

e3i Employability Case Study



Group work assessment

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| Subject group: | Secondary Education (Mathematics) |
| Elements of the employability framework addressed: | <ul style="list-style-type: none">• Development of autonomy• Key skills development |

Description of learning and teaching approach adopted

This study examined some of the benefits and pitfalls of group work assessments. It is my belief that group work can be an important tool which can contribute to the agenda of 'assessment as learning' (Povey and Angier, 2004).

Perhaps partly due to the professional nature of the course, but also significantly as a response to some of our commonly shared beliefs about teaching and learning within the Mathematics Education Centre, our agenda for these students includes a shift in their perception of what it means to be engaged with mathematics. In GCSE and A level mathematics, students often develop a view of mathematics which is algorithmic, which is to say that they learn to recognise a range of mathematical problems, and to apply practiced algorithms, or sequences of steps, which produce an answer. They often do this without more than a superficial understanding of the mathematical ideas which underpin their method.

Changing this well-practiced view of what it means to engage in mathematical activity is an explicit item on our agenda for first year undergraduate students, as well the postgraduate students on our 2 year conversion PGCE route. I believe our inclusion of assessments which require the students to work in small groups contributes to their developing understanding of themselves as professionals, as autonomous learners, and as researchers and 'doers' of mathematics.

As teacher educators, we also seek to model good practice for our student teachers. Group work assessments make an important contribution to the wide variety of assessment strategies we offer.

My developing interest in assessed group work has grown up through 3 particular modules which I have taught over a number of years. My study explored all three modules, one forms 60% of a level 4 module, one a complete 10 point level 5 module and the most complex (because the group size is typically slightly larger) is a 20 point level 5 module.

In each case, I take particular care in setting up the groups, and in putting procedures in place, documented within the assignment handbook, explaining what will happen if things do not run smoothly.

In a second strand of this project, I interviewed two colleagues who had also experimented with group work assessments, Ros Garrick in Early Child Studies, and Anna Cox from primary mathematics.

Employability objectives and intended learning outcomes

I have noted, and colleagues have reported, a wide range of important benefits which can arise from students engaging in group work assessments. These include:

- practice in meeting commitments;
- developing time management skills;
- practice in learning to negotiate with peers;
- learning to set limits for oneself and for others;
- learning to challenge inappropriate behaviour from peers;
- seeking support appropriately from peers and from the tutor;
- listening skills;
- developing research skills.

Description of and tips for good practice; lessons learned

There seem to be a number of issues which commonly occur in the context of group work assessment

Fairness

- Individuals being 'carried' by the rest of the group (loafers);
- Different work rates and contributions;
- Contributions from group members unequal.

Possible strategies:

- Allow group to set balance of marks for the project between themselves;
- Assessment mark shared between a group, and an individually assessed component.

Managing different learning styles:

Different learning styles can conflict, e.g. some students carefully plan and schedule their work, others may tend to leave tasks to the last minute; some learners like to do all work collaboratively, while others may prefer time and space to work individually and quietly before making their contribution.

Possible strategies:

- Raising self-awareness of strengths and weaknesses, e.g. Belbin exercise (<http://www.belbin.com>);
- Recording all group meeting, with a record of work completed, and future agreements.

Difficulty for students in challenging inappropriate peer behaviour

This is a frequently reported issue for groups. It commonly arises from some form of broken agreement. Frequent problems arise around students either not attending, or arriving late to arranged meetings, or from agreed work not having been completed.

Possible strategies:

- Encourage students to make and adhere to agreements, and to record these in writing
- Ensure close friends are not working together, experience shows that the tensions of working within a group can have several undesirable outcomes for close friends, either they form a defensive sub-group, that is, they jointly characterise 'others' as the problem, or the strain on their friendship damages the relationship with consequences for the rest of the course
- Raising self-awareness: Tutor meetings with whole group

Collusion around incorrect information

- Sometimes the group will agree a 'fact', perhaps found on the internet, and incorrectly agree its validity. The conviction generated by the agreement within the group may end further research on the point which is then built upon.

Possible strategies:

- Monitor the group's progress through periodic meetings with the tutor.

Different cultural expectations

- Group work can be alienating to students whose cultural background has given little or no experience of working cooperatively (which has sometimes been noticed with international students).

Possible strategies:

- International students may need particular encouragement and the opportunity to discuss with the tutor, and within the group, their understanding of what is required.
- Where possible, it may be helpful to place several international students in the same group.

Avoiding overload for the student

- Group work typically needs opportunities to meet outside the programmed sessions, this can be difficult for some cohorts / individuals;
- Difficulty of multiple group work assignments running

concurrently;

- Group size is critical, in a pair there is one inter-relationship, with three students there are 4, with four students, there are 11, and with 5 there are 26! (taking into account all the possible combinations of several sub-groups of people working together from the larger group).

Possible strategies:

- Programme in scheduled meeting times for the groups to meet;
- Use the cohort academic tutor to check on whether there are existing group work assessments within the programme;
- Group size is critical, in my experience, a paired task is a good first experience, and a group of 4 is a practical maximum in many contexts.

Avoiding overload for the tutor:

- Group work, especially for 'groups' larger than 2, can be very time consuming for the tutor

Possible strategies:

- In your module planning, allow time for:
 - setting up the projects
 - regular meetings with the groups to monitor both the development of the work, and any difficulties within the group
 - giving formative feedback on projects in progress
 - allow time for dealing with crisis management
 - allow time for moderation of projects
- Seek advice from colleagues with experience in group work assessment

Managing absence and personal crises

- Any extended absence, or partial engagement due to a personal crisis by a member of a group can be problematic

Possible strategies:

- Have a strategy in reserve for dealing with this, for example, an individual version of the work which can be given to a student who you decide cannot fairly be allowed to continue to work as part of the team.
- Where possible, involve the whole group in the decision, and reassure remaining group members that you will mark the work in such a way that they are not penalised by 'missing' work from the withdrawn member

Managing difficulties between members of the group

- I find it is relatively rare for all the groups within a cohort to go smoothly, group work tends to create considerable pressures as the contribution of each member is perceived as affecting the credit of the others. A range of particular difficulties which may arise are outlined above, for example, see the notes on fairness, managing inappropriate peer behaviour and different learning styles.

Possible strategies:

- There will always be several points of view when a serious difficulty arises. Make it a rule that you will *listen* to anyone who has a concern about how the group is working together, but that to help the group to move forward, you will only *discuss* the difficulty with the whole project group present;

- Arrange a project group meeting as soon as possible after the difficulty has come to your attention;
- Try to help the group reach its own solution about how to move forward, but be prepared to be directive if it becomes clear that the group is unlikely to reach a solution acceptable to all the group members.

Uncooperative students

- Occasionally, one encounters an uncooperative student who may try to sabotage the process by not turning up; destructively criticising others; using aggression to trying to coerce the group into agreement with their point of view.

Possible strategies:

- Only very occasionally have I felt it necessary to remove a student from a group. If the success of the group working together is directly assessed, that is, you have indicated that marks will be awarded according to the coherence of the report (which is one way to assess group work effectiveness) the student could be penalised if they do not moderate their behaviour so that they can continue to work in the group. Where you think this could be an issue, it is important to write this into the assessment handbook.

Key points of any feedback gathered or evaluation undertaken with students or staff

The key points arising from feedback collected over many years of practice have been incorporated into the previous section where they have informed the 'possible strategies'.

Resources used

You can find the full report for this work here:

TQEF Group Work Project - link below

http://extra.shu.ac.uk/cetl/e3i_Case_Studies/TQEF_Group_Work_Project_20_June_06.doc

This information can be made available in other formats.
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