to share my findings and suggestions for the future with the people who have shaped these findings and the direction of the CAA programme in general. It is vital that I share this knowledge with all the stakeholders so as to empower these individuals in shaping the future of the CAA project. As this research has been undertaken using their collaboration it is crucial that they have access to the findings. I intend to do this by writing to all teachers and parents to invite them to read my thesis if they wish. I also intend to publish a shorter report of the findings and post a copy to the parent of every participant and also all the school teachers involved. I feel the children are too young currently to read this report but if any parent wishes that their child either reads my full thesis or wants their child to read the shorter report I will support this decision.

I also hope to publish the findings of this study in the form of shorter reports. It is my intention to submit these reports for consideration to journals in the field of gifted education, such as 'Gifted Child Quarterly' and the 'Journal of the Education of the Gifted' as well as some more general education publications, for example, 'The Irish Journal of Education' .

I also intend to share my research with my colleagues in CTYI and also with the DCU ACCESS department as both staff in both departments would be interested in the outcomes of this research.

7.7. FUTURE FOR THE PROGRAMME

As the CAA programme has proved to be so successful for the students involved, I will endeavour to keep this centre open even though now the research for the meantime has finished. Many parents and teachers wished that more children could attend CAA course, to this end I am applying for funding to offer places for at least twenty more students a term. I also hope to procure additional finance so as to be able to offer teacher development workshops, in the areas of enrichment activities and challenging gifted learners, to all of the thirty two schools linked with the CAA programme, in an effort to engage even more children in some way with the project.

One of the most important discoveries of the research was that fostering links between families, communities, schools and third level institutions is crucial in maximising the potential for a marginalised child to progress to higher education. I intend to involve these collaborative partners more in the programme and I also hope to develop relationships with other community initiatives in Ballymun in order to involve the whole community as much as possible in supporting these children. To this end it is my hope to organise some family fun educational events, and also school events, in the university, i.e. Science shows, creative workshops… so as to try and forge more positive links between the family, schools and the university. As mentioned previously I also intend to invite interested businesses in linking with the CAA programme, either by supplying guest speakers or by inviting the CAA students to take part in work experience or other events at their premises , so the students can visualise themselves in these organisations or similar organisations when they are older.

How successful these initiatives will be is another matter, and it is hoped that a third cycle of research would monitor the progress of these additional supports.

7.8. FUTURE RESEARCH

As mentioned above it is hoped that a third cycle of action research, implementing the suggested changes, can be carried out in the near future. This will depend on funding and also the availability of myself or another researcher to take up this challenge, and I will endeavour to ensure that this becomes a reality.

Additionally it is apparent that some type of longitudinal study is necessary to track these same students as they get older and hopefully undertake further educational enrichment activities. This is such a necessity as it is crucial that these students are given the best opportunity to succeed in their journey to college. This can only be done if more action research is carried out to ensure the educational interventions developed to continue to support these students are of benefit to these students. On a positive note I can announce that funding has been secured for such a longitudinal study. This further piece of research will be the focus of a doctorate study undertaken by a colleague of mine in CTYI which is starting later this year.

7.9. CONCLUSION

This action research study has been successful in discovering new knowledge, as well as creating a positive change in the lives of the participants of the study and to a certain degree many families and school classmates. The two cycles of action research have involved the participants and related stakeholders in improving this educational intervention in order to positively influence the students. These positive changes experienced by the children have, to a small but vital extent, produced critical change in allowing many of the participants and their families to now believe that progressing to higher education is achievable if they wish to take this route.

The CAA programme is not a panacea for all the educational problems of these high ability learners from Ballymun and the environs. However, it does assist in developing these children's academic abilities and aspirations to progress to higher education, as well as increasing their belief in themselves to have the ability to carry out this educational endeavour. In order to further assist these students on this difficult journey to college I recommend that further educational interventions are required to fully support these students to ensure they maximise their potential abilities. It is therefore apparent that even though a lot has being accomplished, there is still more to do but at least this emancipatory journey has begun.

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Appendix 1: CAA Student Selection Guidelines for Primary School Teachers

Student Selection Guidelines

To ensure we are targeting the correct students for this programme, please follow the below guidelines when selecting your students.

Please note:

- The pupils must be nominated by their class teacher.
- They must be able to attend on the specified dates.

Selection Process

Step 1)

- The pupils must currently be in 4th,5th or 6th class.

Step 2)

- Pupil **must** be from Access target group
    - Living in a area of concentrated disadvantage
    - Little or no tradition of educational attainment in family
    - Socio-economically underrepresented at third level
    - Low family income

Step 3)

- Within the cohort detailed in Step 2, choose the two students who scored highest in their class tests or demonstrate exceptional ability in problem solving, quizzes, science experiments or reading.

Appendix 2: Teacher nomination Form for children to attend CAA course

Centre of Academic Advancement (DCU) 2010Autumn Classes Nomination Form

Name of Pupil _____

Class _____

Teacher _____

School _____

School Phone _____

Please highlight choices marking in order of preference

A – Engineering **preference 1 2 3**

B – Forensics **preference 1 2 3**

C – Creative Writing **preference 1 2 3**

Briefly describe your reasons for nominating this child for the programme

Signed (teacher) _____

Date _____

Please return by Friday 5th Novemeber 2010

By mail to:

Kathy Carberry

Access Service

Dublin City University

Dublin 9

By fax to: (recommended reply method)

01 700 8604

Appendix 3: Parental Permission Form

Centre of Academic Advancement 2011

Permission Form

Rules

In order to ensure that everyone enjoys the workshop we ask participants to follow these basic ground rules.

- No participant is allowed to leave the campus without being accompanied by a parent or teacher.
- Participants must follow all instructions given by a member of staff.
- Participants must treat others with respect.
- When asked, each participant must wear **all** protective clothing in the science laboratories and follow **all** safety rules.

PERMISSION SLIP

I/We the parent(s)/guardian of (name of participant)_____ agree that my daughter/son will take part in the Centre of Academic Advancement programme. I/We have read and agree with the ground rules of the workshop and have completed the Health form. I understand that there will be no charge for the programme.

Parents/Guardians Signature: Date:

Telephone Number:

MEDIA PERMISSION SLIP

I the parent/guardian of (name of participant)_____ give consent for any photographs/video footage taken of my child during the Centre of Academic programme to be used in Education websites and published in other promotional material to demonstrate the work of Centre for Talented Youth Ireland and DCU Access service.

Signature of parent/guardian_____

Date: _____

Appendix 4: Health Form

Centre of Academic Advancement Workshop 2010

Health Form

Name of Pupil: _____ Date of Birth: ___/___/___

School: _____

Pupil's Home Address:

_____

Tick as appropriate

1. This pupil has an illness requiring treatment/medication: Yes □ No □

If yes, what is the illness and the treatment required: _____

_____

2. This pupil carries medication for his/her use: Yes □ No □

If yes, what is the medication required: _____

3. Name and address of family doctor: _____

Doctor's telephone number: _____

4. In the event that this student becomes ill, please contact:

Name: _____ Phone: (Day) _____

Please Note

If your child requires the use of inhalers etc please ensure they have these with them at the workshop.

Please return asap to pupil's teacher

Appendix 5: Student Evaluation, Start of Course, Cycle 1

Student Feedback Form

Your Name: _____

Wednesday Class you are doing:_____

Have you been to DCU before? Yes □ No □

If you have been to DCU before, why were you here?

_____

_____

Do you want to go to university when you're older? Yes □ No □

What would you like to study? _____

Do you like going to school? Yes □ No □

Why do you like or not like going to school?_____

_____

_____

If you could study anything you wanted in school, what would you want to study?

_____

Have you done science experiments before in school/at home? Yes □ No □

If you have done science experiments how much did you enjoy doing them?

□ Very much

□ Quite a lot

 Not that much

 Didn't like it at all

What would you like to be when you grow up? _____

Thank You!!

Appendix 6: Student Evaluation, End of Course, Cycle 1

Student Feedback Form

Your Name: _____

Classes you are doing:

What class in school are you? 4th, 5th or 6th class?_____

What have you learnt during the classes?_____

_____

Did you learn new things? Yes □ No □

How interesting do you find the material?

