



Review

The ethical considerations associated with group work assessments



Maria Noonan*

Department of Nursing and Midwifery, Health Science Building, North Bank Campus, University of Limerick, Limerick, Ireland

ARTICLE INFO

Article history:

Accepted 14 November 2012

Keywords:

Ethical issues

Group work

Peer assessment

SUMMARY

Assessments that require students to participate in group work are incorporated throughout programmes in Higher Education Institutions. Ethical dimensions are integral to all assessments including assessments that require students to participate in group work. Assessments should be fair and consideration needs to be given to preparing students and lecturers to undertake group work. Decisions such as group selection and allocation of marks for group assessments are important areas that will influence the outcome of group work assessments. The following article explores the above issues and identifies action points for optimising group work.

© 2012 Elsevier Ltd. All rights reserved.

Introduction

In many Higher Education Institutions group work is an integral part of education and assessment and according to Cook and Matheson (1997) an integral part of human experience. Assessments need careful planning and development so that they provide students with an educationally worthwhile experience through which students develop professionally and personally. Ethical dimensions are integral to all assessments including assessments that require students to participate in group work. Assessments should not harm students and should be fair and be seen to be fair (Foreman-Peck, 2010). Mellor and Entwistle (2010:71) make the point that assessment can be life changing and if as lectures we get it wrong then we are in breach of our moral duty to students.

The key to group assessments is that assessments are well developed and address all the complexities inherent in group work. Students must be aware and involved in the development of group assessments to achieve an optimal outcome for this type of work. The following article discusses the issues that arise when group work is incorporated into a programme assessment strategy.

Group Work

The project method which has group work at its core, originated from the work of John Dewey who believed that the process of educational thought was more important than the results of such thought (Quinn and Hughes, 2007). Projects which involve group work can increase the student's interest in the topic; encourage the development of resourcefulness and independence in learning. It also offers the student the

opportunity to develop important skills such as identification and analysis of problems, the exploration of solutions, teamwork, development of interpersonal communication skills and management skills (Quinn and Hughes, 2007). Gagon and Roberge (2011) suggest that group work fosters a variety of learning strategies such as team-based learning, problem-based learning, collaborative learning, cooperative learning, collaborative testing, team learning, interprofessional learning and active learning. All of these skills are highly valued and sought by employers of our future graduates. The main disadvantage of group work is that it is time consuming and it is difficult to evaluate an individual student's contribution to the project (Quinn and Hughes, 2007). If some students feel that other members of the group have not contributed meaningfully to the project it can create tension within the group that can escalate and affect class interactions. Careful facilitation of the group project work is essential to prevent this from happening and to support students to develop to their full potential when undertaking group work.

Group working skills are essential for active citizenship (Foreman-Peck and McDowell, 2010). Learning to work with others as part of a team and assessing their own team work performance are critical professional skills (Sedgwich, 2010). Group work creates opportunities for students to learn about themselves through interaction with others and this interaction is useful in developing social knowledge linked to meaningful value systems (Sedgwich, 2010). When the process and outcomes for group work are clearly identified many aspects of team working within a professional work environment can be replicated by group work in an academic setting (Sedgwich, 2010).

Elliott and Higgins (2005) maintain that students in general enjoy group work.

However there is some evidence to suggest that some students prefer individual assessments. One reason for this maybe that group work is introduced without enough consideration of the complexity of group work (Mellor, 2009). Students who are well prepared for an assessment will attain greater benefits from the assessment. Discussion of the

* Tel./fax: +44 061233652.

E-mail address: maria.noonan@ul.ie.

importance and logic of group with reference to the learning outcomes of the module and a student's potential for professional and personal development helps students to see the value of this approach to learning (Harris et al., 2007).

It is important to find out about student's previous experiences of working in groups and consider suggestions they identify for making groups more effective. Negative scripts from prior experiences may be applied to a new group context (Hillyard et al., 2010). Hillyard et al. (2010) found that if students had less than satisfactory experiences prior to the module of study their attitudes remained negative regardless of the experience within the new group. Addressing past negative experiences of group work requires a collective effort on the part of the programme facilitators (Hillyard et al., 2010). Further research is required to investigate how negative attitudes acquired from earlier experiences in dysfunctional groups may be reversed (Hillyard et al., 2010).

