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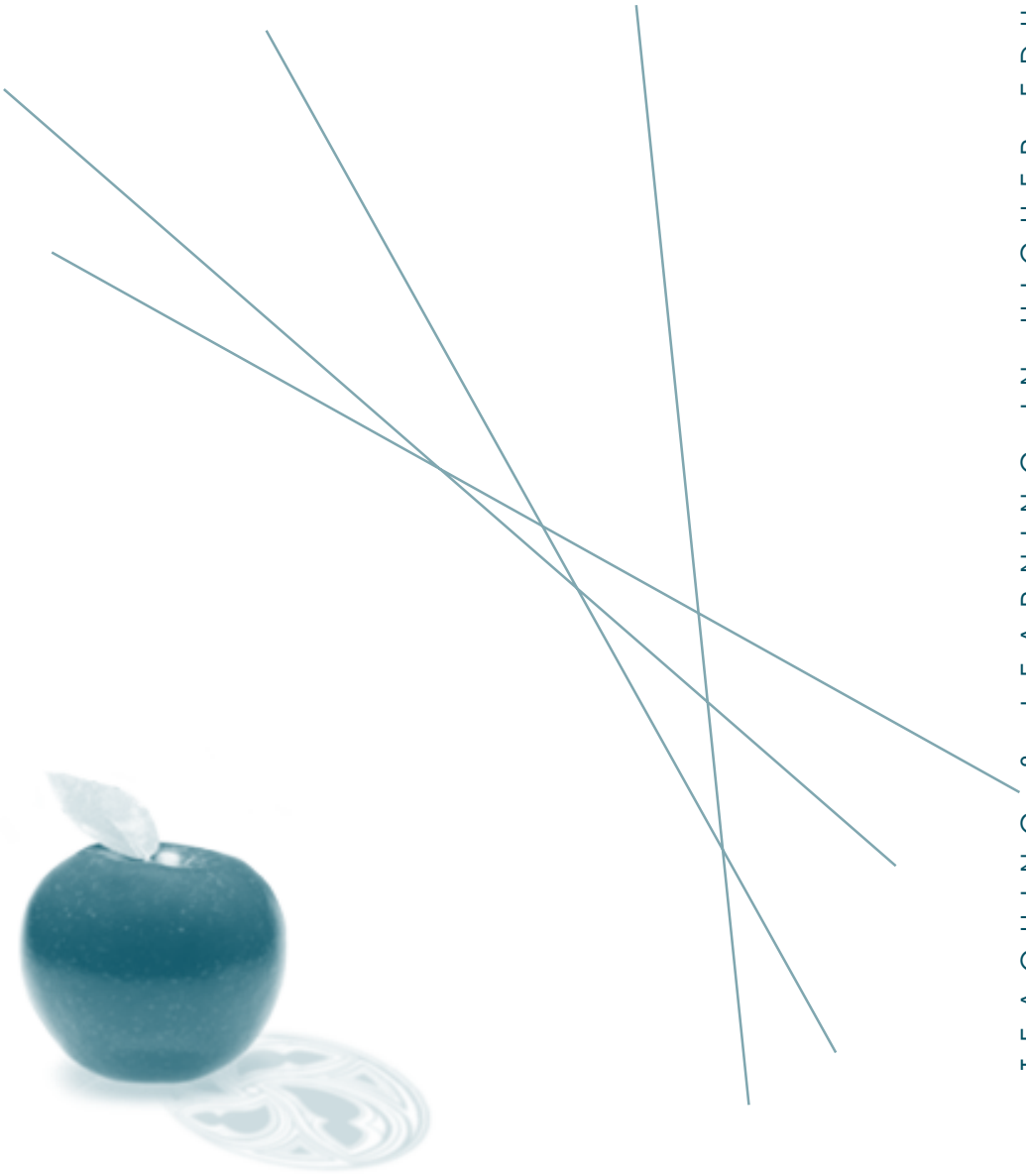

ASSESSING GROUP TASKS

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Assessing Group Tasks

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Contents

5 Introduction

6 Assessing group tasks

6 When should group tasks be assessed?

7 When should group tasks not be assessed?

7 Best practice in the assessment of group tasks

9 An example and some theory

13 Issues

13 Should all group members share the same mark?

14 Assigning marks to individuals

15 Self and peer assessment

16 Freeloading and plagiarism

18 Forming groups - the logistics

19 In conclusion

20 Appendix A – A sample group assessment pro forma

20 Appendix B – Group work

21 Group work

21 Benefits of group work

22 What tasks are suitable for group work?

24 Making group work work

25 Deciding group membership

29 References

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Introduction

Many university teaching staff find themselves considering assessing students based on work the students have done in small groups - group assessment[1]. The assessment may be purely to support students' learning in a program, or it may also make a contribution to their grades for the course (Isaacs, 2001). Both staff and students can benefit considerably from the use of group assessment. Staff gain another educational strategy to add to their collection. They are able to use their 'assessment time' strategically to help students learn more effectively with optimum effort from staff. They may be able to set bigger, more realistic tasks for students. They may place more responsibility on students for their learning. Students may benefit from learning from their peers. They may get more effective feedback on their learning. Their assessment and their learning activities are likely to be more closely integrated. They have the opportunity to see the work of other students. Against these benefits are the challenges. For the staff there are the challenges of managing small learning groups, the problems in organising peer marking, the logistical difficulties in setting up groups of students to work together, and the management and avoidance of plagiarism, and of 'freeloaders' (students who wish to benefit from a group's work, but do not themselves contribute). The students too must learn to manage their own small learning group. They too have to cope with the logistics of getting together to work, and they to have to manage plagiarism and freeloading. In addition, they have to find ways to learn from their peers and, in some cases, will have to learn to be assessors or markers themselves.

Both staff and students can benefit considerably from the use of group assessment.

Assessment should, be integrated into the learning activities of students (Biggs, 1999) as far as is possible. Indeed, it has become increasingly accepted that what and how students learn is largely determined by the assessment they expect (Marton and Säljö; 1976a,b; Newble and Jaeger, 1983, Scouller, 1998; Scouller and Prosser, 1994). If we feel students will benefit from learning in groups, then some of their assessment activities should be based on group work.