□ Very interesting

□ Quite interesting

□ Not too interesting

□ Very uninteresting

How much are you enjoying the class?

□ Very much

□ Quite a lot

□ Not that much

□ Don't like it at all

What would you like to study next time?

_____

What would you like to be when you grow up? _____

Any other things you would like to say?

_____

_____

Appendix 7: Parent Evaluation, Cycles 1&2

Parent Feedback Form:

Centre for Academic Achievement Courses, DCU

Please fill out the form below if you wish to give feedback on the course. If you prefer to remain anonymous leave your name and your child's name blank. All students will be filling out feedback forms themselves on the last day also. This feedback will be used to improve the classes and is done as part of a research project

Name of Parent _____

Name of child who attends course _____

How much do you think your child enjoyed going to the class?

- Very much
- Quite a lot
- Not that much
- Didn't like it at all

Did your child talk to you after class about what they did during class?

Yes No

If they did talk to you about what happened in class, can you remember any of the things they really liked doing during the class?

_____

_____

_____

_____

Did they mention anything they didn't like about the class?

Yes No

Please give details:

_____

Please Turn Over

How satisfied were you with the way the classes were run?

- Very Satisfied
- Quite Satisfied
- Somewhat Dissatisfied
- Very Dissatisfied

Please give details:

Which subject(s) would you like to see us run on the course in the future?

How much educational value was there in your child attending the course?

- Very Much
- Quite a lot
- Not a lot
- Don't know

Please explain:

Do you think there was any personal or social benefits for your child in attending this course?

Any other comments from you?

_____

_____

_____

Many Thanks! Please give me a phone on Tel: 01 7008977 or email me at:

eleanor.cooke@dcu.ie if you wish to ask me anything. Eleanor

Appendix 8: Teacher Evaluation, Cycle 1

Teacher Feedback Form, Centre for Academic Achievement

Name of Teacher/Principal: _____

School Name: _____

School Address: _____

_____

Number of students who have attended the CAA classes over the past year: _____

How satisfied were the students with the classes? □ Very Satisfied

□ Quite Satisfied

□ Somewhat Dissatisfied

□ Very Dissatisfied

How beneficial is it for students to attend these classes? □ Very Beneficial

□ Quite Beneficial

□ Not Beneficial

Have you noticed any positive effects from students from attending the classes?

Yes □ No □

Please give details:

_____

_____

_____

How necessary is it for these courses to continue?

_____

_____

_____

Any other comments from you?

_____

_____

_____

_____

Any comments/quotes from your students who have attended courses:

_____

_____

_____

_____

Appendix 9: Teacher Evaluation, Cycle 2

Centre for Academic Achievement

Course Evaluation: March Course

Please Circle your answer in each case.

Name of Teacher/Principal: _____

School Name: _____ School Address:

_____

How many students did you sent on the March 2009 programme from your school? _____

1. The following are statements about the Centre for Academic Achievement programme in March 2009 and its effects on the students that took part in that programme. Please indicate using the 1-5 scale whether each of the statements below represent an accurate statement about the students experience of the programme (that you have observed/that they have told you about). Please circle your answer.

The courses that were offered appealed to the students.	Strongly Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
The students enjoyed the courses they took.	Strongly Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
The students came back to class with a greater interest in science	Strongly Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
After attending the course the students came back to class with more confidence.	Strongly Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
The students were more interested in learning when they came back to the class.	Strongly Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
The students asked more questions in the classroom after they finished the course.	Strongly Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree

2. In your opinion how beneficial is it for students to attend these classes?

Very Beneficial	Quite Beneficial	Indifferent	Not very Beneficial	Not Beneficial

3. In your opinion how necessary is it for students to attend these classes?

Very Necessary	Quite Necessary	Indifferent	Not very Necessary	Not Necessary

4. Have you any comments on the course you would like to make? (please write overleaf if you need more space)

Thank you for taking the time to complete this questionnaire. Please return with your forms for the May programme.

Appendix 10: Student Evaluation, Start of Course, Cycle 2

Student Feedback Form- First Day

Your Name: _____

Wednesday Class you are doing:_____

Have you been to DCU before? Yes □ No □

If you have been to DCU before, why were you here?

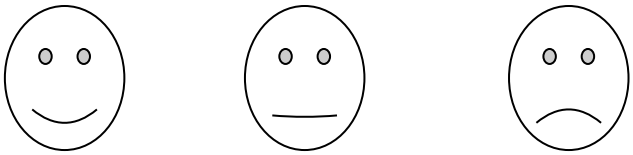
_____

Do you want to go to university when you're older? Yes □ No □

If you do want to go, what would you like to study?

_____

Do you like going to school?



□ Very much □ It's ok □ Not that much

Why?_____

Have you done science experiments before in school? Yes □ No □

Have you done science experiments before at home? Yes □ No □

If you have done science experiments how much did you enjoy doing them?

□ Very much □ It was ok □ Not that much □ Don't know

What would you like to be when you grow up? _____

Thank You!!

Appendix 11: Student Evaluation, End of Course, Cycle 2

Student Feedback Form

Your Name: _____

Classes you are doing:

What class in school are you? 4th, 5th or 6th class?_____

What have you learnt during the classes this week?

_____

_____

Did you learn new things? Yes □ No □

How interesting do you find the material? □ Very interesting

□ Quite interesting

□ Not too interesting

□ Very uninteresting

How much are you enjoying the class? □ Very much

□ Quite a lot

□ Not that much

□ Don't like it at all

What would you like to study next time?

_____

What would you like to be when you grow up? _____

Any other things you would like to say?

_____

_____

Thank You!!

Appendix 12: Teacher Evaluation of In-Service Teacher Training workshop

Centre for Academic Achievement Course Evaluation 2011-12

Name of Teacher _____

School Name: _____ School Address:

_____

1. Last year I did an inservice teacher training session in science experiments at your school. Some of the experiments that I demonstrated included 'alien eggs', 'musical straws' 'slime' 'kinetic energy using baseball/tennis ball' 'lava lamps' and more!

   If you remember this, can you comment on the below statements:

The science experiments demonstrated were interesting & beneficial to you.	Strongly Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
The presentation of these experiments was interesting	Strongly Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
Did you try any of the science experiments shown with your students?	Yes	No			
If yes, can you remember which experiments you carried out with you students?					

If you did carry out this experiments with the students did they enjoy them?	Strongly Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree

2. Some Students for your school have been attending academic courses on Wednesday in DCU. If you sent some of your students in your class: In your opinion how beneficial was it for students to attend these classes?

Very Beneficial	Quite Beneficial	Indifferent	Not very Beneficial	Not Beneficial

34. Have you any comments on the science inservice teacher training day or the Wednesday afterschool academic courses in DCU you would like to make? ((please write overleaf if you need more space)

Thank you for taking the time to complete this questionnaire. Please return your forms via fax: 01 7005693 or post to Eleanor Cooke, CTYI, Dublin City University, Dublin 9.

Appendix 13: Student Interview questions, Cycle 2

Student Interview Questions (in the presence of their parent)

Did you enjoy coming to the classes?

Did you learn anything new?

Do you like school?

Do you do much science in school?

Did you do any of the experiments in the follow-up pack? If so, did you enjoy them?

What subject would you like to study on the Wednesday course?

Would you like us to do anything different?

Anything else you'd like to tell me about coming on the CAA course?

Appendix 14: Transcribed Student Interview Child 1

Interview Title : Interview Child1

Recorded by : Eleanor Cooke

Location : DCU

Filename : DPM069

Interviewer : Eleanor Cooke

Respondents: Child 1 Mark, Parent 1,

(I) Now, are you enjoying coming to the class?

(C1) Yes

(I) What subject are you doing?

(C1) Oh gross

(I) Have you ever, why did you pick medicine?

(C1) I didn't, I was just given it

(I) Oh, oh dear!

(P1) It was your second choice wasn't it?

(C1) What?

(P1) It was your second choice wasn't it?

P1)not able to make out

(C1)

(I) But you're still enjoying medicine?

(C1) Yeah

(I) Excellent, and have you learnt anything new?

(C1) Yeah

(I)Any examples, what was your favourite thing you've done in class?