One of the first steps when planning to use the group project assessment is the allocation of students to groups (Box 1). Groups may be allocated by the lecturer or be self-selecting. The most common method of forming groups is self-selection (Almond, 2009). This has the advantage of facilitating students to work with friends which may increase motivation to succeed (Quinn and Hughes, 2007). However it does run the risk that some students will not be selected for group inclusion. In every group there are students who fall outside the established friendship groups for a number of reasons (Vinkenoog, 2010). Self-selection may only serve to reinforce the marginalisation of some individuals and even promote disengagement at an early stage (Mellor and Entwistle, 2010). Self-selection may also result in students missing out on the opportunity to work and listen to the variety of views that working with students that they haven't worked with before may provide. The pre-existing power-base within friendship groups may discourage students from adopting different roles within the group which in turn may inhibit individual contributions (Buxton, 2003). Vinkenoog (2010) found that in the "friend groups" other issues arose such as pressure on established friendships.

Students become adept at identifying students who are known to be disorganised, persistently absent, excessively vocal and as a result of observing these traits may not necessarily want to work with these students particularly when a group grade is to be assigned to the project that will impact on their final grade (Foreman-Peck and McDowell, 2010). This gives rise to ethical issues in relation to how group composition should be decided when certain group members are isolated, marginalised and seen as unreliable (Foreman-Peck and McDowell, 2010). Mellor and Entwistle (2010) suggest that while lecture directed selection may be preferable but that students should be encouraged to work together in non-selected groups in the early part of their course. However Mellor (2009) suggests that lecturer-selected approach to group formation should be adopted from the beginning of a programme because of the difficulties including unpopularity with students, of introducing it later on in the programme particularly when students have been accustomed to having self-selected groups. A policy for the allocation of students to groups should be made explicit and be fair and appropriate for the project (Foreman-Peck and McDowell, 2010). The rationale for the policy should be communicated to the students so that they can also see its value.

A Lecturer-selected approach to group formation may be seen as fairer, address some of the issues that may be associated with group self-selection and reflect the 'real world' work place authenticity where employees are allocated to teams by a manager (Almond, 2009). McInnis and Devlin (2002) suggest that it is appropriate for the lecture to identify the group membership when group dynamics and the challenge of working effectively as a group are also identified as a learning outcome of the assessment.

The most important aspect of determining group membership is ensuring cohesiveness (McInnis and Devlin, 2002). This ensures that

Box 1

Assignment to groups.

Group membership (Harris et al., 2007:4)

Students choose, principally on the basis of friendship

Students choose seeking to join with students who are recognised as high achievers or having complementary skills

The first choice is of topic, and the groups are then constructed from students who have a shared interest

Group membership is determined by random allocation (coordinated by lecturers)

Groups are constructed by lecturers to deliberately combine students of differing/similar abilities or characteristics (including gender)

students focus on the task to be completed rather than spending time on conflict management. The Lecturer has a key role in taking steps to ensuring group cohesiveness at the beginning of group work. This includes considering how marginalised or isolated students can best be supported within groups in an equitable way (Foreman-Peck and McDowell, 2010).

Free Riding

Perry (2008) suggests that one of the greatest challenges for lecturers when organising a group work project is the issues of "free riding". "Free riders" or 'passengers' are students assigned to a group who do not contribute or do not contribute to the level required to complete the project and in so doing cause unnecessary stress and frustration to fellow students in the group (Perry, 2008). The exposure to this challenge will not be confined to group work within an academic setting. Students will inevitably come across colleagues that they perceive do not contribute to the workload throughout their professional careers. Perry (2008) undertook an extensive review of the literature and a series of mini case studies to identify the most preferable means of discouraging "free riders" in assessed group work. Mechanisms identified for dealing with the issues of "free riders" include: setting group goals with reward attributed to individual contributions; periodic informal and formal reviews of group/individual performance; peer evaluation; group/individual logs and diaries. Perry (2008) provides detailed analysis of the process and outcome of the most significant of the above approaches. One important finding is that students appreciate it when the lecturer makes any attempt to deal with students that are not contributing fairly to the project (Perry, 2008).