Major issues involved in the assessment of group tasks (Isaacs, 1999) are:

- When should group tasks be assessed?
- What issues impact on the assessment of group tasks?
- How should marks be allocated to individual students if the assessment is to count towards students' grades?

[1] Assessment of *what happens during group meetings* (e.g. assessement of class partipation – Armstrong and Boud, 1983; Bean and Peterson, 1998; Gopinath, 1999) is a separate issue. Here we are concerned with assessing products which are the result of students working in a group on a task.

Sitting in the background are issues connected with the use of group work itself:

- Why set group tasks - what are the benefits of group work?
- What tasks are suitable for group work and how should group tasks be constructed?
- What assistance and preparation do students need for group work?

Most of this booklet is concerned with the assessment of group tasks. However, Appendix B provides a background to group work.

Assessing group tasks

When should group tasks be assessed?

Assess a group task if you want students to take it more seriously. Assessment tends to drive the nature and extent of the effort put into a study task. The nature of the assessment will tend to determine the nature of the learning. Students are likely to put the most effort into tasks which have the strongest influence on their grade.

Make some of your assessment group-based, rather than based on individual work if this is consistent with the goals of the course. If a goal of the course is that students learn to work collaboratively then it makes sense for some of their grade to be based on tasks carried out collaboratively - group-based tasks.

Assess using a piece of work generated by a group if you feel that providing comprehensive feedback on one group assessment is a better use of your time than marking multiple individual assessments less thoroughly. Extensive and detailed feedback may be more feasible on a small number of group performances than on many individual performances.

Assess a group task if the group task is more authentic than individual tasks can be. An authentic task might be 'real life' task, which is as large and complex as circumstances will allow. Assessing such a group task is likely to be more valid than assessing individual performance, since the task is closer to the 'real world' performance for which the students are being educated. However, the group assessment may not be as reliable - reproducible over a range of similar tasks and occasions - because of the variability introduced by the group and the task themselves.

Assess a group task if the group can share the assessment load with the teaching staff and, in the process, gain learning benefits. Assessing the group task itself becomes a group task (for example, by using peer assessment).

When should group tasks not be assessed?

*Do **not** assess a group task if reliable assessment is difficult or impossible.* Some group tasks may be worth doing, but may have sufficiently unpredictable outcomes as to make them difficult to assess.

Do not assess a group task if the task conflicts with a learning goal it is designed to achieve. For example, if a goal of the group work is that students experience cooperative learning and working, but the assessment sets students in competition with one another for good grades (norm referenced grading), then the assessment and the collaboration goal are clearly in conflict. You may need to modify or abandon one or the other.

Best practice in the assessment of group tasks

Assessment of group tasks has the potential to benefit students and staff, but only if it is carefully planned. Best practice usually means good educational and assessment practice. You will need to prepare students for the assessment task, as well as designing the task appropriately.

*Have a clear **educational** reason for the assessment exercise.* The exercise should contribute to students' learning and, particularly, should help them to achieve the goals of the course. If this is not the case then it is either ineffective (does not contribute to learning) or irrelevant (does not help to achieve the course goals).

Design the assessment exercise to require the kind of learning you want from students. Students' learning activities are strongly affected by the assessment they expect. If you want students to gather facts and analyse them critically, make sure that the criteria used to assess their performance reflect both facets of the activity.

Bring the assessment task and the goals of the course into harmony. Assessment tasks and course goals should be 'aligned': the tasks assessed should reflect the course goals, and the course goals should reflect the tasks assessed (Biggs, 1999).

For example, if the task involves assessment of group functioning, then being able to function effectively in a group should be a goal of the course. It is good practice to 'map' assessment tasks against course goals. Draw up a table which shows which tasks assess which goals. This may tell you that some goals are not being assessed. You must then decide whether to add or modify assessment tasks to assess these goals, or whether to leave them unassessed. Equally it may tell you that some tasks do not assess any goals. This may mean that the tasks are superfluous or irrelevant. Equally, it may tell you that an important goal of the course has gone unstated. You will then need to work out whether this goal can be added to the existing course goals, or whether that will have to await the next offering of the course. Planning the assessment before the

Assessment of group tasks has the potential to benefit students and staff, but only if it is carefully planned.

goals are made public will eliminate this problem.

Be aware of possible subtle conflicts between assessment and desirable educational outcomes. For example, if an aim of the course is that students learn to collaborate, and yet the assessment sets them in competition for very scarce resources, there is a conflict.

Make sure students have the opportunity to learn whatever is being assessed– just as there should be alignment between goals and assessment activities, so too there should be coherence between the educational activities and the assessment. Teaching and learning activities should help students to be prepared for the assessment.

Give students a written description of the group task, complete with the criteria against which successful completion will be judged. This is required by the University of Queensland's assessment policies for any task which forms part of the formal assessment in a course.

Make clear to the students to what extent they will be assessed on what they do (process) and to what extent on what they finally produce (product). Frequently in assessing group tasks there is confusion as to what extent it is the end product (a report, for example) that matters, and to what extent it is the process taken to get there. Both the staff member setting the exercise and the students doing it need to know clearly what the situation is. Often this problem shows up as confusion as to whether it is the *effort* put in by a student which is to be rewarded, or the *endpoint* reached by that student.

Allocate class time to a discussion of the task and the way it will be assessed. Students will participate more wholeheartedly and more effectively if they feel confident they know what they are to do and how it is to be judged. They will be more enthusiastic if they have some 'ownership' of the task. This may be achieved by negotiating at least some of the details of the task with students in class - for example, negotiating the finer points of a marking scheme to be used in peer assessment.

Allocate class time for students to discuss and try out the assessment techniques, if students are to be involved in marking (peer- or self-assessment). Students need time and experience to learn to become assessors. This can be part of the useful learning from the course.