(C1) The heart

(I) urghhh, what did you get to do with that?

(C1) what?

(I) Did she bring in a heart?

(C1) Yeah

(I) Did you like all the blood & gore then?

(C1) [pulls a funny face]

(I) Ah let me see, do you do much science in school?

(C1) eh, sometimes, we don't have a science book so

(I) Ok, just the teacher would do a few experiments with you?

(C1) yeah

(I) do you know what type, what was it like magnets and electricity or what, any idea what you've done in the past?

(C1) em, we did some magnets

(I) Ok and did you enjoy it?

(C1) Yeah

(I) I never like magnets [laughter], do you like going to school?

(C1) what

(I) do you like going to school?

(C1) yeah

(I) that's good I liked going to school when I was young too, only a few more questions em, did you try any of the experiments in the follow-up pack at all?

(C1) in what?

(I) in the pack, did we give you like some science experiments to bring home with you?

(C1) no

(I) I'll make sure you get one then, so we've got a few, maybe you were missing that week so we'll give you , it's like a pack with fun easy experiments, so I will get that to

you later on this afternoon, especially as you're being so good and answering questions for me, em, what subjects would you like to study on the Wednesdays if you could study anything

(C1) don't know

(I) what would you like to be when you grow up, have you any ideas?

(C1) a guard

(I) we don't do any studies unfortunately for that but, but that's grand, ah, would you like us to change anything or do anything different?

(C1) No

(I) do you think we do everything ok?

(C1) yeah

(P1) he is enjoying it and he's definitely bringing out information like, you know they did the respiratory

(I) Ok

(P1) and asthma, and would tell the teacher about himself so he was learning a bit about, and he enjoyed the lungs and the function and the flowing into the thing, that was all good wasn't it

(C1) yeah

(P1) and the stethoscopes, listening to the heart and lung functions, so he did, he came out with a lot of information to me so

(I) ok , yeah, it's hard when somebody asks you on the spot for things

(P1) yeah

(I) … anything else you'd like to share with me about the Wednesday classes is it worthwhile?

(C1) yeah

(I) would you like to come again?

[(C1) {shakes his head to indicate yes]

(I) excellent young man, I think that's everything I have to ask, so I think your mum has found it interesting and think you've enjoyed John haven't you? It's not John, it's Mark, I keep calling you, cos I heard your friend's name John, I think Mark you seem to have enjoyed it anyway?

(P1) yeah

(C1) yeah

(I) excellent, that’s all I had to ask you, you know you’ve shown you don’t need anything changed which is fantastic, Mark, so you can go to class.

Appendix 15: Transcribed Student Interview Child 2

Interview Child 2 (Georgia)

(I) Now this is Georgia, did you, are you enjoying the classes?

(C2) Yeah

(I)what subject are you studying?

(C2) astronomy

(I) have you learnt anything new or

(C2) yeah, I've learnt lots about Mars

(I) oh, I like Mars, I don't think I'd ever want to live there, would you?

(C2) No, [laughter]

(I) have you done any practical experiments, might be hard in astronomy?

(C2) em

(I) do you think, or has anything being, or what was your favourite part so far?

(C2) em

(P2) the lava lamp thing

(C2) yeah I loved the lava lamp

(I) Oh you got to make the lava lamp?

(C2) yeah

(I) oh they're class, and did you make you make that in class?

(C2) em I made it with my friends when they came over to my house

(I) Oh yeah, so that brings me on to another point, you tried the, this is some of the follow-up science experiments

(P2) yeah that's in the pack yeah

(I) aye, was that useful? That was a new thing you see this term so do you think was it useful?

(C2) yeah it was fun

(P2) yeah it was great fun, it was a bit of fun for her

(C2) yeah

(I) excellent, was that your favourite one, did you try any of the other ones?

(C2) eh, I didn't get a chance to try all the other ones in the pack

(I) ok

(C2) it looks really good

(I) Yeah, the alien eggs are a personal favourite of mine so if you get the chance, you can try an alien egg one so I'm glad you enjoyed the lava lamp, that's brilliant, eh let me see do you do much science in school at all?

(C2) em, we actually did science today about listening and we had to use blindfolds and see who was making noises

(I) oh that was bats then isn't it I think

(C2) yeah

(I) and that sounded quite fun was it?

(C2) yeah

(I) excellent, so do you like school then?

(C2) eh, yeah

(I) I liked school when I was young as well, when I was young [laughter]

(P2) this is great, the handbook's very good

(I) now a few more things, what did you think what subjects you'd like to study on Wednesdays what you think you'd like to do that we're not offering?

(C2) em,

(I)anything you think, or what you want to be when you're older?

(C2)maybe a musician or an astronomer maybe

(I) oh ok so at least your studying

(P2) she likes to trys to play the piano

(I) oh excellent I played the piano for a while but didn't practice enough I regret it, so keep practicing anyway, so there's nothing in particular you think you'd like us to run? Cos you're enjoying astronomy anyway

(C2) not really I hadn't really thought about that

(I) don't you worry, that's my job to think of new courses anyway, eh would you like us to do anything different or change anything?

(C2) em, no not really

(I) you can tell me the truth now, you'll still get back [laughter]

(P2) no, she looks forward every Wednesday to class, she looks forward to it

(I) ok

(P2) it's great

(I) excellent, and I think the classes are fun anyway

(C2) yeah

(I) are you tired after school or is it about the right length of time

(C2) I think it's a good length of time and our teacher [primary school teacher] usually gives us, and my friend who comes as well, she gives us less homework on Wednesdays so we don't have to stay up

(P2)[can't make out]

(I) that's a very thoughtful teacher

(C2) yeah

(I) what school are you in?

(C2) our lady of constellation

(I) oh very impressed I'm telling you, eh anything else you'd like to tell me about the classes or anything at all you'd like to share, this is your chance

(C2) em [laughter]

(I) if your dad has anything he wants to, is there anything, do you think?

(P2) I actually think they're brilliant, they're very very very well run, I was talking to Colm,

(I) Ok

(P2) very well run, and there is enough depth in the subject for her

(I) right

(P2) I think they're very well run yeah I think it would be great looking for a field trip but I think a field trip would be awkward to organise wouldn't it?

(I) see that's the thing, astronomy's at night isn't it, so

(P2) then you're looking for some sort of, some sort of, astronomical happenings, like

(I) yeah, supposedly the aurora borealis if you're in the north of Ireland

(P2) yeah

(I) are happening tonight, I haven't even seen a shooting star yet

(P2) oh you're from the north, well

(I) yeah from Belfast so, that's good that you enjoyed it

(C2) yeah

(I) and you think you'd come again if you could?

(C2) yeah

(I) excellent

(P2) and she was actually delighted when I showed Georgia the letter I received and she was ah skipping round the place

(I) happy days, I think I love, is it different to school do you think the way we teach or?

(C2) yeah, sort of as we're allowed to talk but we don't really talk cos we don't know each other so

(P2) I think I'm very lucky

(I) ok

(P2) Georgia, is, Georgia is way ahead now, she's well up in her class

(I) you should be proud that's a good thing

(P2) so I'm very lucky you know

(I) Georgia, I will let you get to class

Appendix 16: Transcribed Student Interview Child 3

Interview Title : Interview Child 3 (Eimear)

Recorded by : Eleanor Cooke

Location : Dublin

Filename : DPM070

Dictation Length : 00:02:07

Recorded : 16:07:04 – 09/03/2011

Interviewer : Eleanor Cooke

Respondent : Eimear

(I) Ok, now young lady, what's your name?

(R) Eimear.

(I) Eimear? Great stuff. And Eimear, what subject are you studying on Wednesday?

(R) Astronomy.

(I) Astronomy, and are you enjoying it?

(C1) Yep.

(I) Excellent, why, why do you like it?

(R) Cause of the planets.

(I) The planets, did you like the planets before you came?

(R) Yep.

(I) Excellent. And tell me, do you like science in general, or is this, have you done a lot of science in school?

(R) I like science in general.

(I) Ooh excellent. Have you done it in school, experiments before or anything?

(C1) No.

(I) No? No experiments. Well hopefully then you're enjoying it here. And, do you like school?

