RE-THINKING ASSESSMENT PHILOSOPHY AND PRACTICE

PEER- AND SELF-ASSESSMENT

VOLUME TWO OF TWO

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TABLE OF CONTENTS

A.1 NOTIFICATION FORM

Research Ethics Committee: Notification Form for Low-Risk Projects and Undergraduate Dissertations

DCU Research Ethics Committee has introduced a procedure for notification to the committee of
1. low-risk social research projects, in which personal information that is deemed not sensitive is being collected by interview, questionnaire, or other means
2. dissertations on undergraduate programmes in all disciplines.

The committee requires researchers to concisely answer the following questions within this form (before the project starts):

Project Title:

Peer- and self-assessment and its effects on student motivation, self-directed learning and self-reliance

Applicant Name and E-mail:
Kathy Harrison email: xxxxxxxxxx
                         phone: 01 700 xxxx
                         mobile   xxx xxx xxxx

If a student applicant, please provide the following:
Level of Study (Undergrad/Taught MSc/Research MSc/PhD): PhD
Supervisor Name and E-mail: Supervisor supervisor@dcu.ie

Questions:

1. Provide a lay description of the proposed research (approx. 300 words):

This research project is entitled 'Self and Peer Assessment and its effects on student motivation, self directed learning and self reliance'. The aim is to look into the benefits to students of assessing their own and their peers' work whilst working in small groups. Questionnaires will be used to evaluate the effects on students' self-direction, motivation and reflection

Students normally have their work assessed, or marked, by a teacher (or a specialist examiner). This only assesses the outcome, and pays no attention to how well the student may have worked to achieve the learning. Today, with emphasis on lifelong learning, and with more study expected to learn new skills for the workplace, learners need to be aware of how to judge learning, how to pace their studies and how to work in teams with others.

This study will involve students working in teams, and assessing how well they and their team mates have worked together.

To provide evidence of this, they will be asked to fill in questionnaires to assess their feelings of motivation and self-reliance, and how ready they are for self-directed learning, both before and after taking part in the study.

No personal details will be recorded. The results of the study will be passed on to the school, but no individual student (nor the school) will be identified in the report.

The participants may benefit directly from the exposure to this advanced learning method, which could improve their motivation and preparedness for sustainable lifelong learning. This could include an improved self-reliance and increased readiness to take part in self directed learning, which in turn would improve the results of any present or future study, whether at third level, in the workplace or for leisure.

All data gathered will be completely anonymous. As no personal data will be gathered, there is no intention to destroy the data after a period.

1

2. Detail your proposed methodology (1 page max.):

This project has evolved as a result of research into Self and Peer Assessment and student motivation, during which it emerged that the effects on student self-reliance, self-direction and self-reflective practice warranted investigation.

It will include development of new tools to measure self-reliance and readiness for self-directed learning which to date have not been explored, and will extend the reach from third level students.

Each Self and Peer Assessment cycle will consist of:

- the selection of two comparable student cohorts, both carrying out community group projects: one to be assessed through traditional methods, and the second to be assessed through Self and Peer Assessment

- instruction of teacher and students in the use of Self and Peer Assessment

- the second cohort will decide collectively on the criteria to be used in assessing individual performance within each group

both cohorts will receive a traditional mark for the final project (product). The class teacher awards this common group mark for the overall task, but for the second cohort, there is the inclusion of a Self and Peer Assessment weighting for individual contribution to the process following the current advanced Literature Review. It is a practical investigation into an innovative form of assessment which allows assessment of the learning process (normally inaccessible to tutors) to become part of that process. The research is collaborative and transparent and feeds back a keystone of learner-centric pedagogy directly into the teacher-education – learning cycle. It is a vital undertaking as translational research is the corner stone for the development of any national knowledge economy.

The stages in each study will be: practical Self and Peer Assessment trial; Data Gathering and Collation; Analysis of Findings.

3. Detail the means by which potential participants will be recruited:

Participants will be members of the class(es) in the school(s) which agree to participate in the study.

4. How will the anonymity of the participants be respected?

As only the principal investigator will be gathering data, anonymity will be respected by personal commitment to ensure no identifying information will be collected or recorded in the data.

5. What risks are researchers or participants being exposed to, if any?

No risks, other than those encountered in everyday life.

6. Have approval/s have been sought or secured from other sources? Yes/No
If Yes, give details: Approval sought and secured from Principals of schools willing to participate, and head of Department

7. Please confirm that the following forms are attached to this document:
Informed Consent Form   Yes/No
Plain Language Statement   Yes/No

If not, explain why:

A.2 PLAIN LANGUAGE STATEMENT

I. Introduction to the Research Study

This research project is entitled 'Self and Peer Assessment and its effects on student motivation, self-directed learning and self-reliance'. The aim is to look into the benefits to students of assessing their own and their peers' work whilst working in small groups. Questionnaires will be used to evaluate the effects on students' self-direction, motivation and reflection

Principal Investigator: Kathy Harrison
                   email: xxxxxxxxxx
                   phone: 01 700 xxxx
                   mobile: xxx xxx xxxx

II. What involvement in the Research Study will require

Students normally have their work assessed, or marked, by a teacher (or a specialist examiner). This only assesses the outcome, and pays no attention to how well the student may have worked to achieve the learning. Today, with emphasis on lifelong learning, and with more study expected to learn new skills for the workplace, learners need to be aware of how to judge learning, how to pace their studies and how to work in teams with others.

This study will involve students working in teams, and assessing how well they and their team mates have worked together.

To provide evidence of this, they will be asked to fill in questionnaires to assess their feelings of motivation and self-reliance, and how ready they are for self-directed learning, both before and after taking part in the study.

No personal details will be recorded – although the school may have personal details on record, they will not be passed on to the investigator. The results of the study will be passed on to the school, but no individual student (nor the school) will be identified in the report.

III. Statement of potential risks to participants from involvement in the Research Study (if greater than that encountered in everyday life)

There will be no potential risk to participants other than those encountered in everyday life – the only possible difference may be the benefit of being exposed to an innovative learning method.

IV. Benefits (direct or indirect) to participants from involvement in the Research Study

A direct benefit to the participants will be the exposure to this advanced learning method, which could improve their motivation and preparedness for sustainable lifelong learning. This could include an improved self reliance and increased readiness to take part in self directed learning, which in turn would improve the results of any present or future study, whether at third level, in the workplace or for leisure.