Group assessment - the details

An example and some theory

On what basis and using what evidence should marks be assigned to groups for their attempts at a task? In all cases it will be the pedagogical goals of the exercise, together with the your beliefs about whether, for example, students can be trusted to collaborate but not collude, which will determine the assessment methods used. As we will see, a number of crucial decisions will have to be made about assessment issues, including:

- Is process or product to be assessed?
- Who makes what judgements
- Should all students share the same mark?

In this section we work through a fictitious example to look at the decisions and principles involved. The example will be set out in a series of boxes.

Assessment task - design and test a wind speed measuring instrument

Students are allocated to groups of five. Each group has a budget of $25 which they may spend at the Faculty Workshop. They are to design, make and test a wind speed measuring instrument. There has to be a written report which outlines the possibilities the group considered before opting for a specific design, the design selected, and the performance of the instrument in the Faculty's Wind Tunnel. The report must also include an analysis and a critical reflection on the performance of the product.

Process or product?

The course coordinator has to decide what is to be assessed - process, product, or both. And, if product, what product? In the example above the group has to deliver two products, the instrument and the report - indeed, at this stage the coordinator has yet to state whether the individual students will each produce a report, or whether there will be a single report from the group. Assessment for this task might include:

- observation of the group's attempt at the task (process);
- the group's results (outcome or product);
- the group's report of its process (indirect assessment of process);
- the group's report of its results (indirect assessment of product); or
- a combination of these.

The course coordinator has to decide what is to be assessed - process, product, or both.

What will be assessed

The coordinator decides that **both** of the products will be assessed: the instrument itself and the report. The coordinator opts for a single report from the whole group. She feels that the report will be such a major document and based to such a large extent on the joint efforts of the group that this is the only sensible choice. However, she is concerned that all students be given an incentive to contribute to their group's efforts. Thus she elects to reward each student for their contribution to their group's efforts by assigning a mark for process.

The quality of the instrument produced will be assessed, according to criteria provided to the students, It is marked out of 50.

The group must produce a single report. This report is given a mark out of 50, based on the assessment criteria supplied to the students.

Each student's contribution to their group's efforts is to be evaluated against four equally weighted criteria:

- Contribution to the design process, for example by finding relevant articles, coming up with fruitful ideas or questions, making working drawings;
- Contribution to the construction, for example by actually constructing a device, by suggesting ways of constructing it, by solving problems involved in the construction;
- Contribution to the writing of the report, for example, by writing one or more sections, editing all or part of the report, offering criticism and feedback on drafts;
- Contribution to the testing of the instrument, for example, by designing the testing program, carrying out the actual tests, analysing the results.

Who makes the judgements?

Now, there is the issue of who makes the judgements - who will do the marking. Assessments might be made using:

- judgements made by staff;
- judgements made by the students as a group;
- judgements made by the students as individuals (peer and / or self assessment); or
- a combination of these.

What is to be judged?

The grades students are given may involve judgements of several aspects of the performance. When you decide which aspects will be considered for judgement you will need to consider the reason the assessment was set: the assessment criteria should be related to the goals of the task. For example, if the group has performed an experiment, there may be judgements made about the design of the experiment, the actual performance of the experiment, the analysis of the data, and the reporting. Judgements may also be made about the extent to which the group functioned effectively.

You may choose to report the judgement as a single mark, or as a profile of marks against several criteria (for example: the quality of the reasoning, the correctness of the answer, the extent and quality of contribution to the group's efforts, the comprehensiveness of the report). A single mark will make it easier to combine the results from a number of assessment exercises. However, a profile of marks against several criteria will make it easier to give detailed feedback to students. You may wish to report a profile of marks and some overall combination of these into a single mark.

Who judges what?

Deciding who makes the judgements is difficult to separate from deciding who judges what. Sometimes more than one person or group will make a judgement of a single aspect. For example, both the group members and their tutor may judge how well the group functioned in carrying out the experiment. One might expect that, *provided the individual judgements are well founded,* a composite judgement based on several inputs is likely to be more stable ('reliable') and a better reflection of the quality of the performance ('valid') than one based on only one input[2].

Who marks what - the products

There are 400 students taking this course and they are divided into groups of four. The coordinator knows that the reports are complex and extensive documents. She would be unable to mark 100 of them reasonably rapidly, while still giving due attention to each and providing proper feedback. Each group's tutor / demonstrator would be a good candidate as marker - but they have been closely involved with the report, giving advice and feedback on preliminary drafts. She decides that the reports will be marked by tutors, but no tutor will mark the report of their own group of students.

To introduce a measure of quality control over the marking, marking will be done at a 'marking afternoon', where all the tutors gather and difficulties with the marking scheme are discussed and resolved.

The quality of each group's instrument will be judged, according to set criteria, by their own tutor/ demonstrator. While the marker knows the students, he or she also knows the instrument, having seen it constructed over the semester. The benefit of knowledge of the instrument through seeing it being developed more than balances the disadvantage of the possibility of bias involved in knowing the students - the workload involved in the marking would be too great for someone who had not seen the instrument being developed. The course-coordinator checks a sample of these marks to see that the assessment criteria and marking scheme are being accurately applied and checks patterns of marks to

[2] A recent review article by Falchikov and Goldfinch (2000) found that multiple judgements were not necessarily better than individual ones, and that they were worse as the number of assessors involved increased. However, the review article did not consider the quality of the preparation of the individual assessors.

detect tutor bias (e.g. some tutors may mark higher overall or some mark lower overall).

The budget for the course will not permit more than one person marking each assessment item. However, as we have seen, there is quality control for the marking, which is carried out at a 'marking afternoon'.

Who marks what - the process

Contribution to the group's efforts seems the most difficult thing to measure. The coordinator has seen forms such as the one in Appendix A and feels that, if such a form were appropriately modified, it could guide the students to assess contribution. After all, it is they and only they who have first hand knowledge of what has happened in the group. The students in the group are asked to mark themselves and each of their peers on the four criteria, using a more detailed set of sub-criteria shown on a form supplied to them.

Marks on each criterion can range from 0 to 25.