Vernon (2010) identifies the issue of involuntary 'free riders' where students who intended to contribute fully to the project may not do so because they don't establish themselves early as possessing skills necessary to the completion of the project. Vernon (2010) suggests that this may be as a result of loss of status within the group and leads to loss of confidence, self-esteem and engagement from the students. The incorporation of a reflective session on the dynamics of group work that develops strategies to deal with issues that arise and the incorporation of progress reports may help to counter the negative effect that working in a group may have on self-esteem and confidence of individual students (Vernon, 2010). This is particularly important when students are working with students that appear considerably more skilled or more experienced than they are (Vernon, 2010).

Preparation for Group Work

It is acknowledged that some form of preparation for group work assessment is required for students who are undertaking group work for the first time in the programme (Mellor, 2009). Cook and Matheson (1997) suggest that it is this pre-group phase that determines the participant's commitment to the project. The performance of the

group is influenced by the number of factors to include the diversity of students within a group which composes of students from a wide range of ages with different responsibilities and obligations and diverse social backgrounds (Barfield, 2003). Preparation may include ice breakers, personal reflective exercise undertaken on an individual basis or within a group or an interactive group-based exercise, identification of students' individual strengths, weaknesses, roles and group processes (Mellor, 2009). This guidance could include group training activities which may include team building, trust building and conflict management (Barfield, 2003). Discussion of issues such as how to deal with disagreements or conflict, free riders, dominant positions, sub-standard work should form part of this preparation (Mellor, 2009).

An important aspect of group work is how students interact and work together to achieve the aims, objectives and learning outcomes of the group assignment. Cook and Matheson (1997) argue that educational courses for health professionals should provide an opportunity for students to practise and develop group facilitation and leadership skills in the safety of an educational environment before being expected to undertake this role as qualified health professionals. They go on to suggest that knowledge of group dynamic theory and practice is useful when students attempt to make sense of their group membership experiences not only in the higher education institution but also in clinical practice. The subject of group dynamics needs to be incorporated into the curricula to prepare students to work in groups for academic purposes but more importantly for clinical practice (Cook and Matheson, 1997).

Working towards the goals of the project provides students with the opportunity to discuss their ideas, hear other students' ideas and views, explore and develop problem solving processes (Vernon, 2010). The exposure of students to different viewpoints is identified as one of the benefits of group projects. One of the challenges of facilitating students to work in groups is to address the possibility that an individual student beliefs, value-perspectives and views may be suppressed within the group (Chapman, 2006; Barfield, 2003). Also some students may feel intimidated in a group, feel under intense pressure to contribute to the group and may not be willing to express their view points for fear of rejection by the group or in order to conform to the group values and perspectives in order to avoid disagreements. Working in groups could also result in the reinforcement of misconceptions, perceptions of unequal ability and requires careful planning and facilitation to avoid a negative impact (Chapman, 2006). In order to develop groups that are truly collaborative then all members of the group need to feel that they can discuss any issue in a spirit of openness and that the members of the group would recognise the importance of learning from different perspectives and voices that stimulate discussion and challenge the status quo (Chapman, 2006). Controversy in a group represents positive opportunities for students to engage with conflict resolution and creates opportunities for new ideas and approaches to emerge that may have previously been suppressed (Chapman, 2006). These conditions are dependent on effective planning of learning environments and opportunities by the facilitator of the group work.

Lecturers should not expect that students assigned to a group project should manage their own processes without guidance (Barfield, 2003). Barfield (2003) suggests that lectures need to help students interact effectively across the complex boundaries that exist in groups. This includes helping group members authorise and delegate responsibility to each other which will lead to empowerment of all members of the group. Finally Hillyard et al. (2010) suggests that improving relationships with peers requires programme wide efforts if it is to be effective.

Many lectures would argue that they do not have the time to allocate to such preparation. The counter argument is that time spent preparing students adequately for group assessment will help to deal and prevent many of the challenges that arise in group work assessment where resolution requires considerable lecture involvement and time (Donnan et al., 2008).