V. Arrangements to be made to protect confidentiality of data, subject to legal limitations and whether or not data is to be destroyed after a minimum period

All data gathered will be completely anonymous – as this is a small study, only one researcher will be involved, ensuring that all personal or identifying information will be avoided or removed from the data before recording. As no personal data will be gathered, there is no intention to destroy the data after a period.

VI. Involvement in the Research Study is voluntary

Participants may withdraw from the Research Study at any point. There will be no penalty for withdrawing before all stages of the Research Study have been completed. This does not affect the obligation on the participant to complete work required by the school.

If participants 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

A.3 INFORMED CONSENT FORM

I. **Research Study Title:** *Self and Peer Assessment and its effects on student motivation, self- directed learning and self-reliance*

  Department: *School of Education Studies*

  Principal Investigator: *Kathy Harrison*
  email: *xxxxxxxxxxxx*
  phone: *01 700 xxxx*

II. **The purpose of the research**

The research is being conducted into Self and Peer Assessment and its effects on student motivation, self-directed learning and self-reliance.

The research is in the form of a pilot study which will be conducted through a collaborative approach with relevant members of staff and students in your daughter/son's school.

It will not interfere with your daughter/son's school work, but will allow her/him to more fully understand and contribute to the assessment of learning outcomes.

All of the information gathered during the research will be treated as confidential and no individual or school will be identified.

III. **Confirmation of particular requirements as highlighted in the Plain Language Statement**

Participant – please complete the following (Circle Yes or No for each question)

Have you read or had read to you the Plain Language Statement	**Yes**	**No**
Do you understand the information provided?	**Yes**	**No**
Have you had an opportunity to ask questions and discuss this study?	**Yes**	**No**
Have you received satisfactory answers to all your questions?	**Yes**	**No**
Are you aware that your interview will be audiotaped?	**Yes**	**No**

IV. **Confirmation that involvement in the Research Study is voluntary**

Participants may withdraw from the Research Study at any point. There will be no penalty for withdrawing before all stages of the Research Study have been completed. This does not affect the obligation on the participant to complete work required by the school.

V. Arrangements to be made to protect confidentiality of data (confidentiality of information provided is subject to legal limitations)

All data gathered will be completely anonymous – as this is a small study, only one researcher will be involved, ensuring that all personal or identifying information will be avoided or removed from the data before recording. As no personal data will be gathered, there is no intention to destroy the data after a period.

VI. **Signature:**

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project.

Participant's/Parent's Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____

A.4 INTRODUCTORY LETTER TO STUDENTS' PARENTS

School name and address

Date

Dear Parent,

I am conducting research into Peer- and Self-Assessment and its effects on student motivation, self directed learning and self-reliance.

The research is in the form of a pilot study which will be conducted through a collaborative approach with relevant members of staff and students in your daughter/son's school.

It will not interfere with your daughter/son's school work, but will allow her/him to more fully understand and contribute to the assessment of learning outcomes.

All of the information gathered during the research will be treated as confidential and no individual or school will be identified.

If you do not want your daughter/son to participate in this research, please feel free to inform (*Teacher*).

Kindest regards

_____

Kathy Harrison
Lecturer/Researcher
Dublin City University

A) FEEDBACK TO OTHER STUDENTS AND SELF

For each student in your group, assess their performance during the group project under the following **performance criteria** categories, and indicate their performance on a scale of 0 (did not fulfil her/his obligation to the group) to 4 (fulfilled obligations with excellence). These assessments will give feedback to yourself and the other members of your group. Enter your assessments in the table on the next sheet

Performance Criteria (examples: these criteria to be agreed in class)
1. Attended meetings
2. Contribute to group discussions
3. Gathered relevant data
4. Completed tasks
5. Completed tasks on time
6. Kept positive attitude/outlook
7. Co-operated with others in group
8. Contributed serious/positive/meaningful suggestions
9. Was helpful/flexible/pleasant
10. Communication skills
11. Listened
12. Approachable
13. Helpful/flexible/pleasant
14. Helped to keep group on track
15. Supportive to all group members

[As the feedback is anonymous, you do not have to put your name on the sheet]

B) ASSESSMENT

In order to calculate the mark for each student, the tutor will assess (grade) the presentation. To ensure fairness, you are required to give an overall grade to yourself and each group member. (This will be used to "weight" the tutor's assessment of the presentation). The grade you give should reflect the group member's overall contribution to the success of the presentation. Grade should range from 0 (no contribution) to 4 (excellent contribution).

C.1 HIGHER EDUCATION

Peer and Self Assessment

Assessment should be integrated into the learning activities of students
(Biggs, 1999 Teaching for Quality Learning at University)

Main Aims of Peer and Self Assessment:

- Learner-centric: real learning
- Learner ownership: motivational
- Linked to (future) practice: better outcome

Peer and Self Assessment

Learner-centric approach:

- Practice in objectivity, emulating the tutor
- Practice in reflection – *Reflective Practitioner*
- Allows maximising of own mark within group
- Links marks to process, not just outcome
- Provides feedback from tutor *and peers*
- Shared power with tutor

Peer and Self Assessment

Learner ownership:

- Allows learner an input into assessment criteria

- Minimises any feelings of unfairness or inequity in marking of group projects

- Each student gives and receives feedback

- In the spirit of the module *Personal Effectiveness and Communication Skills*

Peer and Self Assessment

Linked to practice:

- Basis for self-regulation and professional development, with critical reflection