At a meeting around the middle of the semester students discuss how marks are actually to be allocated on each criterion (the marking scheme). 0 means a barely adequate contribution and 25 means a very significant contribution. The coordinator tells the students that, if they feel a student is in danger of falling below the minimum standard (for example, by not participating at all) they should first try to sort out the problem with the student and, failing that, see the course coordinator. They are advised that if problems are left until it is too late to remedy them the coordinator will be somewhat unsympathetic to the group's plight. Ultimately each student gets a mark out of 400 (four students assessing on four criteria, each worth 25).

At this stage each student has a profile of three marks: a mark out of 50 for the instrument, a mark out of 50 for the report (both of these group marks), and a mark out of 400 for their personal contribution.

Aggregating marks and assigning grades

The problem now is if or how to combine each student's three marks to yield a grade.

For feedback, students will be told the component marks and will be given written comments on their work. In the case of contribution they will be given the pro formas without knowing who completed which.

However, ultimately a single mark is needed. The coordinator decides that each student will get the group mark - the sum of the 'instrument' mark and the 'report' mark. However their contribution to the group's work will be allowed to influence 20% of this total. This will discourage students from 'freeloading' [see below], but the greater proportion of the mark will still be based on the academic quality of the products. Serious 'freeloading' (for example, where an individual takes no part in group meetings) will be treated as a disciplinary matter and taken up

with the Head of School. The result is an individual mark for each student, derived from the group mark and reflecting the way the group saw that student's contribution to its work. The 'contribution' mark, as a fraction of 400 will be used to modify 20% of the group-based marks.

The final mark is:

> 0.8 x (group report mark + group instrument mark) +
>
> 0.2 x (group report mark + group instrument mark) x (student mark) / 400

That is, each student's mark is the sum of two components - a 'group' component and an 'individualized' component. The group component makes up eighty per cent of the student's mark and the individualized component the other twenty per cent.

The group component is simply the sum of the report and the instrument marks. It is multiplied by 0.8 to achieve the eighty per cent weighting.

The individualized component is the group component multiplied by the student's individual contribution mark expressed as a fraction of the maximum possible contribution mark (400). The result is multiplied by 0.2 to achieve the twenty per cent weighting.

A student getting the maximum possible individualized component will be awarded exactly one hundred per cent of the group mark. However, because the individualized component can be as little as zero, a student can get a mark as low as eighty per cent of the group mark. Thus the possible influence of individual contribution is limited to twenty per cent of the group mark.

Issues

Some issues which have been raised in the example are:

- whether all students should share the same mark;
- assigning marks to individuals;
- self and peer assessment;
- freeloading and plagiarism; and
- logistics.

These are addressed in more detail below.

Should all group members share the same mark?

There is no clear 'yes' or 'no' answer to this question. Your decision should be based on the goals for your course and for the assessment exercise. Having the group share the same mark should enhance collaboration. However, how you deal with freeloaders (students who do not participate adequately in the group's work) then becomes an important issue, as freeloaders, if allowed to continue unchecked, will be rewarded with the group mark. This raises questions of equity. Here are some of the general arguments for and against group members sharing the same mark[3].

Your decision should be based on the goals for your course and for the assessment exercise.

[3] Options for the assignment of marks to individuals are discussed under *Assigning marks to individuals.*

In favour of uniform marks for all group members

If the task is an intensely collaborative one then it may make good sense to award the same mark to all students in a group. Uniform marks also *encourage* collaboration by removing a rationale for competition within the group. There is an incentive for all group members to do their best and to extract the best possible input from others. This may mean the group divides the task among its members with each taking responsibility for an aspect in which they are the strongest. Non-uniform marks will send a message to students which is at odds with the collaborative message you are trying to send by setting that task.

In favour of a different mark for each group member

Individual marks allow outstanding performance to be rewarded and indifferent performance or 'freeloading' to be penalised. There is an incentive for each group member to do their best on those aspects of the task that have an effect on their individual mark. No competition need be introduced provided marks are allocated based on the standards reached by each student, not on the comparative performances of group members.

If competitive awards are to be given then individual marks become more desirable. In some courses the proportion of assessment which is group-based is becoming quite high. Some honours or university awards are based on students' grades in their courses. However, if most group work is graded uniformly for the group then a student's grade in a course may not actually reflect that specific student's achievements accurately. Thus an award will be gained on a questionable basis. If grades are to be awarded to individuals then at least some of the marks on which the grades are based should also be awarded individually.

Assigning marks to individuals

Having decided to assign marks to individuals, which certainly will **not** be the decision in all cases, *how to do so* becomes the issue. This is not a straightforward problem and is not our main focus. However, there is a brief discussion below, including a brief review of the relevant literature.

The literature on assigning individual marks for group projects is plentiful, and many 'solutions' are proposed to the 'problem'. Generally these solutions involve at least a component of peer marking and, sometimes, self marking. Conway et al (1993) attempt a classification of ways of assigning individual marks, while Lejk et al (1996) also survey methods used. Rafiq and Fullerton (1996) discuss a case study which they claim implies that the best method of assigning individual marks will be context dependent, and Freeman (1995), Earl (1986), Goldfinch and Raeside (1990) all discuss the methods they used. The most appropriate method will be strongly dependent on the subject and the teaching method.

Using student generated marks

Some authors advocate using student generated marks (most frequently for group process or participation only)

to moderate the mark allocated to the group as a whole. Two typical methods are:

- The group as a whole is allocated a mark to be distributed among its members. The group members, informed by their peer- and self-assessments on process, divide this mark into final, individual marks which may vary by up to 20% (say) from the average mark for the group members. In some cases this is done using a set algorithm, while in others it is done by group consensus or by voting.
- The teacher uses the marks allocated by the students to themselves and their peers to modify the mark the teacher has allocated. In some cases this is done by adding the mean of the peer and self marks for a student to that student's teacher-allocated mark. In other cases more complex algorithms are used.

In the example above such an algorithm was used - the aim was to limit the amount of the teacher-allocated mark that could be influenced by students. Moreover, serious flouting of the requirements by students was dealt with as a breach of the rules, not as an assessment issue. Students were told in their course outline that failure to attend group meetings and to participate in group activities without an acceptable reason would result in failure in the assignment.