(R) Mm hmm (Indicates yes)

(I) Excellent. I liked school when I was young as well. And, do you think have you, you've learned new things in the class then?

(R) Yep.

(I) Excellent Eimear. Now, did you, I'm not sure, did you get the follow-up pack? Did you bring home the follow-up pack?

(C1) Yep.

(I) Did you get to try it out or anything?

(C1) Emmm… I read it a lot and…

(I) Oh good stuff.

(C1) …..it was really good.

(I) You think it sounds really good, so you might, you might try, you think you're going to try some of the experiments when you get a chance?

(R) Yep.

(I) Excellent, good stuff. Now, what subject would you like to study on Wednesdays if you got the chance? If you could study anything you wanted?

(R) Probably marine biology.

(I) Marine biology? Excellent. Do you like fish and whales and the sea?

(R) Yep.

(I) I'm not sure about seaweed though, seaweed's a bit gross. (Laughs) And, em, would you like us to do anything different or to change anything?

(C1) No.

(I) Nothing at all? Cause you're allowed to tell the truth. You won't get in trouble. (Parent laughs)

(R) No.

(I) That's grand. And is there anything else you'd like to tell me about coming – on the classes?

(C1) It was really fun.

(I) It's really fun. Did you make any friends or anything?

(R) Kind of.

(Parent) Kind of. Tell the truth …. (inaudible)

(C1) Yep. Not many

(I) Not many, that's ok, you can say that, cause maybe we could do more group activities in the future.

(C!) Yep.

(I) Yeah? To try, to try to, you can chat to more people during like, the breaks and to try get you involved more in groups in the class?

(R) Yep.

(I) Excellent. Does, do you want to add anything, or……

(Parent) No, just that everything (inaudible) …… really enjoyed it.

Excellent, thank you very much.

(I) Thank you so much for your time, that was, it was, hopefully that wasn't too…

End

Appendix 17: Sample of Transcribed Student Interview 4, Child 4 & 5

Interview Title : Interview Child 4 & **Child 5**

Recorded by : Eleanor Cooke

Location : DCU

Filename : DPM072

Dictation Length : 00:11:46

Recorded : 17:16:45 – 25/05/2011

Interview 4

Interviewer : Eleanor Cooke

Respondents : Rachel and Anastasia. (R) Indicates it's unclear who responds

(I) Please be working, please be working. Ok, I'm here today, what date is today, it's the 25th of May?

(R) Yeah.

(I) I'm here today with Rachel and Anastasia, two students in the forensics class and they are going to ..... I'm just going to ask them some questions and they can tell me what they think. Ok.

So let me see, Rachel, do you enjoy coming to the class? What do you think?

(Rachel, C4) Yeah, I did enjoy coming to it.

(I) Why? What did you like about it or…….

(Rachel, C4) Well, you get to learn new stuff, and like….

(I) Ok

(Rachel) …..some people already liked, the forensics in the first place and then when they came to the classes… (Inaudible)

(I) Excellent. No it is, it is – see the wee number down there?

(R) Oh.

(I) It is, it's recording. Yeah, so that's excellent and what about yourself Anastasia?

(Anastasia, C5) Mmm, I did, I did, kind of the same thing, but eh, I also, I also liked the vegetables, the finger printing. That'd what I liked the most.

(I) Really?

(Anastasia) That's why I liked it.

(I) Do you have loops or whirls or arches?

(Anastasia) I have a tented arch and a radial loop.

(I) Oh, excellent! And did you want to do, did you, had you heard much about forensics before you came to the class, or why did you pick forensics?

(Anastasia) Emmm…

(I) Do you like all the cop shows on TV or…….

(Anastasia) Yeah. No that was… (inaudible) and I got a bit of forensics… (inaudible).

(I) And what do you want to be when you're older?

(Anastasia) A vet.

(I) A vet? What about yourself Rachel, any ideas yet?

(Rachel) No

(I) That's ok, (laughs) so don't be worrying. Ok, and you, you said, you learn anything new – I think you said Rachel you learned new stuff did you?

(Rachel C4) Yeah, I learned that em, eh, there's different types of … (inaudible) prints.

(I) Ok.

(Rachel) ….and that, impressions, there's different types.

Appendix 18, Sample of Transcribed Student Interview 5, Child 6 & 7

Interview 5

Interviewer : Eleanor Cooke

Respondents : Lauren (C6) and Dara (C7). (R) Indicates it's unclear who responds

(I) Ok. Now…..I am here, with, Lauren and Dara who both did forensics on the, on the Wednesday classes. Today is the twenty fifth of May, am I right?

(R) Yeah

(I) Cool, so I going to just record you, now don't worry, you're not going to be on RTE or anything like that. It's just so that I don't make up what you say. Alright, is that alright?

(R) Fine

(I) Yeah, it's very painless anyway. So, what do think of the forensics class? Are you enjoying it or not? What do think Lauren?

(Lauren, C6) I think it's brilliant. It's like, it's……

(I) Oh cool.

(Lauren, C6) ….it's something new like we didn't, we don't learn this in school or anything but we can learn it here instead.

(I) Brilliant. And have you anything in particular you like, or…..?

(Lauren, C6) Em, I wasn't here on blood spatter analysis, but I was here on the fingerprinting, I loved that.

(I) Excellent. And what about yourself, tell us, Dara.

(Dara, C7) Eh, yeah, I think it's good, like, to ….you don't really have a chance to do this anywhere else.

(I) And what about yourself, what was your favourite class you did or….?

(Dara, C7) Emm, probably the blood spattering.

Appendix 19, Sample of Transcribed Focus Group 1

Focus group with parents March 09: 7 parents

E: This session is just trying to get some feedback and we've got, the students have been filling out forms and so have the teaching staff so we've got a bit of an idea I think already of what's been working and what hasn't been working but we want to hear obviously they tell us some things the students but they might tell you other and you might have ideas of what you think you'd like to see run in the future. So maybe just to start off do you think your child or children enjoyed the course at all?

1: Yes

2: Yes

E: What was there what were they doing or can you remember what they said or what they done they liked best?

1: She loved having to look at the different packs of stars the constellations (academic)

E: She was doing astronomy?

1: Astronomy, yeah. She loves all that anyway so she was chuffed _____ (academic)(unable to make out this section of audio- think it's about how she was picked to come to DCU, as her sister is on our CTYI programme too)

E: Oh did she

1: My oldest daughter came here was on the three week where she stays (family)

E: Ok , yeah

1. _____ (unable to make out) I (daughter) want to go to DCU as well (laughter) (uni link, family)

E: Was that something that everyone found that they

2. Yeah, My daughter mentioned that as well (uni link), but she also really liked they were doing something on the computers (academic)

E: Yeah

2. About Aliens

E. Yeah

2. So she ____ (unable to make out)

1. Yeah she really liked that (enjoyment)

E. I don't know how they can do it I don't think I'd be creative enough, I saw now that really good actually

2. She must have been worrying because she was delighted with the knowledge that the sun isn't going to implode or explode for a few million years (personal, academic)

(Laughter all round)

2. She'd be long gone by the time that happens

(Laughter all round)

E. Glad to hear that

3. Some of the stuff is really practical (academic, design) as well em my son done sport science

E. Ok

3. So it was really practical he's big into sports but it was really practical stuff about your pulse and he could relate to it real easy you know your pulse has to be I can't remember (laughter) shame on me what's a healthy pulse and how high it should be and knowing where to take your pulse and it was just that you know he he had an interest in that so it was very easy for him to relate to it (academic, design)

E. Ok

3. You know that really you know he seemed to enjoy it (enjoyment)

4. A lot yeah (enjoyment)

E. Did anyone do your kids do investigative science

1. No.

2. No my lad wanted to do that but he was disappointed that he couldn't get that (design)

E. I think that's been

Yeah (all round)

E. the feedback that like it's really too interesting that's they all want to do forensics or investigative science

Yeah (all round)

1. Yeah my lad wanted to do that it was his first course choice and Tadhg was the same (design)

4. mine wanted to do [forensics] like an episode csi (design)

2. No mine got her first choice she wanted to do that didn't she really (design)

4. Yeah

E. Most people, unfortunately there was only one teacher so we couldn't put everyone into their first choice

Yeah (all round)