- Foundation for Action Research

- Practice in critically assessing work of self and others

- Practice in group work

Peer and Self Assessment - *CRITERIA*

ATTENDED MEETINGS

GATHERED RELEVANT DATA

COMPLETED TASKS ON TIME

COMMUNICATIONS SKILLS

HELPED TO KEEP GROUP ON TRACK

1

ATTENDED MEETINGS

COMPLETED TASKS

CO-OPERATED WITH OTHERS IN GROUP

COMMUNICATION SKILLS

SUPPORTIVE TO ALL GROUP MEMBERS

2

ATTENDED MEETINGS

CONTRIBUTED TO GROUP DISCUSSIONS

COMMUNICATION SKILLS

HELPFUL/FLEXIBLE/PLEASANT

3

ATTENDED MEETINGS

CONTRIBUTED TO GROUP DISCUSSIONS

COMPLETED TASKS

SUPPORTIVE TO ALL GROUP MEMBERS

CO-OPERATION WITH OTHERS IN GROUP

4

Peer and Self Assessment - *CRITERIA*

ATTENDED MEETINGS

CONTRIBUTED TO GROUP DISCUSSIONS

COMPLETED TASKS ON TIME

LISTENED

APPROACHABLE

5

COMPLETED TASKS ON TIME

CONTRIBUTED SERIOUS, POSITIVE AND MEANINGFUL SUGGESTIONS

COMMUNICATION SKILLS

HELPED TO KEEP GROUP ON TRACK

SUPPORTIVE TO ALL GROUP MEMBERS

6

ATTENDED MEETINGS

CONTRIBUTED TO GROUP DISCUSSIONS

GATHERED RELEVANT DATA

COMPLETED TASKS

CONTRIBUTED SERIOUS, POSITIVE AND MEANINGFUL SUGGESTIONS

7

Peer and Self Assessment - CRITERIA

ATTENDED MEETINGS (8) **CONTRIBUTED TO GROUP DISCUSSIONS** **KEPT POSITIVE ATTITUDE/OUTLOOK** **CO-OPERATED WITH OTHERS IN GROUP** **WAS HELPFUL/FLEXIBLE/PLEASANT**	**ATTENDED MEETINGS** (9) **CO-OPERATED WITH OTHERS IN GROUP** **COMMUNICATION SKILLS** **HELPED TO KEEP GROUP ON TRACK** **COMPLETED TASKS ON TIME**
ATTENDED MEETINGS (10) **GATHERED RELEVANT DATA** **COMPLETED TASKS** **CO-OPERATED WITH OTHERS IN GROUP** **SUPPORTIVE TO ALL GROUP MEMBERS**	**LISTENED** (11) **CONTRIBUTED TO MEETINGS** **GATHERED RELEVANT INFORMATION/DATA** **COMPLETED TASKS ON TIME** **ATTENDED MEETINGS**

Peer and Self Assessment - CRITERIA

ATTENDED MEETINGS (12)

GATHERED RELEVANT DATA

COMMUNICATION SKILLS

LISTENED

SUPPORTIVE TO ALL GROUP MEMBERS

Peer and Self Assessment

The Assessment – Ethics:

- In Education, the measure most often applied to the effectiveness of learning is **assessment**
  - Needs to be applied carefully and with due consideration
  - Academic exercise
  - Fair and honest
  - Rigorous application of highest moral standard
  - Objective – separate self/person from contribution
- Right of appeal – tutor final arbiter

Peer and Self Assessment

The Assessment – Feedback and Marking:

- Feedback
  - Provided under agreed criteria within each group
- Marking
  - **0 – no** contribution *whatever*
  - **1 – poor**: *little contribution of poor quality*
  - **2 – fair**: *quality and extent of contribution average*
  - **3 – good**: *contributed well, with good quality*
  - **4 – excellent**: *contributed fully, with high quality*

Peer and Self Assessment

The Assessment – Feedback and Marking:

● Calculation of mark

$$\text{Mark} = \frac{[\text{tutor mark}] \times [\text{student mark}]}{[\text{highest student mark}]}$$

Peer and Self Assessment

Learner-centric approach:

- Practice in being objective
- Allows maximising of own mark within group
- Links marks to process, not just outcome
- Provides feedback from teacher *and group members*
- Shares assessment with teacher
- Fosters an "I can do attitude"

Peer and Self Assessment

Learner ownership:

- Allows input into your own assessment
- Reduces any feelings of unfairness or inequity in marking of group projects
- Each student gives and receives feedback

Peer and Self Assessment

Linked to practice:

Practice in

- assessing work of self
- assessing work of others
- evaluating the process of getting work done

Peer and Self Assessment - CRITERIA

- Turn Up
- Be on Time
- Work Together
- Listen to what each person says
- Don't leave anyone out
- Participation

Peer and Self Assessment - CRITERIA

- Participation
- Turn Up
- Workload Divided Evenly
- Quality of Work
- Inclusion of Everybody

Peer and Self Assessment

The Assessment – Ethics:

- In Education, the measure most often applied to the effectiveness of learning is **assessment**
  - Needs to be applied carefully and with great care
  - Fair
  - Honest
  - Highest moral standard
  - Objective – separate self/person from contribution
- Right of appeal – teacher final arbiter

Peer and Self Assessment

The Assessment – Feedback and Marking:
- Feedback
  - Provided under agreed criteria within each group
- Marking
  - **0 – no** contribution *whatever*
  - **1 – poor**: *little contribution of poor quality*
  - **2 – fair**: *quality and extent of contribution average*
  - **3 – good**: *contributed well, with good quality*
  - **4 – excellent**: *contributed fully, with high quality*

Peer and Self Assessment

The Assessment – Feedback and Marking:
- Calculation of mark

$$\text{Mark} = \frac{[\text{tutor mark}] \times [\text{student mark}]}{[\text{highest student mark}]}$$

Self and Peer

What do I mean by Self?

Me

What do I mean by Peer?

My classmate

Self Assessment

What do I mean by Self Assessment?

– I mean that when the work is finished I look back and work out how well I did.
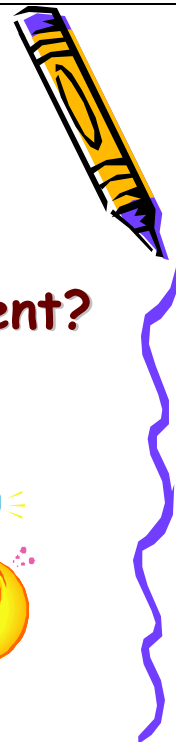
Peer Assessment

What do I mean by Peer Assessment?

– I mean that when the work is done I look back and work out how well my classmates in my group did.
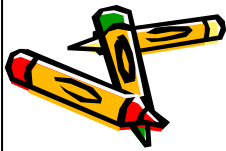
Self and Peer Assessment

Why would I want to do self and peer assessment?