Equity

There are issues of equity and justice here. All students need to know that marks are being allocated rationally according to predetermined standards on pre-specified criteria. Moreover, the process or products that are required should not pose unreasonable barriers to students from equity groups or with a disability.

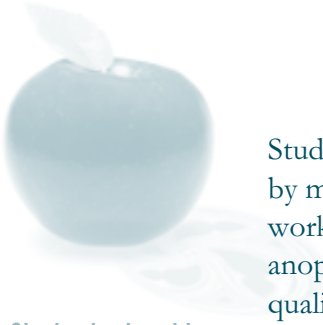
All students need to know that marks are being allocated rationally according to predetermined standards on pre-specified criteria.

Mediation, deadlocks, cultural issues

Given that the marks are the outcome of a task tackled by a group, you will need to have a mechanism for breaking deadlocks and mediating disagreements - indeed, ideally these mechanisms would come into action *before* the marking stage so problems with group functioning and disputes are tackled while the task is still being undertaken. Moreover, you will need to have a clearly articulated policy for assessing those who are unable (perhaps for cultural or religious reasons, or because of some kind of disability, acute or chronic) to participate in a group.

Self and peer assessment

In group-based assessment students are sometimes involved as self- or peer-assessors. That is, they assess either their own work or the work of some or all of the other members of the group. You will need to decide whether the students are to mark anything, and, if multiple criteria are used, on which criteria the students are to express a judgement. If there are both staff and student marks, then you will also need to decide how these marks are to be used together.



Students stand to gain educationally by marking their own and others' work

Students stand to gain educationally by marking their own and others' work because they will then have anopportunity to reflect on the quality of their own work and that of others (Hanrahan and Isaacs, 2001).

Some authors argue that students are not competent to judge some aspects (for example, 'assessment tasks requiring subjectivity such as critically evaluating presentations' - Freeman, 1995). They may be competent to assess the extent to which they and their colleagues have participated effectively in the group, but may not be competent to assess more substantive aspects. Staff, while competent to assess substantive aspects, if called upon to assess process, may have to rely largely on second-hand evidence unless they have closely observed or participated substantially in the group.

However, the consensus of recent work seems to be that students are capable of assessing their own and their peers' work in a way that is consistent with marks given by teaching staff (Boud, 1995, Falchikov, 1986, Falchikov and Goldfinch, 2000, Stefani, 1994). This is most likely to happen if:

- students mark the *process* aspects of group work (participation, contribution, effort, for example);
- there are clear criteria and standards set down for the assessment and these are well understood by students;
- students have some practice and training in the use of the criteria and standards;
- students are judging performance on 'academic' tasks, rather than professional practice (Falchikov and Goldfinch, 2000).

A recent review (Falchikov and Goldfinch, 2000) concludes that peer assessment marks generated by students are *most* likely to resemble those given by teachers if the students give an *overall* mark based on consideration of detailed separate dimensions or criteria (but *not* based on adding up separate marks for each criterion). This means that, if students are to give marks on individual criteria, you will need to prepare them carefully and possibly to train them in doing so. It is likely you will also need to spend time and effort supporting them as they do the assessing.

Freeloading and plagiarism

'Plagiarism' is the use of the ideas of others without acknowledging the source. 'Freeloading' happens when students in the group benefit from the work of others, but do not contribute significantly themselves. Both freeloading and plagiarism can be either accidental or deliberate.

Group assessment may reduce the more common forms of plagiarism.

Group assessment may reduce the more common forms of plagiarism. If the group is to plagiarise as a group (e.g. when there is one assessable group product) then the group members must either be ignorant of the plagiarism policy or they must collude in breaking it. However, at the same time, it

introduces the problem of freeloaders or 'free riders' - students who benefit from the work of the group without themselves contributing.

Dealing with freeloading

Freeloading can be minimised. It is doubtful if it can be eliminated.

Useful strategies to minimise freeloading are:

- *Making the students partly responsible for averting problems.* If a group feels one of its members is freeloading then they should be asked first to try to negotiate with the 'problem' person. This means that you may need to train or students in handling conflict and decision making in groups. If negotiation by the group fails, then they should ask a designated member of the teaching staff to mediate or to take other action.
- *Reward contributors, but not freeloaders - include contribution to the outcome in the assessment.* Students' individual contributions to the outcome may be assessed either by the students themselves (self and peer assessment) or by a staff member who has sufficient information to make a judgement (often a tutor) (Bartlett, 1995).
- *Make it perfectly clear to students what you mean by freeloading.* Students may interpret as freeloading either a low *quantity* of input to a group, or a low *quality* of input. Especially where the group is of mixed ability, you may need to indicate what you value about the input of group members. For example, is it effort that matters in looking at contribution to the group's achievements (in which case students of lesser ability will not be penalised) or is it achievement, or a mix of the two?

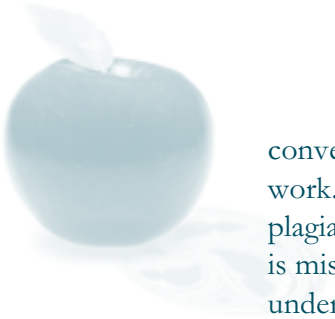
Deliberate and 'situational' freeloading

Students in groups of mixed ability may misconstrue the less successful efforts of less able members as deliberate freeloading. You should help students to distinguish 'deliberate' from 'accidental' or 'situational' freeloading. You will then need a policy to deal with 'situational' freeloading. Should this be treated as an opportunity for the stronger students to help and to teach the weaker? Or should the students bring the problems to the supervisor's attention? Or should it be treated in the same way as deliberate freeloading? It is difficult to see why situational freeloading should be treated as if it were deliberate, especially as deliberate freeloading is akin to cheating. Even so, whether you ask the group to help the freeloader, or you yourself choose to act will depend on the context. For example, the group may not have time to devote to assisting its weaker members.

Students in groups of mixed ability may misconstrue the less successful efforts of less able members as deliberate freeloading.

Plagiarism

Plagiarism is using the work of others without clear acknowledgment of the source. Plagiarism may occur with the intention of deceiving the reader, in which case we sometimes speak of 'cheating'. Alternatively, it may happen out of ignorance of proper



convention or as a result of careless work. At most universities plagiarism with the intent to deceive is misconduct and is dealt with under the university's statutes.