E. Because it would be pretty nightmare trying to get you know 40 50 kids with the one teacher

Yeah (all round)

5. But now he did enjoy it he did the sports one (design)

E. Ok

5. And he did enjoy it now (design)

E. Ok that was a new teacher so we weren't sure

5. Yeah

E. if it was as practical as it should have been

3. No he talked about it every time like I stay here when they were dropped down like and he would relate to exactly everything they done for today like (academic, family)

E. Oh

3. Like they took the coats when they were sitting in here and then they were brought outside (design)

E. Ok

3. And they ran around and brought back you know they took their pulses then and see the difference how much it changed between running around and being you know (academic)

E. Ok

Appendix 20, Sample of Transcribed Parent Focus Group 2

Interview Title : Focus Group Parents 1

Recorded by : Eleanor Cooke

Location :DCU

Filename : DPM071

Dictation Length : 00:14:39

Recorded : 16:50:12 – 09/03/2011

Interviewer : Eleanor Cooke

Respondents : Parent 1, Parent 2, Parent 3, (R) Indicates it's unclear who responds

(I) Good…. Hi, I'm here with three parents on Wednesday the, March 9th just looking for some feedback. Ahm, just wondering if your kids are enjoying coming to the classes and, and why, or…

(P1) Yeah, em….

(I) Yeah?

(P1) My daughter now she loves, loves coming here.

(I) What course is she, what class?

(P1) Medicine.

(I) Medicine, ok. And what about yourselves, what?

(P2) Same, medicine as well, yeah.

(I) Medicine, oh great!

(P1) She just really, I don't know, it's really brought her out. ……. (Inaudible)

(I) Ok, and was it something, was that her first choice?

(P1) Yeah, yeah.

(I) I know a lot of them like computers, but it was, medicine was her first choice.

(P1) Yeah.

(I) And, is it what she thought it was going to be like? I think it's been quite gory? I think they like that!

(P2) Yeah.

(P1) The first, the first week when the had the pig's heart…..

(I) Ok

(P1)…she loved doing that and I'd written that down in the . ……. (Inaudible)

(I) Oh brilliant, yeah!

(P1)….so she loved doing that and how the girls were em, better than the boys. I don't know if you, have you got a boy?

(P2) A girl

(I) Ahhh (laughs), that's ok!

(P1) The girls were better than the boys, they, you know, they, the boys were a lot more squeamish than they were. (laughs)

(I) Ok.

(P1) But eh, oh no, she loved it, loved doing and……

(I) Brilliant. And are you thinking of going on maybe and doing something in medicine in the future do you think, or…….

(P1) Well, originally….

(I) Did they say, yeah…

(P1) ….she wanted to be a marine biologist…

(I) Oh yeah, they all want to do that.

(P1)….so it's still to……

(P2) No, Shauna actually wrote down that she wanted to be a jockey!

(I) Oh did she!

(All laugh)

(R) Completely off the…….

(P3) Mad into her horse-riding.

(P2) She loves her horses

(I) Oh wait till she falls off a few times, she may change her mind! That's what happened me anyway.

But eh, have they been to DCU before or…..

(P2) Just the Summer camps for the sports.

(I) Oh yeah.

(P1) My two have done that a few years and they love it.

(P3) But they were full of questions when they were waiting in the corridor, so the environment is new to them and they can see the mechanisms or how a college is working, you know…..

(I) Brilliant.

(P2) It was really….yeah.

(P3) ….and the, the, the atmosphere of it, for want of a better phrase, where the eh, people are going different directions, and…

(I) Yeah, yeah.

(P3)…..you know just the chaos of a college so it's getting them used to that environment is good for them as well, you know.

(P1) So you'd be grateful for every opportunity, for children, you know in fifth, even fourth, fifth or sixth class….

(I) Yeah.

(P1) ….to actually come, if there was an open day for those children to see, what a college like ...

(Inaudible)

(P2)…the next step after….

(P3) Yeah, I think it takes out the illusion……

(I) That's a good point.

(P3) ….or the mystique from a college maybe, you know.

(I) Some people might think it's scary or……. (Inaudible)

(R) Yeah, yeah.

(I) ….where as there's so many mixed people….

(P2) Exactly

(I) …school students even here today.

(All parents) Yeah.

(I) So, and would they think, do you think, would they be more likely to think of going to DCU?

(P1) Yeah, yeah, I would say so, yeah.

(P2) Absolutely, they wouldn't be afraid of it, I mean, as you say, in the corridors and that like and, even coming up and going through, she has no prob, she's confident walking through

(P3) Very confident yeah

(P2) and comfortable

Appendix 21, Sample of Transcribed Parent Focus Group 3

Focus Group Parents 3

Focus group with 3 parents, Spring 2011

(I)so yeah that should be basically alright, it's just basically trying to improve the programme, yeah that thing's going isn't it just so you don't have to talk to me again, so we're just basically trying to improve the programme so see, so whatever thoughts you can share

(P1)to follow it up I'm saying

(I) yeah, we're definitely hoping to so we'll have a wee talk about what you girls sort of what you I've got some vague questions but if you want to, you can say whatever you want sort of thing

(R) ok

(I) and this is just going to be used by me trying to improve the programme, you know, I sort of doing something called action research which is trying to make changes to the programme to improve it and I'm writing it up about that experience

(R) ok

(I) but your names will never, you'll never hear your names on RTE radio or anything [laughter all round]

(P1) or dcu newsletter [laugher all round]

(I) we'll put it here [moving the Dictaphone] ok, so em are the students, are your kids enjoying coming to the classes

(P2) yeah

(p3) big time

(P1) fantastic, big time yeah

(I)and were they glad like they were sort of, we're trying to get people to be proud of being good sort of academically

(P1) of course you would

(I) do you were they glad to be pleased in the class

(R) yeah

(P3) he was delighted cos he said it was, I think his teacher said it's an honour to be able to do it

(P1 & P2) yeah

(I) oh good stuff

(P3) yeah so he was delighted he was the only one cos he was the only one out of his class

(I) ok cos there's a lot of sports stuff and music

(P1) mmm

(I) so we're just trying to do something different

(P3) yeah

(I) you know so hopefully like they enjoy coming

(P2) yeah, yeah

(P1) It mattered to us, I was honoured, do you know the said? when he brought it home (9.11)

(P2&P3) yeah, yeah

(P1) and being picked once

(I) that's good I think some like I don't think I'd even like I don't have any kids yet I don't know what I do with them if I had [laughter] but I think some parents you don't even realise that your kid might be even you know, really bright compared to other kids so it is nice for parents to realise you know

(P2) yeah, and he's very ___ finished next week

(P3)oh is he?

(P2)mmmm [yes])

(I) and you mentioned there about doing more stuff

(P3) continuing it yeah

(P2) the summer, summer remember you were saying something about the summer

(P3) the summer project

(P1) they're in to it, so you can bring, their brains are dead you know what I mean

(P2 & P3) yeah, yeah

(P1) I'd say throw it at them now

(P3)that's it

(P1) when they're young

(I) but that's what, I think, you think, that's the secret

(R) yeah

(I)to try and get them interested young

(P2) yeah

(P3) the kids yeah cos kids are like sponges aren't they and they just

(P2) Yeah

(P3) it sort of everything

(P3) absorb information when they're young so to get it in when they're young

(P2) It's better yeah

(P3) It kinda of yeah

(P1) It's like Stephen, they have there memory stick,and when he brings it home he's downloading all of Dave's [CAA instructor's] stuff that he's doing

(I) oh brilliant

(P1) they're doing 3D now today

(P2) are they

(P1) yeah I think they're going to do alice in wonderland in 3D

(P2) oh right

(P1) do you know like and I'm saying even the games you know these

(I)ok

(P1) computer games and all, you could go into that

(I) see the good thing is there's jobs in the future in computers in Ireland actually

(P1)yeah that's what I was saying

(I) so that's one area where there is a lot of work, so it's interesting like that, so we are hoping to do a course for everyone in the summer we sent out letters so if you haven't got it yet you'll get it today or next week

(P2) did you send them to the school?