Guidelines for Group Work

Many groups can find it difficult to start and progress a project. Providing clear guidelines on roles and expected contributions of group members to students who are undertaking group work for the first time can assist in guiding student behaviour and contributions (McInnis and Devlin, 2002) (Boxes 2 and 3). Equal distribution of the group work requires discussion with the students and how this will be evidenced by the group. A well-functioning group consists of effective communication strategies, strong work ethic, democratic decision making, awareness of everyone's strengths and weakness, identification of clear roles and good organisation (Mellor and Entwistle, 2010).

One of the issues that arise when looking at the quality of group working is that sometimes tasks are allocated and students work independently on their own task without participating in a collaborative way with the other group members (Foreman-Peck, 2010). Progress reports may be one way of overcoming this issue where students have to record their attendance at group meetings and their individual input and contribution to the group. The individual progress reports that students develop enable the lecturer to assess the amount of work each student is contributing to the group and project (Vinkenoog, 2010).

Assessment of the Project

The design of assessment will directly influence the way in which students will approach group work (McInnis and Devlin, 2002). It is important that group work is allocated a mark that students will assess as making a significant contribution to the overall mark of the module in order to motivate students to contribute to the project and recognise it as important. Sedgwich (2010) suggests that learning may be further enhanced if at least some of the power for assessment is transferred from the lecturer to the students themselves through facilitating students to evaluate their own group work experience. Taking risks with assessment may provide students with added control with their own learning and encourage them to think about the values and the ethics of their work (Sedgwich, 2010). Box 4 identifies factors to consider when structuring the assessment of group work.

It is recognised that assessment of group projects can be complex (Shiu et al., 2011). Nordberg (2008: 481) suggests that the main problem when assessing group work is that the work of the individual is lost in the product of the group. There is a potential for unfairness when assigning group grades (Sedgwich, 2010). Some of the issues that arise include: dysfunctional groups, individual students not contributing fairly to the group, individual students not benefiting from the potential learning experience because of the action of other students in the group (Sedgwich, 2010). Group summative assessments (GSA) may disadvantage high individual scoring students and on the other hand may advantage low individual scoring students (Almond, 2009). There is limited research into the effect that GSA marking has on a student's overall marks and on the individual students' degree classification (Almond, 2009).

Assignments of Marks for Product or Outcome of Group Work or Both

One of the contentious issues in relation to assigning marks to the project is whether students should be rewarded for the process of the project versus the outcome of the project (Johnston and Miles, 2004). In the majority of assignments students are allocated a mark based on the final assignment submitted regardless of the effort or input into that assignment. This is reasonable because it is the individual who determines and is rewarded for the input and output for the assignment (Johnston and Miles, 2004). However in a group assignment the link between individual inputs and outputs for the project is not always clear and therefore marks may be allocated for both individual and group contributions to the project (Johnston and Miles, 2004).

Box 2

Guidelines and procedures for group work.

McInnis and Devlin (2002) suggest that guidelines and procedures for group work should be detailed and the following areas should be discussed with students:

Purpose and function of group activities and assessment;
How the group activity helps the student achieve the learning objectives of this subject;
How each student's contributions to the group will be fairly assessed.

Roles in the group

- Group leader (chairing meetings, ensuring equal distribution and completion of tasks, agendas and minutes)
- Group co-ordinator (obtaining contact details of group, taking minutes)
- Role of all members of the group
- The responsibility of each member of the group to others and the group as a whole,
- Expected contributions of each student to the group.
- Progress report development
- Documentation sourcing and producing (leaflets, posters)

How individual marks are allocated is the subject of considerable debate and analysis (Johnston and Miles, 2004). McInnis and Devlin (2002) criteria for process (Box 5) are difficult to assess when the lecturer will not be present for group meetings. Giving all students the same grade creates the danger that some students will not participate in the planning and implementation of the project (Quinn and Hughes, 2007) and also raises the issue of the fairness of awarding the same mark to all students (Shiu et al., 2011). This in turn creates tension within the group. Student frustration with unfair group assessment practices is identified as a major concern for students undertaking group assessments (Donnan et al., 2008). Some suggestions for addressing the issues of students not distributing equally to the project is to inform the students at the onset of the project that while the group will be rewarded a group mark that in the event that not all members of the group contributed equally to the project students would receive a separate mark. However one of the challenges here is that group work is undertaken independently of the lecturer and it is difficult to identify the student that is not contributing (Johnston and Miles, 2004). Also it is important to meet with a student who is perceived by other group members as 'free riding'. This may be an indication that the student is struggling with the project for personal or academic reasons and may require support to progress in the module.