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Averting plagiarism with assessed group tasks

It is easier and preferable to make plagiarism unlikely, rather than trying to cope with it after the event. Often plagiarism can be averted by taking a few straightforward steps:

- *Tell the students what plagiarism is,* even if a statement already appears in the course outline.
- *Point out that knowingly plagiarising can be considered cheating* – this is punishable under the university's statutes.
- *Show the students how to correctly reference and acknowledge the work of others.* Conventions differ from discipline to discipline, and sometimes even among various courses in the same discipline. Examples of good practice often are more helpful to students than sets of rules that must be followed
- *Explain to students what counts as collaboration and what as collusion.* In the group situation there may be a blurring of the difference between collaboration and collusion. In such situations it is *especially* important that you make *very* clear to students what you consider collaboration or cooperation and what collusion, and that collusive behaviour may result in an assessable product which you will treat as (at least in part) plagiarised. You will need to make very clear to students when, and to what extent, a product which is *acknowledged* to be the result of collaboration is acceptable and when and to what extent the product must be solely the work of the student
- *Consider allocating the same mark to all group members - or at least the same mark for the intellectual part of the task.* When individuals in a group are allocated different marks, they may feel there is an incentive for them to cheat to maximise their mark. When all students in a group are allocated the same mark the main plagiarism issues are those of groups plagiarising from each other or from other sources: the 'usual' plagiarism problems with the slight difference that groups are involved rather than individuals.

Forming groups - the logistics

The logistics of group formation and group working are not, strictly speaking, an assessment issue. They are more to do with the running of groups and are dealt with as such in Appendix B. However, if the group can not function well or possibly not function at all, this will have an effect on learning and assessment outcomes. As noted in Appendix B, some logistical factors which may have an effect on a group's functioning are:

- whether and where the members of the group can meet
  - students may be better able to

meet outside classes if they are already friends or acquaintances;

- if meetings are to take place during classes (e.g. during tutorial times) it may help to have all group members be in the same class grouping;

- computer compatibility - the extent to which group members will be able to share documents and data with each other;

- 'group load' - whether students in your class are likely already to have substantial amounts of group work to do in other courses. Organising meetings with a number of groups is more difficult than organising to meet with one.

You should be alert for these and any other practical considerations when deciding on your assessment strategy.

In conclusion

It is possible to carry out assessment based on group tasks in an educationally sound and defensible way. However, you will need to take some care in doing so. In particular, you will need to justify carefully both the use of a group task and the use of that task for assessment purposes. Moreover, you will need to explain to the students concerned, in a clear, unambiguous way, whatever assessment method is used. Students may then need some training or practice in relevant group skills and assessment skills. You and other staff will need to be familiar with such skills and will need to know how to train and support students in them.

Fairness and equity need to be considered from the very start of the process, when the task is designed and the students are allocated to groups, to the final stages, when marks or grades are being generated and allocated to students. Attending to these issues when the assessment is planned will make the whole process run more smoothly and effectively for all concerned.

Assessment based on group tasks is neither more nor less complex than other assessment methods. Because more and different sources of information contribute, using this kind of assessment may increase the validity of the grade in the course, provided the nature of the assessment task is in line with the goals of the subject. In some cases, assessment based on group tasks may also lessen the marking load for staff and free their time for giving more complete feedback on students' work, thus enhancing the role of the assessment in students' learning.

Assessment based on group tasks is neither more nor less complex than other assessment methods.

Appendix A

A sample group assessment pro forma

Note: If you choose to adapt this for use you will need to include elements specific to the task you have set the group.

Assessment on Group Task

Student being assessed:

Student making the assessment:

For each aspect rate the student on a scale from A to D using the following guide:

A did this very well **B** did this adequately
C did this less than adequately **D** did this poorly

Your comments may be provided (anonymously) to the student you are rating; please make them informative, constructive and helpful.

General aspect	Specific Aspect	Comment	Rating
Group process	Attended a large majority of group meetings		
	Maintained contact with other group members		
	Contributed constructively to discussion		
	Asked useful questions		
	Generally was cooperative in group activities		
	Encouraged and assisted other group members		
The task	Made a genuine attempt to complete all jobs agreed by the group		
	Made an intellectual contribution to the completion of the task		
	Did (at least) their fair share of the work		
	Contributed a significant amount (measured in ideas as well as words) to the report		
	Read and commented in a timely manner on drafts of the report		
Overall	Based on your ratings and comments above, this student's contribution overall on this group task		

Appendix B

Group work

Students who are to be assessed on a group task will be working as part of a small group. There are ways in which students can learn how to function more effectively in such groups and in which staff can support these activities. First you will need to know the basics and the benefits of small group work.

A small group consists of a number of people (from three to about ten) who have some experience in common. A collection of people, brought together, who do not yet know each other is not (yet) a group. A learning group is a group whose participants are engaged in learning. As they come into existence, generally learning groups go through four stages (see, for example, Cotton, 1995a):

Forming - at this stage everyone feels anxious because they do not know how to behave or what is expected of them. The first task is to establish rules and decide what methods are to be used.

Storming - there is conflict between sub-groups as individuals oppose group pressure and opinions become polarized, the usefulness of the task is questioned, and everyone tends to react emotionally.

Norming - group work begins to harmonise and find a common purpose, norms are established and members of the group start to support one another. A communication system develops within the group.

Performing - the group begins to carry out constructive work, they start to channel their energy towards the task in hand, and individuals can make use of their expertise. Satisfactory results appear.

Cotton (1995a) adds another stage which is highly applicable to groups charged with generating an assessable product:

Informing - the group turns to reports and set assignments; this is the stage of reporting progress and achievements to outsiders. A learning group will hand their work to assessors and verifiers.

The main benefits of group work start to appear once the group performs.

Benefits of group work

There are many benefits to be derived from using group work as part of the teaching and learning activities in a course.