(I) to the parents

(P1&P2) no we didn't get them

(I) so there was a couple of address I was missing so I give them to the teaching assistants today to give to any parents at the end of the class so you might get them then there or the post is a bit slow so we're going to do extra classes in the summer?

(P2) he'd love that, that's what he was saying coming up

(P1)even one day a week you know, I mean,

(P2) yeah

(P1) it's great for them

(1) and do you think is it afterschool that they're not to tired or is it

(P1) no, they're not, the one day they come out, it's like anything else that they're going to, overall its

(P3) I think coming straight from school is fun,

(P2)yeah

(P3) if you had to go home for an hour then have to go back out

(P2) come back yeah yeah

(P3) I think it would ___11.05approx

(P2) better off going straight from school

(P3) straight from school

(I) ok, have you seen any benefits, I know it's only six weeks, of what you think, I know you've mentioned, what of any benefits in particular you'd like to mention?

(P3) my little boy's doing the medicine so it's quite hard to tell other than him telling me to give up smoking [laughter all round]

(P2) yeah

(P3) cos it's bad for your lungs, it's bad for your heart, it's bad for your blood

(P2) he says that yeah

(P3) so other than knocking it about several times a week for me to give up smoking [laughter] which I'm am [laughter]

(I) Ok

Appendix 22, Sample of Transcribed Parent Focus Group 4

Focus Group Parents 4

Recorded by : Eleanor Cooke

Location : DCU

Filename : DPM073

Dictation Length : 00:09:49

Recorded : 15:33:02 – 01/06/2011

Interviewer : Eleanor Cooke

Respondents : Parent 1, Parent 2, Parent 3, Parent 4. (R) Indicates it's unclear who responds

(I) Today is… is it the first of June?

(P3) Yep. (Inaudible) First day of the summer months.

(I) Who would have thought, completely mad and ah, but we're, we're here, first of June so have a fun graduation. So I'm just basically seeing em… if your kids enjoyed the class?

(R) Yeah.

(I) So now, what, what classes were…I know em, Darren was doing the computer……, forensics.

(P1) Forensics, yes.

(I) And ……

(P2) Sarah was doing the…

(I) …was it computer gaming or chemistry?

(P2) Chemistry

(I) Chemistry

(P3) My Sarah was doing chemistry as well.

(I) Excellent, excellent. And do you say did they, they enjoy coming to the classes?

(P1) He loved it, yeah.

(I) Ok, so he thought the course material was like, fun and interesting.

(P1) Very. Em. Great fun, very interesting and em, you know, he was em, full of talk when he came home and couldn't wait to get into school the next day to share the experiments and the knowledge with, with his classmates.

(I) Oh brilliant!

(P1) Absolutely, his teacher even sent home a note in his journal…

(I) Ok.

…to say thanks for sending in the coursework cause you gave him a booklet…

(I) Yeah, yeah.

(P1) …and thanks for sending it in because they had great fun in school with it.

(I) What school was it and I'll get another, I'll get some more stuff sent out.

(P1) Em, eh, Scoil Foraiste….

(I) Ok, Scoil Foraiste,

(P1) ….in Kilmore West.

(I) I think I'll, so I'll send them out more stuff….

(P1) That would be great.

(I) ….so…

(P1) It's Miss Carroll if you wanted to em….

(I) Oh, we'll be on there, so we will.

(I) Yeah, so definitely we'll send more stuff out, so that's grand. And how about the, the chemistry class, how did those guys get on?

(P2) Sarah had great fun doing the chemistry. Couldn't wait to get home to get me to go shops and buy powders and ….

(I) Oh brilliant

(P2)….blu tack and alka seltzer and wanted to make explosions and goo for her sister to play with.

She had a great time, really had a great time.

(I) Oh great.

(P2) Yeah.

(I) And was that the same…..

(P3) Sarah was the same, yeah, and like even she, she used to do powerpoint presentations to bring them into school to, to show them all she had learned like. Yeah, no, like, she loved it.

(I) Oh…

(P3) Like that, yeah, I needed to buy cornflour any …..(inaudible) any of the supermarkets. Every time…(inaudible)

(R) When are you going to the shops?

(R) Yeah…(inaudible) that's what I'd take.

(I) So, so it was, it was hands on enough anyway.

(P2) Ah yeah it was, it was very good.

(P3) And the booklet that they brought home was great….

(P1) That's brilliant, great.

(P2) That was great, yeah.

(P3) ….because it wasn't just then once a week, that they can, they can do it when they feel like it at home.

(P2) That's it, they have all the ingredients there, and they have all the..

(I) Ok…..

(P2) …….booklet so, they can make experiments and explosions and whatever at home when they want.

(I) Ok, so can you remember any of their favourite experiments from the booklet? Did they try any, can you remember?

(P2) Sarah liked the, I think it was, blu tack and alka seltzer, and it made a big tschoooo..

(I) Yeah, yeah…

(P2) ….and then there was em, goo, making some sort of goo….

(P3) Yeah…

(P2) ….and it was slimy and then it'd go hard or something ….

(P3) Yeah…..

(P2) …..and then it'd go slimy again if you touched it.

(I) Yeah, it's gross that cornflour slime.

(P4) (Inaudible)

(P1) Darren was eh. Funny enough, Darren had a forensics kit at home…

(I) Ok……

(P1) …so he, when the, the time when they took the fingerprints he came home and took all our fingerprints and em, stuff like that and em, there was I, I, I, I would have imagined it was something to do with chemistry but, but..

(I) Yeah..

Appendix 23, Sample of Personal Benefits

'Calvin looked forward to these classes every week and gave him more confidence and made him want to learn more' *(P.S.40)*

'Built her confidence around new students and new surroundings' (P.S.41)

'She gained a lot more confidence in herself' (P.S.49)

'She is very interested and excited to let us know how well she is getting on in the class' (P.S.51)

'Anike was very happy to attend each day & I also think she benefited in confidence & self-esteem'*(P.S.52)*

'She feels quite special having been chosen for the course' (P.S.52)

'She really liked the lungs it really turned her off smoking for when she older, I like that' (P.S 56)

'Overall Shauna has enjoyed attending DCU and brought out her confidence a lot more' (P.S.59)

'Kerri seems more confident with herself after attending the classes' (P.S.60)

'I think it gave her a great boost of her self-esteem & she joined the Order of Malta on the same day as she started in DCU' *(P.S.66)*

'I think it was a very positive experience for April & she very much enjoyed the course, and will miss going to classes on Wednesdays' (P.S.66)

'He has gone from been "nervous" the first week at attending to now being excited' (P.S. 76)

'Too often time in school spent dealing with weak pupils and behaviour issues. These [gifted] pupils can often fall into a comfort zone and these courses show them that there are others as able or more able than them' (T.S.23)

'Parents were absolutely delighted that they had received this opportunity' (T.S.29)

'The children that are involved have a quiet air of confidence about them in realtions to science' *(T.S.34)*

'The parents were delighted that their chidren were chosen to take part in the course. ***It raised their sons' self-esteem. It made them feel important and put a value on their academic achievement****.' (T.S. 42)*

'I think the afterschool is a great idea. Any opportunity for the children to further develop academically is always welcome. ***It is a great boost of confidence for those chosen.*** *Often the topics are ones that would not be covered in class so it is great for them learn about things they wouldn't be exposed to otherwise' (T.S. 52)*

(P1) She just really, I don't know, it's really brought her out. (FP2)

(P1)….so she loved doing that [dissecting pigs heart] and how the girls were em, better than the boys. (FP2)

– in response to question: do you think, would they be more likely to think of going to DCU?:

(P2) Absolutely, they wouldn't be afraid of it, I mean, as you say, in the corridors and that like and, even coming up and going through, she has no prob, she's confident walking through

(P3) Very confident yeah

(P2) and comfortable

(P1) Yeah, Yeah (FP2)

(P2) Yeah, It's a really good boost for them like (FP2) [being on uni campus]

(P2)**Well my daughter she actually joined then after the first day she joined the Order of Malta that was down the road from us, I didn't even know it was there like**

(I) I don't believe you

Appendix 24, Sample of Social Benefits

Social Benefits

'meeting new people is always a good thing' (P.S.35)

