**Imperial College London**

FACULTY OF NATURAL SCIENCES

When group work is well planned, it can be a very positive experience for students, as the quotes from students below demonstrate:

*"The fact that we were working in teams brought students closer together and helped in exchanging knowledge."*

*"People found it great to work with students they never worked with before. The possibility to take some responsibility was greatly appreciated too."*

*'It allowed me to get to know more people of my course, and it pushed us to work in a team. As participation was marked, it pushed people to make an effort to give their views, and to debate with the other members of the team.'*

It is important when considering the use of group work, to first consider the following:

- What is the purpose of the activity?

- Will the students learn specific skills that cannot be learnt in any other way?

- Have you developed Intended Learning Outcomes for your course which are specifically linked to this type of assessment- such as those that relate specifically to cooperating and collaborating in teams.

- How will you assess the team working process and not just the final output?

- How will you ensure that the assessment of the groupwork is fair and that students are awarded marks in line with their contribution?



**A CASE STUDY:**

**Dealing with "free-riders" in assessed group work: results from a study at The University of Wolverhampton**

"ABSTRACT: Potential employers require graduates to be able to demonstrate competent teamwork skills in initiating ideas and solving problems cooperatively. Teamwork is prevalent in educational institutions and often included as a way of enriching learning and assessment. Whilst group working can provide a rich opportunity for cooperative learning, its assessment can be the cause of much anxiety amongst students. This paper examines the phenomenon of 'free-riding' and explores methods of managing potential abuse. Six approaches were trialled in a UK university business school on modules of study involving assessed group work and the views of students and tutors analysed. Findings from the study indicate that students (like academics) value teamwork even when it is assessed. Any method to moderate 'free-riding' is appreciated by students." *Barbara Maiden and Bob Perry, Assessment & Evaluation In Higher Education Vol. 36 , Iss. 4,2011*

Read more at: http://www.tandfonline.com/doi/full/10.1080/02602930903429302

**Some helpful guidance:**

The Higher Education Academy offers some helpful guidance on assessing group work here: https://www.heacademy.ac.uk/system/files/assessing_group_work.pdf

The HEA has also produced a useful 'Toolkit' related to assessment: Transforming Assessment in Higher Education Toolkit

The EDU offer workshops on assessment design:
- Setting and Marking Assessments
- Programme-level Assessment Design
http://www.imperial.ac.uk/staff/educational-development/

**A CASE STUDY:**
**Team Based Learning and Peer Assessment in the Department of Life Sciences**

Pietro Spanu, from the Department of Life Sciences, uses TBL and peer assessment in his applied molecular biology module, which he delivers to approximately 140 second year students.

Students come to Pietro's sessions having studied materials in advance. When they arrive, they begin by being assessed with a multiple choice test. After the test, students join together in groups and are asked to work on the same set of questions. For each question they answer correctly, they score 100 per cent. For any that they get wrong, they are given a second chance.

In the next stage, the same groups get a new set of questions. But this time they are asked to present and discuss their answers without knowing if they are right or wrong.

Student involvement in the evaluation of the team working process and in peer assessment can be key to persuading them of both the validity/value of the team activity and to its fairness. Peer assessment and feedback in itself is also is valuable skill for students to learn.

Pietro requires students to grade the other members of their group anonymously and fairly, and they are not allowed to simply give the same mark to everyone.

Pietro states that, "Students don't like assessing other students and they don't like being assessed by other students. The first year we tried this there were objections, so now I take some time to explain why we do it – peer review is a reality, especially in science but in other professions too."

Professor Spanu has been using this method for three years with positive results. "Because answers are collected digitally and feedback is immediate, I can forget about counting the grades and concentrate on interacting with students in real time. And because they're working in groups with peers who will also be assessing them, they must verbalise."

The full details of Pietro's case study can be found online at:
http://www.imperial.ac.uk/about/leadership-and-strategy/provost/vice-provost-education/innovations-in-learning/pietro-spanu---interacting-en-masse/

**TOOLS FOR PEER ASSESSMENT:**



WebPA is an open source online peer assessment tool that enables every team member to recognise individual contributions to group work. WebPA was developed by Loughborough University as an HEA project and it is described at http://webpaproject.lboro.ac.uk/

WebPA can be used in student project courses to help students reflect on their work and as-sess the contribution of other team members. The results from this peer assessment can be used to weigh students' grades according to individual contribution.

The Faculty of Engineering has been running a small trial of WebPA on the ICT webfarm for the past 7 months and has been used on courses in Bioengineering, Chemical Engineering and Life Sciences.

Feedback has been positive from students and lecturers. Students found the interface easy to use and appreciated the opportunity to provide feedback for their peers. Lecturers acknowledged the administrative advantages of the system, compared to a paper-based evaluation and appreciated the ability to discriminate between individual contributions to students' work and diagnose issues in group dynamics at an early stage.

See also: https://www.imperial.ac.uk/admin-services/ict/self-service/teaching-learning/elearning-services/webpa/



A tool to generate peer moderated marks for group work

**INNOVATIONS IN LEARNING CASE STUDIES:**

Further case studies in innovations in learning can be found on the College webpages at:

http://www.imperial.ac.uk/about/leadership-and-strategy/provost/vice-provost-education/innovations-in-learning/