Article

Beginning collaborative learning: student and staff perspectives on its value and challenges.

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Abstract

Collaborative learning in higher education is important to student engagement and experience but certain critical aspects are relatively under researched and there is much that is not yet understood. In particular, although various aspects of student attitudes to group work in higher education have been considered, less is known about the attitude to different ways groups are formed or about responses to tutor approaches to supporting effective collaboration. Further, methodological approaches and tools to research collaborative learning need developing. We explore issues related to assessed group work as experienced by a first year cohort on a large Business Studies module, by examining views of both staff and students. Adopting a mixed-methods approach, we trialled an innovative format for focus groups using an adapted business tool (Process Value Mapping) and a theoretically informed questionnaire. The particular foci were organisation of collaborative learning, support for collaboration, group formation, and the benefits and difficulties experienced. Overall both students and staff were positive about the experience. Students experienced challenges including finding time to meet and how groups were composed. Staff in the focus group raised organisational issues about the process of supporting collaborative learning. This study confirms the value of collaborative learning and its challenges. We argue that the data from both groups highlights the importance of how collaborative learning begins. We also argue that for collaborative learning to be enhanced, and to be a positive

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experience on large modules such as this, attention should be paid to how groups are formed, how they are supported and how collaborative skills develop. We propose systemic and organisational changes that can help ensure collaborative learning is successful. This requires institutional innovation.

Introduction

Collaborative learning in higher education (HE) is important to student engagement and experience. It is central to pedagogies such as problem based learning and arguably has the potential to increase student engagement. It supports both institutional employability agendas and potentially more transformative projects such as reconceptualising the purpose of HE to address the development of important life skills and dispositions (Barnett, 2012). At the same time collaborative learning can be challenging for students to engage in and for academics to initiate and organise (Boylan and Smith, 2012). Students and staff report that learning collaboratively can be one of their most rewarding and transformational experiences in HE but at the same time can also be one the most challenging and unsatisfactory aspects of the academic journey (see for example Dimelow, Walker and Heavey, 2013; Pauli et al, 2008). There is a tension between the potential benefits and students' concerns about equity, particularly when outcomes are assessed (Nordberg, 2008; Orr, 2010). This is sharpened in the context of the repositioning of students as consumers.

Given this importance, there remain aspects of collaborative learning that are relatively under-researched, in particular, attitude towards different ways groups are formed - whether students are allowed to choose groups or the tutor directs them to work with others - or responses to tutor approaches to supporting effective collaboration. Further, methodological approaches and tools for researching collaborative learning need to be developed further. The article aims to contribute to addressing both these issues. It examines the organisation and experience of collaborative learning for a specific group of students, a large first year cohort on Business Studies degrees in an HEI in England. In addition, we explore the use of an innovative approach to data collection in focus groups.

The study centres on student and tutor experience of two related modules - Business Analysis and Financial Analysis for Business. Between them these modules had 740 students. In part, the rationale for the study was a response to concerns raised institutionally: the Students' Union's written submission to the QAA Institutional Audit in December 2010 specifically raised assessed group work as a matter for concern and a working group was established during 2010/11. This group examined practices at the institution, in particular in relation to second and third year modules, where group work assessment contributed to degree classifications. As a consequence changes to assessment regulations were enacted to ensure that there was an individual component to assessed group work. Whilst such changes may or may not ameliorate potential negative effects on the student experience, it is our conjecture that issues related to collaborative learning need to be addressed during early experiences in HE, for example, during first year undergraduate modules, where this form of learning and assessment is often being encountered for the first time.

Adopting a mixed-methods approach, we trialled an innovative focus group using an adapted business tool, Process Value Mapping, which involves mapping, categorising and evaluating the process or activity under scrutiny. This technique is drawn from the world of business

(Hines and Rich, 1997; McLaughlin and Kennedy, 2016) but applied, we believe, uniquely here as an exploration of a learning experience. A theoretically informed questionnaire was also used, based on a theory of change which was developed specifically in relation to collaborative learning on the module. These two methods allowed us to contrast the views of both staff and students. Data collection was undertaken by a mixed team of academics and a student researcher. The particular foci we report on in this paper are the organisation of collaborative learning, support for this, group formation, and the benefits and difficulties experienced.

In the next section we consider the challenges of collaborative learning before introducing the study context and methods in more detail. We organise the findings of the study into four sections: the value of collaborative learning, forming groups, support for groups and student readiness – that is, the importance of considering preparedness to engage in the collaborative learning task. Drawing on these findings we develop an argument about the importance of considering the beginning phase of collaborative learning. This concept of 'beginning' is relevant to the student experience on the degree as a whole as well as to each episode of collaboration; this was the first experience for students of collaborative learning on the degree but the students and staff also highlighted the importance of the initial stages of collaboration including group composition and the importance of early support for group work processes. The article concludes with recommendations specific to other first year modules; and also possible institutional responses around supporting staff with their professional practice. The methods used are also briefly reviewed and recommendations offered for further research.