'the social aspect of meeting other children with the same interests!' (P.S.36)

'making new friends'(P.S. 38)

'meeting new children from other schools'(P.S.42) – can mention making new friends under the theme important links fostered between school, family ,community, uni

'He has learnt to mix with other children.' (P.S.46)

'meeting new friends and doing what he likes to do most' (P.S.48)

'Attending the course for Jodie meant mixing with other kids and doing something totally different' (P.S. 53)

'She made new friends' (P.S.54)

'meeting different people' (P.S.57)

'mixing with other children' (P.S.58)

'attending a mixed class' (P.S.59)

'I think Kerri learned to interact with others in a classroom outside of her school class room.' (P.S.60)

'she met new friends' (P.S.65)

'a big laugh with new friends' (P.S.75)

'an opportunity to mix with other children with similar interests to hers' (P.S.79)

'she made friends' (P.S.82)

'he got to make friends' (P.S.85)

'meeting different kids' (P.S.88)

Appendix 25, Sample of Academic Benefits

Academic Benefits

'He knew the rights and wrongs on medical health, "smoking" he could answer on this subject'(P.S. 34)

'has helped Ava in her computer skills' (P.S.35)

***'Leah already had fun using her computer, but this has added to that, as she wants to explore more and has taken a lot on board from the course'** (P.S. 36)*

'He liked playing around with scratch, and learning about him' (P.S. 37)

'He didn't like the fact, that he was doing the same thing [computers] every week' (P.S. 37)

'He learned a lot about using the computer, how to draw, how to colour and make cartoons.' (P.S.37)

'learning how the body works and about medical conditions' (P.S.38)

'examining and learning all about the pigs heart' (P.S.40)

*'**made him want to learn more'** (P.S.40)*

'she learned a lot more about computer skills' (P.S.41)

'poking his fingers into a real heart, the interactive mannequin as you could make him die or be sick' (P.S. 42)

*'learning in more detail how the body works **giving a chance to learn something that he probably would not have ordinarily picked himself'** (P.S.42)*

***'Alannah always came home wanting to do experiments and had interest when watch the TV (National Geographic Station)'** (P.S.43)*

'He loved the computer class, he loved finding out new things on the PC and making his own cartoons' (P.S.45)

'Different parts of the body they learnt about and how they work. Getting to hold a heart in his hand' (P.S.46)

'She learn a lot and she love it so hope in near future she learn more' (P.S.47)

'Was delighted to download all he done and use it when he got home' (P.S.48

'he was always into computers and would like to further his schooling with them'(P.S.48)

Appendix 26, Sample of Programme Management & Design

Programme Management & Design

'when he need[ed] help the teachers would always try to help' P.S. 35

'I'm sure she will attend any further classes in the future' (P.S. 35)

'Keep up the good work!' (P.S.37)

'I was satisfied but if a bus could collect the children and return them it would be handy for parents like myself who don't drive they could be picked up and dropped back to the school for a small price' (P.S.38)

'well organised' (P.S. 39)

'The staff are very friendly and patient with the children and the children get very involved with the class' (P.S.40)

***'the length of time was just right, any shorter would not have been enough time but any longer the children would probably loose interest in that class and become a bit giddy or maybe bored'** (P.S.42) – mention re how changed implemented in second cycle were effective!*

'My son was thrilled with his course and I think the 3 choices were great' (P.S.45)

***'The hours were perfect and I was never kept waiting when the class ended '(P.S.45)** – mention re how changed implemented in second cycle were effective!*

'You get to bring your child to their room and collect them too. So I feel that my son is in a safe environment' (P.S. 46)

***'more of these classes'** (P.S.47)*

'Gave me a break' (P.S.47) –refers to giving the parent a break from minding their child while at class.

'Stephen would be interested in continuing this course in summer' (P.S.48)

'Very satisfied as my son was not left on his own as is quite a daunting place for them when they are small' (P.S.50)

'Anike particularly liked the tutor-she said she made it fun' (P.S.52)

'I was impressed with the personal attention & care given by tutor-handover' (P.S.52)

Appendix 27, Sample of Link to University

Link to University & future career

'maybe giving an idea of future career' (P.S.38)

'my son now wishes be becomes a doctor. He is now more interested in further education and can't wait to learn' (P.S.40)

'It wasn't only the opportunity to learn animated applications, it will encourage her to think about attending third level education.' (P.S.44)

'My son got to see what a 3rd level college is like and to see it on a normal daily routine and be part of it once a week' (P.S.45)

'He wants to do something like this as a career so he is getting a feel for it' (P.S.46)

'I think a tour of the campus would be useful – she was completely unaware of the sports & library facilities in DCU, maybe a visit to the park in the summer course, **I would like her to aspire to going to college'** (P.S.52)

'He was fascinated with the size of DCU. It looks bigger from the inside than the outside so he go to experience that' (P.S.63)

***'I am hopeful that it will encourage him to attend college when his time comes'** (P.S.63)*

'I think it is great for the children to go to a third level facility and study there even if only for a short time to help in their future on the transition from second level to third level' (P.S.67)

***'Seeing the college. It's very much a case of "when I go to college" as opposed to "if I go to college**" ' (P.S.69)*

'Attending the course in D.C.U. I hope will inspire her to go onto college in the future' (P.S.73)

'maybe Rachel would like that kind of a job in the future' (P.S.78)

'It has given her great insight into 3rd level education. She now knows how interesting and rewarding it can be' (P.S.81)

'it sets the child's mind up for a different kind of education and what is available further down the road for them'

'giving them a basic idea what student classes are like' (P.S.88)

Appendix 28, Sample of Link to School

Link to School

'he has brought his homework to school to show the children' (P.S.46)

Follow-up pack: 'He brought it to school, to show this teachers and class' (P.S.46)

'going back to his school and showing his class what he has been doing' (P.S.50)

Follow-up pack: 'Yes, the boys in his school had a field day' (P.S.50)

'She was apprehensive about giving the presentations to her own class in school' (P.S.52).

'I love the idea of the lava lamp & Kerri wants to try some of the experiments in the crèche she attends' (P.S.60)

'April tried a few of the experiments & brought the pack into school for her teacher to try' *(P.S.66)*

'Brought the pack into school where the teacher photocopied it to do the experiments with the rest of class' (P.S. 73)

'Darren enjoyed brining the experiment book into school and sharing what he had learned with his classmates' (P.S.74)

'It encouraged her love of science & re-affirmed to her that it's a subject she would like to do in secondary school' *(P.S.79)*

'The 2 pupils were delighted to tell the class some of the information they learned and it linked in with the curriculum*.' (T.S.24)*

'Both were enthusiastic to convey what they learned every Thursday morning' (T.S.28)

'The child enjoyed it and talked about it a lot after she came back. Anastasia thoroughly enjoyed this course' (T.S.32)

'Fostered the pupil's natural interest in the science topic. She was interested in telling me about what she was learning. The course helped her to expand her knowledge and experience in the sciences, an opportunity which she might not have in a whole class setting. A very worthwhile experience for her' (T.S.40)

(P2) Oh no the teachers, well her teacher had her up talking anytime the next day like.. every day afterwards and she's say what she learnt in it (FP2)

(P1) cos I'm downloading, we're downloading Dave's stuff at home you know what I mean [laughter].. he can bring it all up all that he does

Appendix 29, Sample of Family Involvement

Family Involvement

Follow-up pack: **'Gives us a few projects to do during the holiday time'** (P.S.42)

Follow-up pack :'Good little home experiments' (P.S.44)

'Gave me a break' *(P.S.47) –refers to giving the parent a break from minding their child while at class.*

'Overall I think this was really beneficial to my daughter and myself, she was able to tell me a few things' (P.S.49)

'he knows a bit about computers that I [parent] taught him but I wouldn't know where to start on the animation sisde of anything' (P.S.50)

'the course covered a wide range of topics of which I would not have known about. When the lungs were been done ***she could tell her brother about it as he was learning it for 2nd year science'*** *(P.S.66)*

'Dean loved the lava lamp experiment and showed myself and did one for his little sister' (P.S.77)

'*He went shopping with me to buy cornflour and food colouring to make some eubilay [oobleck slime] at home' (P.S.80)*