– I can pair with my teacher in working out how well I have done my task

– I can pair with my teacher in working out how well classmates in my group have done the same task

Why would I want to do Self and Peer Assessment:

- **I learn to measure how well I have done**
- **I learn to measure how well others have done**
  - *It helps me to take responsibility*
  - *It helps me to judge*
  - *It helps me to think*
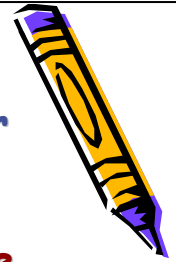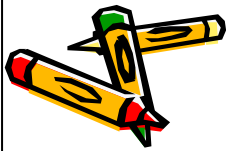
Self and Peer Assessment

- **I learn from looking back at how I have done**

- **I learn from the feedback classmates give me when they look back at how I have done**

What do I mean by Criteria?
  I mean **Rules**

What do I mean by Assessment?
  I mean **Measuring Learning**
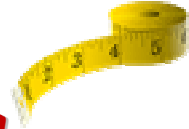
What do I mean by Feedback?
  I mean **Guidance**
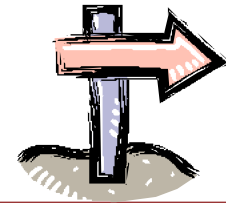
Self and Peer Assessment –
OUR CRITERIA

- Be pleasant

- Support and include everyone

- Work well with everybody

- Be helpful

- Be friendly

2

Self and Peer Assessment –
OUR CRITERIA

- Listen

- Agree

- Teamwork

- Talk

- Be kind

3
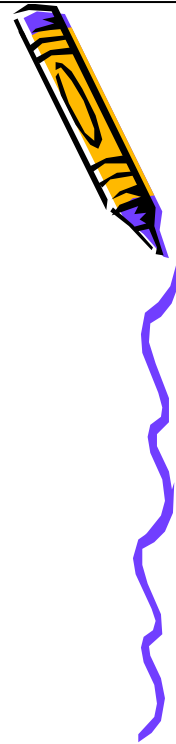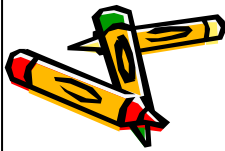
Self and Peer Assessment –
OUR CRITERIA

- Support and include everybody
- Don't push people out
- Work as a team
- Complete your jobs
- Do the same amount of work as everyone else – everyone

4
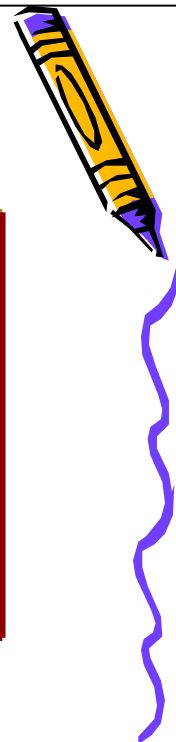
Self and Peer Assessment

Ethics (being **right** and **fair**):

In school, measuring learning is called **assessment**

- You have to take great care
- You have to be fair
- You have to be honest
- You have to judge the **work**, not the **person**

The Assessment and Guidance

- ✓ 0 – **none**:...... *did **nothing***
- ✓ 1 – **poor**:...... *did **little**, or work was **poor***
- ✓ 2 – **fair**:....... *did **some**, work was **fair***
- ✓ 3 – **good**:...... *did **good** amount, **good** work*
- ✓ 4 – **excellent**:.. *did **a lot**, **excellent** work*

APPENDIX D – SELF AND PEER ASSESSMENT FORM

GROUP:

Please give feedback for each student in your group including yourself. For each of the listed criteria, tick the appropriate box.

STUDENT >																																							
CRITERIA	None	Poor	Fair	Good	Excellent	None	Poor	Fair	Good	Excellent	None	Poor	Fair	Good	Excellent	None	Poor	Fair	Good	Excellent	None	Poor	Fair	Good	Excellent	None	Poor	Fair	Good	Excellent	None	Poor	Fair	Good	Excellent	None	Poor	Fair	Good	Excellent

Please give your assessment of the total contribution toward the presentation of each student in your group including yourself.

Give a mark from 0 to 4 [0=no contribution, 1=poor contribution, 2=fair contribution, 3=good contribution, 4=excellent contribution]

STUDENT								
MARK								

E.1 P<small>RIMARY</small> L<small>EVEL</small>

Student Name: *Student1*	**Group No**: 2
Project: Environment	

SELF/PEER FEEDBACK

Be pleasant	good
Support and include everyone	good
Be helpful	excellent
Work well with everybody	excellent
Be friendly	excellent

GROUP/SELF/PEER MARK

$$\textbf{Mark} \ = \ \frac{\textit{Teacher's Mark } 8 \text{ x } \textit{Your Self/Peer Mark } 15}{\textit{Highest Mark in Group } 15} \ = \ \textbf{8/10}$$

Name of Teacher: *Teacher C.*   **Signature**: …………………………...

Name of Facilitator: *Researcher*   **Signature**: …………………………...

                              Date: 17th June 2009

		Total Mark (10)
		8

Student Name: *Student 1*	
Module Title/ Code: Transition Year – Green Schools	

SELF/PEER FEEDBACK

Punctual - getting the work done on time	excellent
Good attitude to work - putting in strong effort	excellent
Honest - open and honest feedback with each other	excellent
Share responsibilities - everyone does the same amount of work	excellent
Quality work	excellent

GROUP/SELF/PEER MARK

$$\text{Mark} = \frac{\textit{Tutor Mark } \mathbf{76} \text{ x } \textit{Your Self/Peer Mark } \mathbf{38}}{\textit{Highest Mark in Group } \mathbf{40}} = \mathbf{73/100}$$

Name of Teacher: *Teacher B.*   **Signature:** …………………………...

Name of Facilitator: *Researcher*   **Signature:** …………………………...

Date: 27th April 2009

Total Mark (100)
73

Student Name: *Student1*	Group: 2
Project: Intergenerational Learning Science Project	

SELF/PEER FEEDBACK

Good listening	good
Facilitate well	good
Adaptable/Flexible	good
Remember the main points and not deviate from them	good
Gain a knowledge of the subject from the tutor and from each other	good

GROUP/SELF/PEER MARK

$$\text{Mark} = \frac{\textit{Your Self/Peer Mark } \textbf{12}}{\textit{Highest Mark in Group } \textbf{13}}$$

TUTOR ASSESSMENT

```
Good enthusiasm and interest throughout.  Valuable
input in group.  Well done, good work.
```

Name of Teacher: *Teacher E.*   **Signature:** …………………………...

Name of Facilitator: *Researcher*   **Signature:** …………………………...

Date: 23rd May 2009

F.1 FIRST-YEAR UNDERGRADUATE STUDENTS INTRINSIC MOTIVATION INVENTORY

Please indicate the extent to which you agree or disagree with the following statements by circling the appropriate number following each statement.