The challenges of collaborative learning

Previous research has established that collaborative learning and the skills associated with working effectively in groups are valued by tutors, students and employers. For tutors it enhances both the quantity and the quality of learning gains (Nordberg, 2008; Kuh, 2007), leading to better learning outcomes (Johnson et al., 2006; Gatfield,1999; Sorbral, 1997) and supporting the development of broader learning strategies (Gibbs, 1995). Collaborative learning is also viewed as an effective way of encouraging key employability skills beyond HE and offers an important preparation for the world of work (Maiden and Perry, 2011). This view is reinforced by the continued call for experience of team-working by employers across varied professional practices and academic disciplines.

Students, too, agree that group work is a worthwhile endeavour. Whilst not necessarily cognisant of all of the learning gains associated with collaborative learning, students recognise the benefits of working with others, particularly developing skills for the world of work, socialising with others, and developing new networks (Burdett, 2003; Bingham, 2011). Such benefits are frequently reported, even in cases where students didn't enjoy the experience of collaborative learning. These perspectives from tutors, employers and students explain, in part, why collaborative learning persists as a significant feature of the student experience of learning in higher education.

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Recently, however, the literature has contested some of these claims; for example that collaborative learning reduces workloads for staff by reducing the marking burden (Rust, 2001; Maiden and Perry, 2011; Hall and Buzwell, 2012) and that it will inevitably lead to improved learning, unless key features for success are designed into the learning experience. A number of such features are identified by Johnson et al (2014), who identify the importance of well-defined learning objectives (outcomes); heterogeneous group membership; group roles, with clear criteria; active involvement by the tutor throughout the groups' work; and group reflection at the end on possible improvements.

Tutors report a lack of confidence in managing group learning, finding the polarisation of the student experience particularly difficult (Bingham, 2011). They also identify a need for support, amongst other things, with designing assessment tools for group work. Further, whilst the majority of students find the experience of collaborative learning positive, a significant minority persistently report that it causes considerable concern (Burdett, 2003). This context demonstrates the need to continue to develop a better understanding of collaborative learning.

One of the most complex aspects of collaborative learning, and the one most frequently identified as problematic, relates to unfair workload. Whilst clearly connected with aspects such as the award of marks and a preference for working alone, discussions on unfair workload specifically include a growing body of work on free-riding (sometimes referred to as social loafing or free loading). Hall and Buzwell (2012) explore this in some detail, finding that it is a major concern across disciplines, with Maiden and Perry (2011) trialling a number of mechanisms aimed at managing this behaviour, for example 'yellow card/red card' warnings to non-contributors and individual vivas, described as a discussion between two tutors and the student who has been issued a warning to assess progress within the problematic group (derived from Rust, 2001).

Pauli et al (2008) discuss the impact of the 'storming' stage of a group. They relate this to Tuckman's work in 1965 on the phases of group dynamics when the needs of the individual outweigh the needs of the group. They also identify the possibility of factions emerging with some individuals becoming isolated. This isolation can result from feeling excluded by others, described by Cooper and Curzio (2012), and may be evidence of bullying behaviour. Some students prefer to work alone, possibly as a result of previous experiences and this style of learning is dubbed by Barr (in Hall and Buzwell, 2012) as the 'lone wolf'. Others are excluded due to feelings that others are more capable, or by not understanding the task involved (Dimelow, Walker and Heavey, 2013).

Two further aspects relating to group interaction are a lack of group commitment and group composition. Pauli et al (2008) describe the former as being both a failure to complete work and an inability to meet (these, notably, being indistinguishable by students when criticism is levelled at peers). Group composition, Nordberg (2008) argues, is even more critical to the student experience than how marks are distributed. Mahenthiran and Rouse (2000) undertook a comparative study of student outcomes for different approaches to group formation. They

recommend that tutors should intervene in group selection to ensure groups members have at least one person they have chosen but that groups also have a range of prior attainment. Orr (2010) notes how first year undergraduates who were allocated to groups responded differently to second and third year students who chose their own groups. Many authors (Burdett, 2003; Boylan and Smith, 2012; Hall and Buzwell, 2012; Orr, 2010) respond to issues of group dynamics by highlighting the critical involvement of tutors in both scaffolding the student experience of the process of group work and intervening if difficulties arise.