One way of overcoming this limitation is to adopt an adjunct peer assessment (PA) scheme to assess individual contributions to the project (Shiu et al., 2011). It is suggested that PA can increase a students' sense of responsibility, promote team dynamics and learning within group work (Shiu et al., 2011). PA has also been shown to promote independent, reflective critical learners and to enhance participation and involvement in the group and may contribute to a lower incidence of free riding (Elliott and Higgins, 2005; Johnston and Miles, 2004). However PA is not without its challenges and students require preparation to undertake PA in a fair and consistent way. Elliott and Higgins (2005) undertook an action research approach to the development and evaluation of a self and peer assessment strategy designed to promote student participation in group work and found that while students had a strong belief that they were able to assess their own contribution to the group work but found it difficult to be fair when

Box 3

Example of a plan for the first group meeting.

Plan for the first group meeting

Introductions

Setting ground rules

- Confidentiality
- Equal time
- Listening with respect
- Contributing positively to group outcomes
- Trust, respect, openness
- Appreciation of the efforts of all members of the group
- Mutual responsibility for the maintenance of working relationships with other group members

Setting the meeting agenda

Setting the project agenda

The safe box — an opportunity for students to identify areas for concern anonymously and place them in the safe box for exploration by the group.

Allocating tasks

Time management skills

Communication within the group

Summarise main points of meeting

Set out tasks for week ahead

Arrange second meeting date and time

Discuss issues for the group to consider when scheduling group meetings (McInnis and Devlin, 2002).

- Travel time and cost from diverse locations
- Part-time or full-time work commitments
- Parental and family responsibilities
- Student disabilities

Complete and circulate minutes of meeting

assessing their peers particularly if they were aware that their peers had personal reasons for not participating in the group. Johnston and Miles (2004) suggest that peer assessments may result in a low incidence of free-riding and more involvement in group based learning. However while PA may discourage 'free riding', students may find PA stressful even if the process is undertaken on an anonymous basis (Mellor, 2009). Mellor (2009) suggests that marks allocated through peer assessment may be moderated by the lecturer to ensure fairness and consistency across groups.

Foreman-Peck (2010) suggests that the lecturer has a responsibility to let poor performing or opting out students fail the group work assessment. Her arguments centres on the idea that cooperation is a virtue to which we wish to endorse in society as is the idea of personal responsibility and justice. The lecturer is the only person that should have the authority to fail a student. Foreman-Peck (2010) makes the point that the possibility of failure is a central concept of fairness in assessment but that this has not been adequately addressed in group work assessment. Failure is essential to stop students exploiting the efforts of other students in a group Foreman-Peck (2010).

McInnis and Devlin (2002) maintain that groups are most successful when students and staff develop the criteria for assessment through consultation between the two. Rubrics that ensure fair, transparent and acceptable assessment for students should be devised for group work (Foreman-Peck and McDowell, 2010).

Box 4

Factors to consider when structuring the assessment of group work.

Mclnnis and Devlin (2002:5) suggest that getting the assessment of group work right is critical and that decisions around how to structure the assessment of group work should consider four factors:

- Whether what is to be assessed is the product of the group work, the process of the group work or both (and if the latter, what proportion of each)
- What criteria will be used to assess the aspect(s) of group work of interest (and who will determine the criteria-lecturer, students or both)
- Who will apply the assessment criteria and determine marks (lecturer, students- peer and/or self-assessment or a combination)
- How will marks be distributed (shared group mark, group average, individually, combination)

Box 5

Criteria for process.