		Strongly Disagree	Disagree	Agree	Strongly Agree
1	After working in the group work for a while, I felt pretty competent.	(1)	(2)	(3)	(4)
2	I would say now that I didn't try very hard to do well in the group work project.	(1)	(2)	(3)	(4)
3	I would be willing to do a project like this again because it has some value to me.	(1)	(2)	(3)	(4)
4	I thought I did pretty well at group work, compared to other students.	(1)	(2)	(3)	(4)
5	Looking back, I enjoyed doing group work very much.	(1)	(2)	(3)	(4)
6	I was anxious while working on this project.	(1)	(2)	(3)	(4)
7	With the project finished, it is likely that some from this group and I could become friends if we interacted a lot.	(1)	(2)	(3)	(4)
8	I am satisfied with my performance.	(1)	(2)	(3)	(4)
9	Group work did not hold my attention at all.	(1)	(2)	(3)	(4)

10	*What do you think of group work as a teaching methodology now?*

		Strongly Disagree	Disagree	Agree	Strongly Agree
	Please indicate the extent to which you agree or disagree with the following statements by circling the appropriate number following each statement.				
11	I felt really distant from the group.	(1)	(2)	(3)	(4)
12	While I was doing group work, I was thinking about how much I enjoyed it.	(1)	(2)	(3)	(4)
13	I think now that doing group work is useful for a career in education.	(1)	(2)	(3)	(4)
14	I felt very tense while doing group work.	(1)	(2)	(3)	(4)
15	I felt like I could really trust my group.	(1)	(2)	(3)	(4)
16	I was very relaxed whilst doing the project.	(1)	(2)	(3)	(4)
17	Looking back, I think doing group work could help me to learn to use it as a teaching methodology.	(1)	(2)	(3)	(4)
18	I thought group work was quite enjoyable.	(1)	(2)	(3)	(4)
19	I'd really prefer not to interact with this group in future.	(1)	(2)	(3)	(4)
20	During the project, I tried very hard on group work.	(1)	(2)	(3)	(4)
21	I now believe doing group work could be beneficial to me	(1)	(2)	(3)	(4)

22	*In what way did group work help you?*

		Strongly Disagree	Disagree	Agree	Strongly Agree
	Please indicate the extent to which you agree or disagree with the following statements by circling the appropriate number following each statement.				
23	During the project, I tried very hard on self- and peer-assessment.	(1)	(2)	(3)	(4)
24	Self- and peer-assessment was fun to do.	(1)	(2)	(3)	(4)
25	After working at self- and peer-assessment for a while, I felt pretty competent.	(1)	(2)	(3)	(4)
26	I was anxious while working on the self- and peer-assessment.	(1)	(2)	(3)	(4)
27	While I was doing the self- and peer-assessment, I was thinking about how much I enjoyed it.	(1)	(2)	(3)	(4)
28	After the project, I felt I was pretty skilled at self- and peer-assessment.	(1)	(2)	(3)	(4)

29	*Please add here any feelings you have about the fairness of the overall assessment of the group work. Are there any ways you now think it might have been improved?*

		Strongly Disagree	Disagree	Agree	Strongly Agree
	Please indicate the extent to which you agree or disagree with the following statements by circling the appropriate number following each statement.				
30	I didn't put much energy into the self- and peer-assessment.	(1)	(2)	(3)	(4)
31	I felt tense while doing the self- and peer-assessment.	(1)	(2)	(3)	(4)
32	Self- and peer-assessment did not hold my attention at all.	(1)	(2)	(3)	(4)
33	I think it was important to me to do well at self- and peer-assessment.	(1)	(2)	(3)	(4)
34	I think I am pretty good at the self- and peer-assessment.	(1)	(2)	(3)	(4)
35	I was very relaxed doing the self- and peer-assessment.	(1)	(2)	(3)	(4)
36	I thought the self- and peer-assessment was quite enjoyable.	(1)	(2)	(3)	(4)

37	*How do you think self- and peer- assessment helped you during the project?*

F.2 SECOND-YEAR UNDERGRADUATES (CONTROL GROUP) INTRINSIC MOTIVATION

INVENTORY

	Please indicate the extent to which you agree or disagree with the following statements by circling the appropriate number following each statement.				
		Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1	After doing group work for a while, I felt pretty competent.	(1)	(2)	(3)	(4)
2	Before doing it, I thought group work was something that I wouldn't do very well.	(1)	(2)	(3)	(4)
3	I didn't try very hard to do well at group work.	(1)	(2)	(3)	(4)
4	I was very relaxed whilst doing the group work.	(1)	(2)	(3)	(4)
5	Before starting, I thought the group work would be boring.	(1)	(2)	(3)	(4)
6	I thought I did pretty well at group work, compared to other students.	(1)	(2)	(3)	(4)
7	I enjoyed doing group work very much.	(1)	(2)	(3)	(4)
8	At the beginning, it seemed important to me to do well at group work.	(1)	(2)	(3)	(4)
9	Before doing it, I thought I wouldn't put much energy into group work.	(1)	(2)	(3)	(4)
10	I am satisfied with my performance in the group work project.	(1)	(2)	(3)	(4)
11	Before starting, I assumed I would be pretty skilled at group work.	(1)	(2)	(3)	(4)

12	*What do you think of group work as a teaching methodology?*

Please indicate the extent to which you agree or disagree with the following statements by circling the appropriate number following each statement.

		Strongly Disagree	Disagree	Agree	Strongly Agree
13	Group work did not hold my attention at all.	(1)	(2)	(3)	(4)
14	I did not feel nervous at all about the thought of doing group work.	(1)	(2)	(3)	(4)
15	At the outset, I was prepared to put a lot of effort into the group project.	(1)	(2)	(3)	(4)
16	While I was doing group work, I was thinking about how much I enjoyed it.	(1)	(2)	(3)	(4)
17	I felt very tense while doing group work.	(1)	(2)	(3)	(4)
18	Before doing it, I thought I would be pretty good at group work.	(1)	(2)	(3)	(4)
19	Before starting, I assumed group work would be fun to do.	(1)	(2)	(3)	(4)
20	I thought the group work project was quite enjoyable.	(1)	(2)	(3)	(4)
21	I was anxious while doing group work.	(1)	(2)	(3)	(4)
22	I felt pressured at the start of the group work.	(1)	(2)	(3)	(4)
23	I tried very hard on group work.	(1)	(2)	(3)	(4)
24	Before doing it, I would have described group work as very interesting.	(1)	(2)	(3)	(4)

25	*Please add here any feelings you have about the fairness of the overall assessment of group work. Are there any ways it might have been improved?*

F.3 SELF-RELIANCE – ORIGINAL QUESTIONNAIRE

Please answer the questions by ticking one box only for each question: rate each statement as to how strongly you agree or disagree with it.