Teamwork

Working in teams can make a course an involving and satisfying experience for students. In a much-cited review of the literature Collier (1980) sets out some likely benefits in higher education[4]. Collier's review predates and prefigures much of the work cited below on collaborative learning. According to Collier team work can lead to:

- increased involvement of the students;
- better attendance at classes;

[4] Collier's own work dealt with small groups of up to ten or so students, collaborating in doing assigned work, acting as teams. The students in a team were considered equals, and the teams worked to some extent independently of the teaching staff.

- greater expenditure of time on the work away from class;
- greater satisfaction with the course;
- wider and more 'serious' reading on the subject;
- increased pressure towards the completion of the task;
- increased desire to pursue the study subsequently;
- increased cooperation among the members of the syndicates;
- greater willingness to attend carefully to one another; and
- a stronger sense of mutual obligation among the members

Enhanced student learning

- Students may learn from others in their group - collaborative learning (Boxtel, 2000; Bruffee, 1993; Falchikov; 1986, Roschelle; 1992, Stefani, 1992)[5].
  Collaborative learning takes place when students help one another to learn, rather than relying solely on the teacher. Some writers speak of the students forming a learning community. Thus collaborative learning is active and generally highly meaningful to the students; learning is more likely to be 'deep' learning for meaning and understanding.

  Until a learning group has reached the *performing* stage, collaborative learning will be limited. Students will principally learn about each other and, if they are reflective, about the process of group formation. Once the group starts performing, students will collaborate and learn together.
- Students working in a group have the opportunity to see how other students approach and solve a problem – they learn that there may be more than one 'correct' way to approach a problem and have the opportunity to develop ways of evaluating competing solutions.
- Students have the opportunity to learn group skills (negotiation, communication, facilitation, questioning, reporting, judging and assessing), *provided the situation is designed to afford or to encourage such learning.*
- Group work promotes student autonomy - it lessens students' dependence on the teacher.

Increased motivation and effort

- Students are likely to have increased involvement, put in more effort, gain greater satisfaction, and be more oriented to completing the group's task.

What tasks are suitable for group work?

Some tasks are especially suited to group work. These include tasks where the goals almost demand its

5 Discussions of collaborative learning from a cognitive science perspective – especially of collaborative learning in environments which include computers – may be found in the various papers in Dillenbourg, 1999.

use. For example, group work is highly desirable when:

- The goals of the course explicitly involve working in groups.
- The goals of the course explicitly involve learning about groups and their workings.
- The goals of the course involve learning about specific roles which usually are part of a group (e.g. the role of a board member or of a committee member).

Also, some tasks may be achievable only if undertaken by a group. For example, large, complex tasks which can be split into subtasks, such as carrying out and analysing a survey administered personally to respondents, are well suited to a group approach. So too are tasks such as role plays (for example, where group members act the roles of the members of the committee managing a club or society) which are, essentially, group tasks.

Finally, sometimes practical restrictions may make group work one of the few viable options. For example:

- Limitations in the context (for example, not much equipment available; very few people who satisfy the selection criteria are available to be interviewed) may mean there are not sufficient resources for students to undertake the task individually.
- Teaching staff may feel they can do a better job when looking at fewer attempts at the task (for example, they decide they can give more comprehensive and useful feedback on twenty or so group reports than they might on one hundred or so reports from individuals).

As detailed in the introduction to this section it does take time for a group attempting to carry out a task to become effective - the group will need to sort out relationships among group members and the roles they will play. However, if the task is large then this time generally is more than made up when the group divides up some of the task among its members, who then do their subtasks simultaneously. The group will also benefit from the pooling of the knowledge and resources of its members.

Tasks suitable for group work include:

- *Tasks which are essentially group tasks.* For example, role playing the board of a company; undertaking a project in which a variety of skills and skilled people is required (statistician; technician; experimentalist etc in a scientific experiment, for example).
- *Tasks which are too large for one person, but can, at least in part, be split into subtasks that can be done in parallel.* For example, observing and analysing consumer behaviour in six different milieux; dissecting and documenting the dissection of an animal cadaver; applying a mathematical model to a number of different sets of observations.

- *Substantive tasks which may be manageable by one person; but for which reporting is onerous.* In this case it may be best to divide both task and reporting among group members

Making group work work

Working in groups or teams demands a set of skills. Students will not acquire these simply by being told to do so. If students are to work effectively in groups then they will need opportunities to learn how to do so. If you can not assume students have prior knowledge of and skills in group work, then you will need to provide an opportunity within the current course for students to acquire them. Students will need to learn about the way task-oriented, learning groups tend to work, about the roles group members commonly take, probably something about the management of complex tasks, and they may need to have some familiarity with the recognition and resolution of conflict in groups. Some group members may also need to increase their assertiveness in social situations (Training in this type of skill commonly is available from a Student Counselling or Study Skills unit). This can be an issue faced by students from groups, such as women, indigenous people, people from non-English speaking backgrounds, or people from a working class environment.

In summary, students need to gain:

- knowledge of group processes (Jaques, 1992; Cotton, 1995a, b);
- communication skills (Habeshaw and Steeds, 1993, for example);
- basic management skills;
- some facility in conflict resolution in groups.

You can help students to acquire these skills by running workshop-style sessions for them, in which they practise group work under the supervision of their regular teacher or of an expert in group work. These sessions should be supported by appropriate written material. Cotton (1995a, b) contain useful theoretical notes, practical tips and exercises.

A checklist for preparing students for group work follows.

Preparing students for group work - a checklist

In preparation for the group work, have you:

- Allocated class time (large group and small group) to discussion of how groups work?
- Allocated time in small classes for students to practise group skills (questioning, discussing, negotiation, active listening for example)?
- Prepared written information to back up the class sessions on group work?
- Explained to the students how groups will be composed and allowed for some discussion of this?
- Explained to students when and how often groups are expected or obliged to meet?
- Suggested to students a possible

structure for the groups and their meetings? (Should group meetings have an agenda and, if so, what might be on it? Should they be chaired and by whom? Should minutes be kept and, if so, by whom and for what purpose?)

- Set out a process for dealing with 'delinquent' group members (for example, those who do not come to meetings) and dysfunctional groups (for example, those which fail to meet at all)?