Criteria for process as outlined by (Mclnnis and Devlin, 2002):

Regular meeting attendance
Equity of contribution
Evidence of cooperative behaviour
Appropriate time and task management
Application of creative problem solving
Use of a range of working methods
Appropriate level of engagement with task
Development of professional competencies
Evidence of capacity to listen
Responsiveness to feedback/criticism

Role of Lecturer

One of the challenges for the educator is to facilitate a positive learning experience for students undertaking a group work assessment (Elliott and Higgins, 2005). The lecturer also takes on the role of mentor which involves motivating the students to achieve the goals of the project. The lecturer may provide support through being available for consultation and via email and telephone contact. The lecturer may also undertake informal reviews of group/individual performance during the planning phase. However monitoring of groups and of individuals within groups does raise an ethical dilemma (Mellor, 2009). Monitoring of group progress may be viewed by some students as intrusive and detrimental to the ethos of independent learning and self-development (Mellor, 2009). However monitoring may be necessary to avoid challenges such as student disengagement, marginalisation, and free-riding (Mellor, 2009). Lecture engagement can be helpful in periodic re-focussing on the task of the project and may help break the cycle of non-engagement by some and dominance by others (Vernon, 2010). However a high level of lecture support could cause lack of engagement for some students by allowing them to be led rather than empowering them to take the lead and develop the project (Jones and Smith 2010). Mellor (2009) suggests that the key issues to consider when supporting students are the level and format of lecturer support

and where the balance lies between being supportive of students and being intrusive. An informal approach to supporting students during timetabled sessions may avoid a lecturer being too intrusive and interfering in the group process. One of the ethical dilemmas that lecturers face when providing support to students is that of equality versus equity (Mellor, 2009). It raises the question of whether all groups should receive the same support or should lecturer facilitated support be targeted towards groups that require it the most? (Mellor, 2009). Open discussion of the issues is one suggestion for dealing with this issue.

Another issue that arises is the preparation of lecturers for group assessment (Donnan et al., 2008). Many lecturers lack formal training in group assessment and this may result in a poor assessment strategy and disillusionment and frustration for the lecturers and students. While addressing issues such as group dynamics and conflict resolution are advocated in the literature Donnan et al. (2008) suggest that lecturers may not be equipped to address these issues. White et al. (2007) agree suggesting that group work only works effectively if lecturers have the necessary management skills to facilitate group work assessment. They suggest that lecturer-training workshops that address issues such as group membership, skills required for students to undertake successful group work, and group dynamics could be used as a means of preparing lecturers for group assessments.

Conclusion

Group work is an integral part of courses in Higher Education Institutions. The benefits of group work are well recognised however students require support to participate in group work and to optimise their experience of this form of assessment. Ethical issues are a central consideration when designing an assessment that requires group work. Informing students of why a group work assessment was chosen to assess the module, providing them with guidelines on undertaking group work and information on group dynamics and dealing with challenges that arise when undertaking group work may assist students to optimise their experience. Other issues that require consideration is how the group will be selected and how the marks will be assigned for the assessment to ensure a fair and robust assessment process. Future research needs to explore students' attitudes to group work. Cross-institutional, campus and departmental conversations might lead to collective approaches that would optimise learning in group work (Hillyard et al., 2010).

References

- Almond, R.J., 2009. Group assessment: comparing group and individual undergraduate module marks. *Assessment and Evaluation in Higher Education* 34 (2), 141–148.
- Barfield, R.L., 2003. Students' perceptions of and satisfaction with group grades and the group experience in the college classroom. *Assessment and Evaluation in Higher Education* 28 (4), 355–370.
- Buxton, L., 2003. Group assessment at the University of Essex. www.essex.ac.uk/assessment/allocatinggroups.htm.
- Chapman, H., 2006. Towards effective group-work in nurse education. *Nurse Education Today* 26, 298–303.
- Cook, S.H., Matheson, H., 1997. Teaching group dynamics: a critical evaluation of an experimental programme. *Nurse Education Today* 17, 31–38.
- Donnan, P., McCormack, C., Battye, G., Hart, I., 2008. Doing group assessment: a web-based resource of good practice case-studies. *Engaging Communities Proceedings of the 31st HERDSA Annual Conference, Rotorua, 1–4 July 2008*, pp. 135–144.
- Elliott, N., Higgins, A., 2005. Self and peer assessment — does it make a difference to student group work? *Nurse Education in Practice* 5, 40–48.
- Foreman-Peck, L., 2010. Fairness in group work assessment in higher education: an action research case study. *CETL AFL Occasional Papers No. 5. Centre for Excellence in Assessment for Learning, Northumbria University, Newcastle upon Tyne*.
- Foreman-Peck, L., McDowell, L., 2010. Aims, ethics and values in group work assessment. *CETL AFL Occasional Papers No. 5. Centre for Excellence in Assessment for Learning, Northumbria University, Newcastle upon Tyne*.
- Gagon, L.L., Roberge, G.D., 2011. Dissecting the journey: nursing student experiences with collaboration during the group work process. *Nurse Education Today* <http://dx.doi.org/10.1016/j.nedt.2011.10.019>.