Question	Rate ✓	0 (*strongly disagree*) to 5 (*strongly agree*)					
1. It is difficult for me to delegate work to others.		0	1	2	3	4	5
2. I need to have colleagues or subordinates close in order to feel secure about my work.		0	1	2	3	4	5
3. People will always be there when I need them.		0	1	2	3	4	5
4. I regularly and easily spend time with other people during the work day.		0	1	2	3	4	5
5. Developing close relationships at work will backfire on you.		0	1	2	3	4	5
6. I become very concerned when I have conflict with family members at home.		0	1	2	3	4	5
7. I trust at least two other people to have my best interests at heart.		0	1	2	3	4	5
8. I get very upset and disturbed if I have conflicts in relationship(s) at work.		0	1	2	3	4	5
9. I avoid depending on other people because I feel crowded by close relationships.		0	1	2	3	4	5
10. I am frequently suspicious of other people's motives and intentions.		0	1	2	3	4	5
11. I prefer very frequent feedback from my boss to know I am performing well.		0	1	2	3	4	5
12. Asking for help makes me feel needy, and I do not like that.		0	1	2	3	4	5
13. I have a healthy, happy home life.		0	1	2	3	4	5
14. I always consult others when I make decisions.		0	1	2	3	4	5
15. It is difficult for me to leave home or work to go to the other.		0	1	2	3	4	5

F.4 SELF-RELIANCE – SENIOR STUDENTS

Please answer the questions by ticking one box only for each question: rate each statement as to
how strongly you agree or disagree with it.

Question	Rate ✓	0 (*strongly disagree*) to 5 (*strongly agree*)					
		0	1	2	3	4	5
1. It is difficult for me to delegate to others.							
2. I need to have others close in order to feel secure about my activities.							
3. People will always be there when I need them.							
4. I regularly and easily spend time with other people during the day.							
5. Developing close relationships when working will backfire on you.							
6. I become very concerned when I have conflict with family members at home.							
7. I trust at least two other people to have my best interests at heart.							
8. I get very upset and disturbed if I have conflicts in relationship(s) when working.							
9. I avoid depending on other people because I feel crowded by close relationships.							
10. I am frequently suspicious of other people's motives and intentions.							
11. I prefer very frequent feedback from others to know I am performing well.							
12. Asking for help makes me feel needy, and I do not like that.							
13. I have a healthy, happy home life.							
14. I always consult others when I make decisions.							
15. It was difficult for me to leave home or work to go to the other.							

34

F.5 SELF-RELIANCE – PRIMARY STUDENTS

Please put a ☑tick in **one** box only for each question: say whether it is *like you* or *not like you*.

Question	**Very** like me	**A bit** like me	A **little** bit like me	A **little** bit **not** like me	A **bit** not like me	Not like me **at all**
1. I feel better about anything I do if I have friends with me.						
2. Friends will always be there when I need them.						
3. I always spend time with others during the day and I like it.						
4. I don't make too many friends – they'll let you down.						
5. I get annoyed when I argue with my family at home.						
6. I have at least two best friends that I trust.						
7. I get very upset if I have arguments with friends at school.						
8. I don't rely on friends much because too many people crowd you.						
9. I often feel I can't trust other people or why they do things.						
10. I like others to tell me how I am doing a lot to know I am doing well.						
11. I don't like feeling I have to ask for help.						
12. I have a very happy, healthy home.						
13. I always ask family or friends or other people before I do anything.						
14. I don't really like leaving home to go to school, or leaving school to go home.						

F.6 SELF-RELIANCE – SECONDARY STUDENTS

Please answer the questions by ticking one box only for each question: rate each statement as to how strongly you agree or disagree with it.

Question	Rate ✓	0 (*strongly disagree*) to 5 (*strongly agree*)					
1. It is difficult for me to ask others to do work to help me get something done.		0	1	2	3	4	5
2. I need to have my teacher, friends or my family close so that I feel able to do my work.		0	1	2	3	4	5
3. People will always be there when I need them.		0	1	2	3	4	5
4. I regularly and easily spend time with other people during the working school day.		0	1	2	3	4	5
5. Developing close relationships at school will backfire or not go well for you.		0	1	2	3	4	5
6. I become very concerned when I have an argument with family members at home.		0	1	2	3	4	5
7. I trust at least two other people to have my best interests at heart.		0	1	2	3	4	5
8. I get very upset and disturbed if I have conflicts in relationship(s) at school.		0	1	2	3	4	5
9. I avoid depending on other people because I feel crowded by close relationships.		0	1	2	3	4	5
10. I am frequently suspicious of other people's motives and intentions.		0	1	2	3	4	5
11. I prefer very frequent feedback from my teacher to know I am performing well.		0	1	2	3	4	5
12. Asking for help makes me feel needy, and I do not like that.		0	1	2	3	4	5
13. I have a healthy, happy home life.		0	1	2	3	4	5
14. I always talk to others when I make decisions.		0	1	2	3	4	5
15. It is difficult for me to leave home or school to go to the other.		0	1	2	3	4	5

F.7 SELF-RELIANCE – EARLY SCHOOL LEAVER STUDENTS

Please answer the questions by ticking one box only for each question: rate each statement as to how strongly you agree or disagree with it.

Question	Rate ✓	0 (*strongly disagree*) to 5 (*strongly agree*)				
1. It is difficult for me to ask others to do work to help me get something done.		0	1	2	3	4	5
2. I need to have my teacher, friends or my family close so that I feel able to do my work.		0	1	2	3	4	5
3. People will always be there when I need them.		0	1	2	3	4	5
4. I regularly and easily spend time with other people during the work day.		0	1	2	3	4	5
5. Developing close relationships at the Centre will backfire on you.		0	1	2	3	4	5
6. I become very concerned when I have conflict with family members at home.		0	1	2	3	4	5
7. I trust at least two other people to have my best interests at heart.		0	1	2	3	4	5
8. I get very upset and disturbed if I have conflicts in relationship(s) at the Centre.		0	1	2	3	4	5
9. I avoid depending on other people because I feel crowded by close relationships.		0	1	2	3	4	5
10. I am frequently suspicious of other people's motives and intentions.		0	1	2	3	4	5
11. I prefer very frequent feedback from my teacher to know I am performing well.		0	1	2	3	4	5
12. Asking for help makes me feel needy, and I do not like that.		0	1	2	3	4	5
13. I have a healthy, happy home life.		0	1	2	3	4	5
14. I always consult others when I make decisions.		0	1	2	3	4	5
15. It is difficult for me to leave home or the Centre to go to the other.		0	1	2	3	4	5

F.8 Self-Reliance – Higher Education Students

Please answer the questions by ticking one box only for each question: rate each statement as to how strongly you agree or disagree with it.