A much-explored issue relating to collaborative learning is how group work is assessed and how marks are awarded: Brame (2015) for example, argues that choosing an assessment method that supports evidencing the relevant learning outcomes is an important skill for a tutor in supporting both group interdependence and personal accountability. Nordberg (2008) criticises the use of summative assessment for group work and Orr (2010) discusses the tension between competition and collaboration. These challenges relating to assessment have subsequently seen a number of practices promoted as ways of alleviating the difficulties encountered by both students and tutors, such as peer assessment, reflective journals, marking individually and as a group, and marking both the process and outcome. Falchikov (2001), on the other hand, suggests that actively marking as a group improves performance and reinforces the value placed by tutors on collaborative learning. There remains no consensus, ultimately, on how to effectively assess group work, resulting in varied institutional practices. Furthermore there are complex cultural dimensions discussed in the literature, such as theories of de-individualisation which identify tensions between individual performance and collective endeavour (Burdett, 2003).

The study

Background and context

All students taking Business and Business Finances degrees at the University take one of two parallel modules which have similar structure and assessment; these modules are Business Analysis and Financial Analysis for Business and are taught over a full academic year. Approximately 800 students take one or other of these modules, with a team of approximately 20 tutors teaching them, consisting of a mixture of permanent and sessional staff, known as Associate Lecturers (ALs).

The research reported here focused on one element within the modules that was assessed by a collaborative presentation. This assessed task broadly fits with a Problem Based Learning approach, as described by Boud and Feletti (1998), where students took the role of managers of different departments in a number of fictional department stores. The final presentation involved reporting on their analysis of the financial performance of their department store. To do this they were required to engage in individual work analysing their own allocated

department, provide peer support to members of their collaborative team, and collaborate in the development of the final presentation. The module aimed to both develop students' skills in business analysis and their ability to collaborate. As will be discussed below, tutors had different views about which of these should be prioritised.

Students were supported through lectures and workshops on financial analysis, and at drop-in sessions with tutors. Groups were formed early in the year, with tutors adopting a different approach to forming groups within the seminar groups they were responsible for. Prior to group formation students experienced one session that was aimed at supporting the development of collaborative learning skills; this involved reflection on their co-operation during a shared quiz. For Business Analysis students, the assessment was summative, counting towards their grade for the module, whereas for those taking the Financial Analysis for Business module, it was formative. However, it should be noted that as first year modules, neither counted towards the eventual degree classification. In both modules, assessment of the presentation focused on student learning of the subject, not specifically assessing the development of collaborative skills.

The study was undertaken by a team of three researchers, two who were members of the university's Collaborative Learning Special Interest Group and the third a student researcher, employed to undertake the research through the university's Students as Researchers scheme. None of the three researchers had a direct connection with the module or degree programmes in the study. The research team worked with the module leader in the design of the research.

Research aims and objectives

The research aimed to evaluate the student and staff experience of collaborative learning that occurs as part of assessed (summative) group work and to contribute to the knowledge base on ways to research collaborative learning in Higher Education. In relation to this aim, it should be noted that the group work project did not count towards the overall module outcome for the Financial Analysis for Business Students. However, assessment was at the end of the collaborative process. The objectives of the research were to describe the teaching, learning and assessment activities involved in the modules in relation to collaborative learning, identify associated supporting intervention, identify and evaluate existing strengths that contribute towards effective learning, and identify opportunities for further enhancement of the student experience. In addition we wished to evaluate the usefulness of Process Value Mapping (PVM) as an enquiry tool for examining and improving the student experience.

Methods

The overall methodology adopted was informed by adaptive theory (Layder, 1998), and realistic evaluation (Pawson and Tilly, 1997) using a mixed methods approach. We used two principal methods: focus groups with staff using PVM to stimulate discussion and an on-line questionnaire with students. Prior to undertaking the research, ethical approval was sought and gained through the university ethics processes. Written consent was gained from focus group participants and a statement which made clear that survey completion would be taken as consent was included in the survey.

We adapted the Process Value Mapping (PVM) tool that is used in business and organisational development and trialled this in learning, teaching and assessment workshops at the university as part of the work of the Collaborative Learning Special Interest Group . This tool was particularly suitable in this context because it would potentially be familiar to at least some of the research participants as members of a Business School. PVM is one of a range of similar approaches that involve mapping processes (Hines and Rich, 1997). PVM involves creating a visual representation of a process and different aspects of that process can subsequently be categorised. The protocol we used in the focus group included questions related to the process of group work (see Figure 1).