- Harris, K.L., Krause, K., Gleeson, D., Peat, M., Taylor, C., Garnett, R., 2007. Enhancing assessment in the biological sciences: ideas, resources for university educators. Available at: www.bioassess.edu.au.
- Hillyard, C., Gillespie, D., Littig, P., 2010. University students' attitudes about learning in small groups after frequent participation. *Active Learning in Higher Education* <http://dx.doi.org/10.1177/146987409355867>.
- Johnston, L., Miles, L., 2004. Assessing contributions to group assignments. *Assessment and Evaluation in Higher Education* 29 (6), 751–768.
- Jones, J., Smith, A., 2010. Facilitating Group work: leading or empowering. CETL AFL Occasional Papers No. 5. Centre for Excellence in Assessment for Learning, Northumbria University, Newcastle upon Tyne.
- McInnis, J.R., Devlin, M., 2002. Assessing learning in Australian universities. Ideas, Strategies and Resources for Quality in Student Assessment. (www.cshe.unimeib.edu.au/assessinglearning).
- Mellor, A., 2009. Red Guides Paper 53 Group Work Assessment: Benefits, Problems and Implications for Good Practice. Northumbria University.
- Mellor, A., Entwistle, J., 2010. Marginalised students in group work assessment: the effective support of such individuals and associated ethical issues. CETL AFL Occasional Papers No. 5. Centre for Excellence in Assessment for Learning, Northumbria University, Newcastle upon Tyne.
- Nordberg, D., 2008. Group projects: more learning? Less fair? A conundrum in assessing postgraduate business education. *Assessment and Evaluation in Higher Education* 33 (5), 481–492.
- Perry, B., 2008. An introduction to mini cases on ways of dealing with “free riders”. University of Wolverhampton.
- Quinn, F.M., Hughes, S.J., 2007. *Quinn's Principles and Practice of Nurse Education*, 5th edn. Nelson Thornes, Cheltenham.
- Sedgwick, P., 2010. Reflections of a “Progressive” teacher in higher education: the opportunities involved in giving students control. CETL AFL Occasional Papers No. 5. Centre for Excellence in Assessment for Learning, Northumbria University, Newcastle upon Tyne.
- Shiu, A.T.Y., Chan, W.H.C., Lam, P., Lee, J., Kwong, A.N.L., 2011. Baccalaureate nursing students' perceptions of peer assessment of individual contributions to a group project: a case study. *Nurse Education Today* <http://dx.doi.org/10.1016/j.nedt.2011.03.008>.
- Vernon, J., 2010. Involuntary free riding – group assessment and undergraduate in a computer simulation. CETL AFL Occasional Papers No. 5. Centre for Excellence in Assessment for Learning, Northumbria University, Newcastle upon Tyne.
- Vinkenoog, R., 2010. The mist-covered mountains of group work: ensuring an equal contribution from all group members in a biotechnology project. CETL AFL Occasional Papers No. 5. Centre for Excellence in Assessment for Learning, Northumbria University, Newcastle upon Tyne.
- White, F.A., Lloyd, H., Goldfried, J., 2007. Evaluating student perceptions of group work and group assessment. In: Brew, A., Sachs, J. (Eds.), *Transforming a university: The scholarship of teaching and learning in practice*. Sydney University Press (Link to resource: http://ses.library.usyd.edu.au/handle/2123/1820/browse?type=dateissuedsubmit_browse=Issue+Date).