Question	Rate ✓	0 (*strongly disagree*) to 5 (*strongly agree*)				
1. It is difficult for me to ask others to do work to help me get something done.		0	1	2	3	4	5
2. I need to have my teacher, friends or my family close so that I feel able to do my work.		0	1	2	3	4	5
3. People will always be there when I need them.		0	1	2	3	4	5
4. I regularly and easily spend time with other people during the working school day.		0	1	2	3	4	5
5. Developing close relationships at school will backfire or not go well for you.		0	1	2	3	4	5
6. I become very concerned when I have an argument with family members at home.		0	1	2	3	4	5
7. I trust at least two other people to have my best interests at heart.		0	1	2	3	4	5
8. I get very upset and disturbed if I have conflicts in relationship(s) at school.		0	1	2	3	4	5
9. I avoid depending on other people because I feel crowded by close relationships.		0	1	2	3	4	5
10. I am frequently suspicious of other people's motives and intentions.		0	1	2	3	4	5
11. I prefer very frequent feedback from my teacher to know I am performing well.		0	1	2	3	4	5
12. Asking for help makes me feel needy, and I do not like that.		0	1	2	3	4	5
13. I have a healthy, happy home life.		0	1	2	3	4	5
14. I always talk to others when I make decisions.		0	1	2	3	4	5
15. It is difficult for me to leave home or school to go to the other.		0	1	2	3	4	5

F.9 READINESS FOR SELF-DIRECTED LEARNING

Item	Most like me	Like me	Not sure	Unlike me	Most unlike me
1. I solve problems using a plan					
2. I prioritize my work					
3. I manage my time well					
4. I have good management skills					
5. I set strict time frames					
6. I prefer to plan my own learning					
7. I am systematic in my learning					
8. I am able to focus on a problem					
9. I often review the way work practices are conducted					
10. I need to know why					
11. I critically evaluate new ideas					
12. I prefer to set my own learning goals					
13. I learn from my mistakes					
14. I am open to new ideas					
15. When presented with a problem I cannot resolve, I will ask for assistance					
16. I am responsible					
17. I like to evaluate what I do					
18. I have high personal expectations					
19. I have high personal standards					
20. I have high beliefs in my abilities					
21. I am aware of my own limitations					
22. I am confident in my ability to search out information					
23. I enjoy studying					
24. I have a need to learn					
25. I enjoy a challenge					
26. I want to learn new information					
27. I enjoy learning new information					
28. I set specific times for my study					
29. I am self disciplined					
30. I like to gather the facts before I make a decision					
31. I am organized					
32. I am logical					
33. I am methodical					
34. I evaluate my own performance					
35. I prefer to set my own criteria on which to evaluate my performance					
36. I am responsible for my own decisions/actions					
37. I can be trusted to pursue my own learning					
38. I can find out information for myself					
39. I like to make decisions for myself					
40. I prefer to set my own goals					
41. I am in control of my life					
42. I need to be in control of what I learn					

APPENDIX G – EXEMPLAR INTERVIEW – CODING AND ANALYSIS

Sample interview transcript shown coded and analysed. In the studies, there were many iterations of coding and category grouping and sorting to draw out the final themes: this process has been abridged here for illustration, but the coding and thematic analysis are accurate and representative.

Table G.1 Transcript of secondary student interview showing initial codes added

Question	Response	Code
Did you feel it would be easy to mark work?	It would have been all right to mark my own work because it is just myself, I don't mind marking my own work, but when it came to marking other people's work I was kind of afraid because I didn't want to give them too low or too high marks or that kind of thing. I was afraid with some people, like if I didn't like them, that might impair my judgement on them or something. But it was all right, it was fine, it didn't actually come to anything bad, I did do it honestly; I did it on the work that they provided and that kind of thing.	Discomfort marking others uneasy judging others' work anxious about being biased in fact was honest marking peers on work done
How fair do you think it is to mark your own work?	It is grand, like the teachers, they obviously have to mark the work for some reason to show parents and stuff but it would be nice to be able to mark our own work on certain things. Like on group projects especially, like what you are doing, teachers don't know how much effort we put in by ourselves, they do it all depending on the group.	Self assessment fair Would enjoy the opportunity to mark own work Teacher cannot see individual effort in group task
How fair do you think it is to mark somebody else's work?	Again I wasn't sure what it would be like, I wasn't sure what it would be, I didn't really know what it was gonna to be like because if you liked someone more you might give them more marks because they're your friends like. But it was all right, it was fine like.	Initially uncertain – friendship bias possible Was able to mark without bias
How fair is it for someone else to mark your work?	I didn't actually mind that, I didn't mind them marking my work because I felt that I had put in as much an effort as everyone else and they might see that.	Fair for others to mark me as they had seen the effort I put in
Did you enjoy working on the project and having it part of the assessment?	Yes, it was grand, it was good fun to work on it all together because we all did our work at the same time, but we had got to have a bit more fun when you are working in a group, then you can have a bit more craic and that kind of thing, so.	Enjoyed working on project as a group

Do you think that doing the P&SA added to your confidence?	Ah yeah, it did help me a bit because usually I'm very nervous and I'm very self conscious and that kind of thing but when it came to actually marking it, I didn't mind what people thought and I thought it did help a lot.	It helped with self confidence
What did you like about doing the P&SA?	I liked the fact that we got to judge what we do ourselves. The teacher didn't tell us how we were supposed to mark it, how we were supposed to do everything, it was us doing it ourselves, it was us making up our own minds and our own decisions.	Enjoyed using own judgement We were not directed by the teacher
And you think that is important?	Yes, because when you are finished in secondary school you do have to do everything yourself and like after secondary school is all you the whole way, just yourself, like your responsibility and everything like that.	We will be expected to be responsible as adults Important for future
And do you think carrying out the P&SA has helped you to take more responsibility?	Yes because you are taking responsibility for your own part but because you are doing it in a group it is helping everybody else at the same time.	You take responsibility for own actions By taking responsibility you help others in group
Is there anything in particular that you feel you could change so that it would improve people's confidence?	I don't know, maybe... everybody in the group got on, like they were all very good friends rather than having one person in the group best friends with someone and then not liking another person at all, that mightn't improve someone else's confidence a bit better, like if they all knew they were being marked equally. But apart from that...	Knowing all will be marked fairly might improve confidence Having best friends and then not liking another person at all mightn't improve someone else's confidence
Do you think carrying out P&SA could lower your self esteem, lower your confidence?	No I don't think so, I think if anything it would probably help you a lot more because you are working in the group you are kind of bonding more and it would help you to become friends with them a lot more and it would put your self confidence up like.	Helps interaction, relationships, which... Helps build self-confidence
If you had a choice between working in a group where the teacher marked you or a group using P&SA, which group would you prefer?	Oh, P&SA because you can tell then how much work you are putting in yourself and so can everybody else, but when it is teacher, she just sees how much work the whole group puts in. So if you have got four or five people in the group and three of them aren't doing anything, everybody is going to fail or something like that because of it.	Prefers P&SA as individual contribution to process is visible to group members