The participants were organised into the two groups according to the module they taught on, three each for Financial Analysis for Business and Business Analysis; the rationale for this was that the two modules had slightly different structures and processes. The module leader, who taught on both modules, joined the Business Analysis group. Half the participants were permanent members of staff and half associate lecturers who are paid on an hourly basis and so were paid for their time to participate.

Participants were provided with pieces of paper in a variety of colours which had already been cut into different shapes. These different colours and shapes allowed for three different aspects of the collaborative group process to be mapped: face to face activities, supporting materials and resources, and sessions or activities that specifically supported the group work process. These were then attached to long sheets of paper, with annotations written by the participants or focus group facilitator to summarise discussion. These mappings were then annotated to identify areas of strength (stars) and aspects of the process that could potentially be improved (red flags). Two focus groups were undertaken simultaneously and in the same room. The nature of PVM also allows participants to be actively involved in data analysis, in the sense that the activity itself identifies emerging themes which are then used to annotate the process value map.

This allowed for plenary discussion between the focus group participants; these discussions were recorded to support analysis. The student questionnaire was designed following the development of a model of potential influences on the student experience of collaborative learning, following discussion with the module leader and review of module documentation and informed review of literature of collaborative learning.

Figure 1: Collaborative learning in a large module: the process and experience
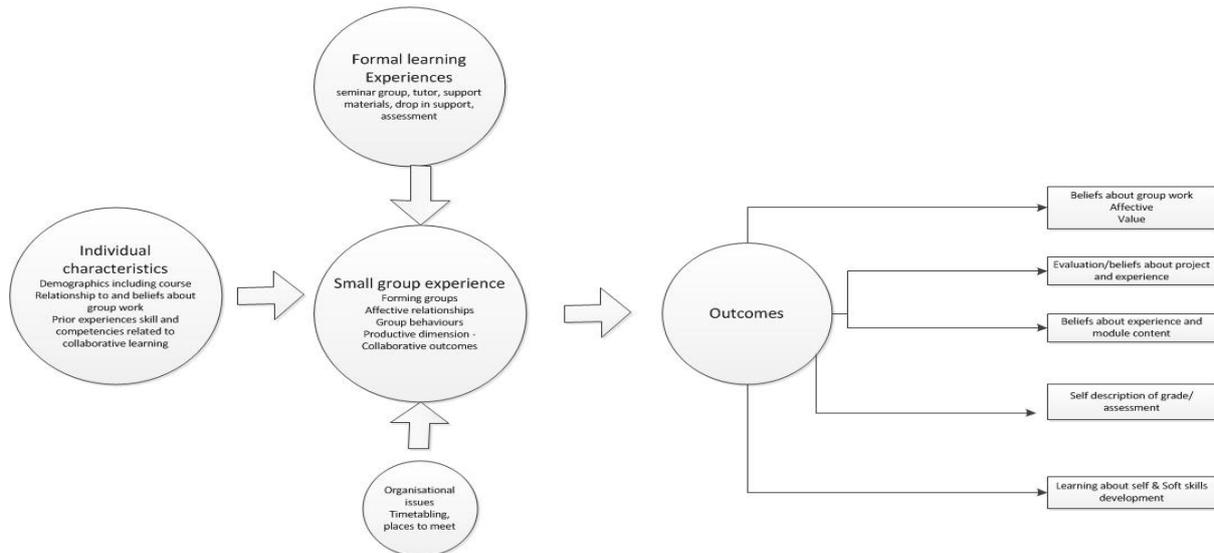
Themes identified for inclusion in the questionnaire were based on this model:

- prior experiences of group work and the extent to which student were expecting or felt prepared to engage in collaborative tasks;
- group choice strategies;
- participants views on the group they had been part of in terms of commitment, organisation, fairness, affective relationships in the group, and the extent of team working – drawing on Pauli et al (2008);
- views on module activities, including their view on the value or otherwise of collaborative learning.

We also included demographic questions including self-assessment of received grade.

The survey was reviewed by the module leader prior to release. The return was low with 47 students completing the survey (6.4% of student cohort), possibly because due to unforeseen circumstances meaning it was undertaken sometime after the assessed group work presentation had taken place.

Given the low response rate to the survey, there is a risk of response bias and the extent to which the responses are representative is open to question and, thus, firm conclusions cannot be drawn about the cohort as a whole. In addition, the research would have been strengthened if PVM and focus groups had been undertaken with the students as well as staff. With regard to limitations of the research, we also are aware of our positionality, particularly in our interpretation of the focus group findings, this tended to reflect our different positions with the student researcher, understandably, perhaps emphasising a student perspective and academic staff, having more insight into the staff experience.

Staff and student perspectives

In this section we discuss staff and student perspectives by considering four categories: the value of collaborative learning, group formation, difficulties encountered by groups and student readiness.