'She is trying to do experiments with sister at home from book plus her sister is in first year and also found this book helpful' (P.S.82)

'We did every experiment' (P.S.84)

'Parents were absolutely delighted that they had received this opportunity' (T.S.29)

The parents were delighted that their children were chosen to take part in the coure' (T.S.42)

(P2) It's really good. When they were doing about the lungs and that, my son he's in second year , and em, he was doing that in science and she could tell him those different things about the lungs anyway so

(I) Oh very good

(P2) He wasn't too impressed (FP2)

Appendix 30, Sample of Disadvantaged Factors

'Excellent opportunity for pupils who would not otherwise get such a great chance' (T.S.33)

'We are very grateful to DCU for the opportunities afforded to our pupils who ordinarily would not be in a position to avail of this experience' (T.S. 43)

'I personally feel that these courses greatly benefit the more disadvantaged of our students i.e. those who are very severely disadvantaged. It has opened up a possibility for them – children & parents who have never crossed the threshold of a university now see that going to university is an option and something towards which they can set their sights, thank you for affording them this option' (T.S. 44)

(P1) you'd have to bribe me once to get me down here you know that [laughter all round][she's talking about how she wouldn't have been coming herself if she was younger] (FP3)

P1) free membership when they're bigger [laughter all round] you know it's going to cost a few grand to put them in here (FP3)

C6) As fun as……better than just hanging around a road where there's nobody else, so it's better than… sitting here and doing nothing.(I5)

Appendix 31, Sample of Enjoyment

'Leah really enjoyed downloading scratch, and has had a lot of fun with it' (P.S. 36)

'Alannah had a great time every week' (P.S.43)

'It was great fun for my daughter although it was educational as well' (P.S.58)

'Overall Shauna has enjoyed attending DCU and brought out her confidence a lot more' (P.S.59)

'She loves the medical class she is doing' (P.S.60)

'Shona enjoyed doing the science at home' (P.S.61)

***'It's a fun pack and if learning is fun it's easier to remember'** (P.S.63)*

'Sean really enjoyed it' (P.S.63)

***'She was excited about this course from beginning to end. Her curiosity for the enxt class was very high which is really appreciated (the efforts of theacers & organisers).** (P.S.64)*

Follow-up pack: '*It was brilliant. It increased the enthusiasm in my child' (P.S.64)*

'I think it was a very positive experience for April & she very much enjoyed the course, and will miss going to classes on Wednesdays' (P.S.66)

'*Tegan really enjoyed it' (P.S.67)*

'Eimear really enjoyed the course' (P.S.69)

'Laura is enjoying it very much and has nothing bad to report' (P.S.70)

The course is great for Laura's development as she enjoys learning new things' (P.S.70)

'They liked making computer games and they said a sprite is a character' (P.S.72)

'Teaching staff were friendly. Learned chemistry in a really fun way' P.S.73)

'James finds it very interesting and enjoyable' (P.S.76)

'He has gone from been "nervous" the first week at attending to now being excited' (P.S. 76)

'He really enjoyed himself' (P.S.80)

'He enjoyed everything about the course' (P.S.80)

'Cerys talks nonstop abot everything she's done' (P.S.81)

Appendix 32, Sample of Gratitude

'Thanks for taking the time to help teach my daughter Ava.' (P.S. 35)

'Just a thank you for giving my son Sean the chance to do his animation course!' (P.S. 45)

'I would like to say thank you! For giving my child this opportunity' (P.S.46)

'I would like to thank you for allowing Jasmine to participate' (P.S.42)

'Thank you to you all' (P.S.60)

'Would like to thank you very much for this opportunity' (P.S.63)

'Thank you so much' (P.S.63)

'I would like to thank you all who organised this programme to encourage & children well. Thank you all the teaching faculty and sponsors' (P.S 64)

'Thank you for the opportunity' (P.S.67)

'Thank you' (P.S.69)

'Very happy that Laura was given the opportunity to attend the course. Many thanks' (P.S.70)

'Because when I ask my child about the course she like it so I happy' (P.S.72)

'thank you for a job well done' (P.S. 76

'thanks to all the staff- a very worthwhile programme' (P.S.79)

'Just like to say thank you very much' (P.S.80)

'Thank you for giving my child the opportunity to make friends and do something he likes'(P.S.85)

'Delighted to be included in your programme' (T.S.34)

'Many thanks' (T.S.34)

'many thanks' (T.S.35)

'The three students in my class thoroughly enjoyed their courses. Thank you' (T.S. 39)

Appendix 33, Parent Informed Consent & Plain Language Statement

DEAR PARENT,

Your child is currently attending a course at the Centre for Academic Achievement (CAA). I would like to invite you and/or your child to participate in a research study that is being carried out to improve the programme and to monitor the effects of attending the programme on the students involved. This study is being carried out by Eleanor Cooke, the coordinator of the CAA programme, as part of a taught doctorate programme under the supervision of Dr Joe O'Hara of the School of Education Studies at Dublin City University.

The research study will involve completion of a questionnaire by both parents and students if possible. Parents are also being asked to volunteer to attend a focus group or let you child be interviewed by the researcher in your presence (further details to follow) both of which will be recorded on tape recorder. The questionnaire should take about 10 minutes to complete and the follow-up focus group or interview if you volunteer for this additional stage should take a further 15 minutes. Please take time to read and answer the questions below. If you have any concerns or questions in relation to the research please contact Eleanor Cooke at (01)-7008977.

Participant – please complete the following (Circle Yes or No for each question)	
Have you read or had read to you the Plain Language Statement for Parents?	*Yes/No*
Do you understand the information provided?	*Yes/No*
Have you had an opportunity to ask questions and discuss this study if you wished?	*Yes/No*
If you did ask questions, did you received satisfactory answers to all your questions?	*Yes/No*
Are you aware that if selected your follow-up interview will be audiotaped?	*Yes/No*

All information provided to the researcher will be treated in confidence and no names will be used in the published research. The information gathered will be stored in the offices of CTYI at Dublin City University and only the researcher will have access to this information. Any participants may withdraw from the study at any stage and there will be no penalty for withdrawing from the project before all stages have been completed.

I have read and understood the information in this form and therefore, I consent to take part in this research project

Participant's Signature: _____

Name in Block Capitals:_____

Witness: _____ **Date:** _

Plain Language Statement

This study is part of a thesis, being carried out by Eleanor Cooke, as part of a doctorate programme being undertaken Dublin City University under the supervision of Dr. Joe O'Hara. This research will be carried out on the Centre for Academic Achievement (CAA) programme, based in DCU, a programme that Eleanor Cooke manages. In a pilot study already carried out in 2009/10 it was suggested the certain changes could be made to the CAA programme to improve it. The aim of this research is to put these changes into effect on the courses that are taking place now and to then monitor the effects of these changes to see if they have indeed made a positive difference to the course and have been beneficial to the students taking part. Changes that will be made include: having more classes than normal; running teacher training days for the schools involved in the programme; providing packs for parents with fun experiments that the students can do at home.

It is hoped that many parents, students, and teachers involved in the programme will agree to help out with this research in order to improve the programme and to benefit the students who take part in the courses at this centre. This can be done by filling out surveys that will be sent out to all participants, or volunteering to attend a focus group or be interviewed, in order to get as many opinions of the people involved as possible. If you are interested in volunteering to participate with the research, you don't need to do anything now: more information will be posted out to you with directions on how to get involved. Of course if you're not interested in being involved with the research this will not affect your child's place on the programme in any way. If you do decide to take part in the research in some way you can opt out at anytime, with again it not affecting your child's place on the CAA programme.

All information that is gathered as part of this study will be treated as highly confidential, and no names will be used in any form of the published research. All the research data gathered will be locked securely in an office at DCU at all times and only the research will have access to this information.

Please feel free to contact me at any time for further information. I can be reached at tel: 01 7008977 or email: eleanor.cooke@dcu.ie

If you have concerns about this study and wish to contact an independent person, please contact:

The Secretary, Dublin City University Research Ethics Committee, c/o Office of the Vice-President for Research, Dublin City University, Dublin 9. Tel 01-7008000