What did you like about doing the P&SA?	The fact that we were all working together and we got to judge each other, well not judge, but help each other and do that kind of thing because working individually is hard because you have to do everything yourself and if you have a big project you do feel a lot of pressure in everything, but when you're working together the pressure is eased off a little bit and you have your friends helping you and getting you to relax and having a bit of fun and everything like that. But you are getting the work done at the same time.	Like helping, judging others' work in group Working together eases stress, increases work output and enjoyment
Was there anything that you did not like?	No, I thought it was all very good, I thought it was all great now.	
Would you like to do it again?	Yes I would actually, I wouldn't mind doing it again.	Would enjoy doing it again
How honest do you think it was when you mark yourself and people mark each other and you?	I tried to be as honest as I could. I think a lot of people would be very, very honest, but I think you always have one or two who pick their friends and put them with the higher marks than everybody else.	Was honest Many people honest Always one or two biased towards friends
Do you think you can have it where people are totally honest?	I'd say you could yes, if you told them why you wanted to have it honest and all that kind of thing, then I think they would, yes.	If given reason, everyone would be honest
What would you change about the assessment?	Nothing really, I thought it was fine, the only thing I'd change like was our particular project because it was a hard one, but apart from that I thought it was fine.	Nothing in need of change
What do you think you have learned from the experience?	That it is a lot easier when everybody takes part and everybody shares the work equally when you are in a group and it is easier when you are doing the P&SA because you can give yourself your honest marks and you can give others honest marks and you can get the mark that you deserve rather than getting a group mark from the teacher which could mean you fail despite the fact that you put in loads of work, or that you passed and you put in no work at all.	Easier when working as part of a functioning group Easier when using P&SA than when getting teacher mark alone Teacher marking can be unfair – can gain marks unfairly by 'free-riding' or lose marks unfairly if with 'free-riders'

How old do you think students need to be before they start P&SA?	I would say anything really over the age of fourteen or fifteen, anything around that, anything from that up would be grand because I'd say the elderly ones would do it fairly because they have more to say and these kind of things and adults would do it fairly, they wouldn't let their friends impair their judgement or anything. I think that is what happens, the older you get, the more honest you get but when you are very, very young, twelve and ten and eleven and thirteen or whatever, I think you are definitely going to choose your friends any time at all to give them the higher marks and if you don't like someone to put them down all together.	Over about fourteen for P&SA Older people are more honest Younger people biased by relationship
So you think the older you are, the more honest.	Yes, I think so anyway.	Older people are more honest
Who do you think would be the most honest marker, you or the teacher?	I hope I was honest enough anyway because I tried not to let my vision get clouded or anything like that, I tried to do it as honest as I could so I hope I was the better marker.	Was honest – considered everything fairly Tried to be more honest than teacher
And do you think students can be as honest as the teacher?	I think they can be if they want to be, but it does depend on whether they want to or not.	Students can be as honest markers as the teacher
And which would you prefer, to just have the teacher mark you or would you share, by carrying out some assessment yourself, like P&SA?	I think I would rather do it with the P&SA a lot more than just handing it up to the teacher because when handing it up to the teacher, she just marks it sometimes, you don't get any feedback like, they tell you, 'Oh you did this wrong or that wrong.' But when you do it in the group with the P&SA you can see what other people think and you get more opinions and you learn from it better.	Rather P&SA than teacher mark Teacher feedback perfunctory, working with group can see what they think Get more opinions from group Learn from others in group

Table G.2: Codes sorted and grouped to develop main themes

Code	Category/Theme
Enjoyed working on project as a group Working together eases stress, increases work output and enjoyment Would enjoy doing it again Easier when using P&SA than when getting teacher mark alone	**Motivates**
It helped with self confidence Knowing all will be marked fairly might improve confidence/Having best friends and then not liking another person at all mightn't improve someone else's confidence Helps build self-confidence	**Builds confidence**
Helps interaction, relationships Like helping, judging others' work in group Easier when working as part of a functioning group	**Cooperation/ interaction**
We were not directed by the teacher We will be expected to be responsible as adults You take responsibility for own actions By taking responsibility you help others in group	**Responsibility**
Would enjoy the opportunity to mark own work Enjoyed using own judgement	**Empowering**
Get more opinions from group Learn from others in group	**Peer learning**

Self assessment fair in fact was honest marking peers on work done teacher cannot see individual effort in group task Was able to mark without bias Fair for others to mark me as they had seen the effort I put in Prefers P&SA as individual contribution to process is visible to group members Was honest Many people honest If given reason, everyone would be honest Teacher marking can be unfair – can gain marks unfairly by 'free-riding' or lose marks unfairly if with 'free-riders' Was honest – considered everything fairly Tried to be more honest than teacher Students can be as honest markers as the teacher Rather P&SA than teacher mark Teacher feedback perfunctory, working with group can see what they think	**Fair assessment**
Important for future	**Important for future**
Initially uncertain – friendship bias possible Always one or two biased towards friends	**Relationship bias**

Discomfort marking others
 	
    uneasy judging others' work
 	
    anxious about being biased
	Discomfort marking peers

Over about fourteen for P&SA Older people are more honest Younger people biased by relationship	**Appropriate age**

We as a group would like to thank all the teachers and students for having us into your school to teach us how to use the computer, which is very useful in todays world for keeping in contact by e-mail and also shopping and browsing the internet.

We young at heart learned a lot from the students. They were very nice, helpful and patient with us. We all contributed to this especially ████ who had more ideas than the rest of us, but we all enjoyed putting this together.

It was a good idea to get the two age groups working together. It was nice listening to them talking about their interests and talking about what they would like to do in the future.

This course was a very good idea and it would be hoped that it will continue. We are all of the opinion that we would like to take part in one again. We all enjoyed the course, the company and each other and the students.

We as a group feel uncomfortable about having to mark each other so we decided to do it together.

████ 5
████ 4
████ 4
████ 4