Staff, too, need to know about how groups work and to have skills in their management. Such skills frequently are acquired in staff development courses or in some social science courses. Also, there are useful texts on the topic, such as those by Jaques (1992) and Cotton (1995a,b), as well as collections of case studies and examples, such as Thorley and Gregory (1994), and Race (2000).

Deciding group membership

For all group tasks the composition of the group may have an effect on both the learning of group members and on the quality of any assessable product. You should therefore have a clear, conscious policy on how groups are to be composed. The issues, which are to some extent interrelated, include:

- Should group membership be determined by the teaching staff or by the students, or a combination of the two?
- Should group members be of similar ability (by what measures?) or of varied ability?
  - If varied ability, should there be a systematic attempt to constitute groups with a variety of abilities in each, or will randomly constituted, haphazardly generated, or student-selected groups suffice?

The membership of a group can have a major effect on how well that group performs on its assessable task. Groups that fail to 'form' and 'norm' will not 'perform'. And even groups that do 'form' and 'norm' will only 'perform' within the limitations set by their members'abilities.

Who should determine group membership?

Logistical considerations

Why put 'logistics' as the first factor in deciding group membership? The fact is that frequently logistical issues dominate all others. While it may be desirable for either students or staff or some combination of these to determine group composition, in reality practical expediency may intervene. For example:

- *Task groups can be subgroups of tutorials if a class normally divides up into tutorial groups.* Then students can meet and present their results during tutorial times.
- *Task groups can be based on where students live, if the task groups have to meet outside timetabled classes.* If a member of a task group lives far from the others, that member may become a 'freeloader' for the purely

practical reason that it is difficult for them to attend group meetings. Grouping by living location lessens this problem.

You do need to consider some other logistic issues when planning your group-based assessment program. These issues may not determine group membership, but they need to be considered:

- *Computer compatibility* is increasingly an issue - do group members all have software that will enable them to share and amalgamate drafts of work?
- *'Group load' may even influence you not to use a group task.* If students are being assigned group work in several courses simultaneously (resulting in a high 'group load') then the problems with finding opportunities for groups to meet outside classes increase exponentially - many more students' timetables are involved.
- *Work and family commitments* may limit the times some students are available for meetings outside timetabled classes. It is one thing to insist that students must do some work in their own time in order to learn sufficient to achieve the goals of a course. It is quite another to insist that they organise their non-timetabled hours to coordinate with the times available to other students. Try to leave at least *some* class time for task group meetings.

Most of these issues arise only when the group has to meet outside timetabled classes. You can eliminate most of them if adequate time is allocated during timetabled classes to group meetings. You can at least lessen their impact if *some* group meetings can be held during timetabled classes.

Students

Allowing students to form their own groups with staff assisting those who are unable to do so will involve less work for staff than other options and addresses some of the logistic issues, especially if the groups are to meet outside formal classes. Often friends will elect to join the same group, making meetings outside classes more practicable. There will, of course, be students who are not invited to join any group and are unable to form their own. You may then have to form groups of these students. Since they are likely to be groups of strangers, they are unlikely to function as effectively initially as groups of friends or acquaintances.

If possible, wait to form groups until the course is well under way. Students may be better able to form groups themselves if the group task occurs after students taking the course have had the opportunity to get to know each other.

Some staff allow students to form their own groups, but suggest criteria they might use to do so. Students with similar interests might choose to form a group, or students may attempt to form groups in which a variety of interests and approaches are represented. For example, one staff member who is

teaching a computer software course suggests that groups include at least one person who is keen on writing computer code and at least one who approaches design tasks as opportunities for creative expression. Another staff member suggests that students wanting similar grades form groups - those wanting simply to pass might form some groups, those aiming for high grades might form others. Is this a good criterion to use? You will need to think hard about the educational consequences of strategies such as this one if you intend to use them.

Staff

Like students, staff may be better equipped to allocate students to groups after the course has been in progress long enough for them to get to know many of the students. This may help determine the time at which the group task is undertaken. If staff determine group membership then both practical and educational imperatives may be addressed.

- *Assign students to groups either haphazardly or truly randomly* (for example, by drawing names out of a hat) *if your* practical *aim is to minimise staff workload.* In this case a kind of equity is maintained. Some students maintain that groups of 'strangers' get more work done than groups of acquaintances. They claim that a group of strangers has nothing in common but the task; such a group spends more of its time on the task at hand and less on socialising.
- *Assign students of like ability to groups if your educational aim is to see just how much a group can achieve in tackling a problem.* Then the 'best' students (by what criterion?) will be in the same group and may well set the benchmark for what can be attained. Of course, students of lesser ability also will be grouped together and they are likely to achieve less.
- *Have groups with students of varied ability in each if your* educational *aim is to have students* on average *achieve as much as possible.* The hope is that students of lesser ability will learn with the assistance of those with greater ability, while students with greater ability will learn while clarifying their thoughts when assisting those of lesser ability. Arguably, the most effective mixed ability groups will be those with a moderate rather than large ability range – 'medium' with 'low' ability, or 'medium' with 'high' ability. If the range is too great then neither the 'better' nor 'less good' students are likely to benefit (Slavin, 1990).

Points to consider

If you group students into like ability groups, then those in the lesser ability groups may claim this is inequitable, since their group is deprived of the input from more able students. If you group students systematically into groups of mixed ability then students of higher ability may complain that they are being 'held back' from achieving their best by the efforts of less able students in their group. Both of these complaints may be pre-empted to an extent if you explain *at the time groups are formed* **why** you are

using a particular method of allocation and **how** students can maximise their chance of a good mark (by collaboration and mutual assistance). If students are allocated individual marks by some method then it is *possible* that this will go some way towards addressing the concerns of the more able students.

Ability need not be the only criterion for assigning students to groups. For example, in some situations heterogeneity of background may be important, since it may provide the group with a variety of experience on which to draw. 'Background' may mean the students' social, cultural or academic background - in different areas of academic endeavour, any of these may be relevant.

For further assistance with assessment or other teaching and learning matters please contact the Teaching and Educational Development Institute.

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Notes

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