Value of Collaborative Learning

Staff and students both saw the value of collaborative working. The survey asked students to rate statements about the value of collaborative learning on a Likert scale. Students agreed that they gained valuable experience of group working (61%), that their ability to collaborate developed (58%) and that their problem solving skills increased (58%). Most importantly however, the level of disagreement with the statements was very small, with average disagreement below 20% and only 6% of students disagreeing that their ability to collaborate had developed. On a separate question, 61% of students agreed that the group work was a valuable part of the module, although only 32% agreed that they were looking forward to more collaborative learning as part of their degree.

Detailed analysis of students who reported negative experiences of group working revealed only seven respondents (15%) reporting negative experiences. Considering the likelihood that those who have had negative experiences may be more motivated to provide feedback through the survey, 85% of students not reporting negative experiences indicates a generally positive view of the experience amongst the cohort as a whole. Of these, just four completed the full survey, meaning conclusions drawn from this data are unreliable. Having said that, there appears to be very little in common for these four students; two preferred students to pick groups, two preferred staff to pick groups; two felt their marks were improved by collaboration, two felt they were harmed; two gained the highest mark band, two gained the lowest (pass) band (these pairs were not the same respondents). There appears to be a tendency for those who have reported negative experiences to be at the extremes: 53% of respondents felt their marks were not changed by the collaboration, yet none of those who reported negative experiences felt this way. However, as noted above, the sample size is too small to draw reliable conclusions.

Staff recognised the importance of the assessment as an experience that reflected the necessity of collaboration in employment. They noted that the assessment in question was the first collaborative learning students do as part of the degree course and that they tend to improve as they learn the skills required during the degree. Staff believed that the assessment 'works', but thought that the collaborative aspects should have more time. The task focused on students learning financial analysis skills collaboratively, thus the emphasis is on the practical business skills not the collaborative learning skills. Staff also observed that using a real-world scenario as the basis of the assessment helps students realise the importance of collaborative working for their future careers.

Group Formation

Students were asked to rank certain statements on what they looked for when selecting their groups for the assessment task. 73% of respondents ranked hard workers in the top two statements, with 50% ranking high achievers in the top two as well. This corroborates Hall and Buzwell's (2012) finding that students aim to avoid other students with freeloading behaviours. Students were also asked how they would select groups for future collaborative learning tasks. The same thinking prevailed but even more strongly, as 84% of respondents ranked hard workers in the top two, and just 58% for high achievers. Also of interest here is the reduction in number of students who rated the importance of enjoying working with others from 45% to 32%, suggesting students would rather achieve strong grades than enjoy their collaborative learning (however, there is no suggestion that the two are mutually exclusive).

The formation of groups was a contentious issue, echoing the findings of authors such as Orr (2010). Students were asked whether they preferred groups to be chosen by staff or students, returning a relatively even split of 58% (staff) to 42% (students). Students were also asked to give their reasons for their choice. Reasons for preferring staff selection of groups included greater integration and learning how to work with different people (57%), avoiding freeloaders (29%) and avoiding potential embarrassment (14%). Reasons for preferring student selection of groups included students knowing who they worked well with (55%) and avoiding freeloaders (44%).

Staff identified supporting the process of group formation as an area for improvement, with one staff member stating 'we don't do anything with them in the first week', pointing to the lack of explicit activities to help develop group functioning. There was only one activity (a quiz) prior to group selection that was aimed at exploring key features and challenges of group working. This was considered insufficient and could have been timed better with one staff member commenting that students struggled to see the benefit' of the activity. Students who did not take part in this exercise were subsequently left to complete the assessment alone. Suggestions for improvement included replacing the quiz with a student presentation sharing content of the module guide, section by section. This could support students in gaining insight into how individuals worked in groups, and enhance understanding of anticipated learning outcomes and rationale for assessment. Selecting groups earlier was also suggested which would allow more time for groups to get used to working together, although this might further exacerbate the dilemma for students in not knowing who to choose.

Difficulties encountered by groups

Over half the students who completed the survey reported encountering practical difficulties in the course of the assessment; these difficulties are presented in Figure 2 below. Staff provided drop-in sessions each week, and during the week prior to presenting there were no lectures in order to facilitate completion. Staff noted that drop-in sessions were better attended towards the end of the assessment, so much so that for the week prior to presenting,

extra rooms and staff were required. Staff also noted that they had very little input into how the groups were working, tending only to become involved if things went wrong. Whilst students are encouraged to meet with their groups throughout the module, and sit together in workshops, staff do not enforce this and they do not know how often the groups met independently.

Figure 2: Practical difficulties (46 respondents)
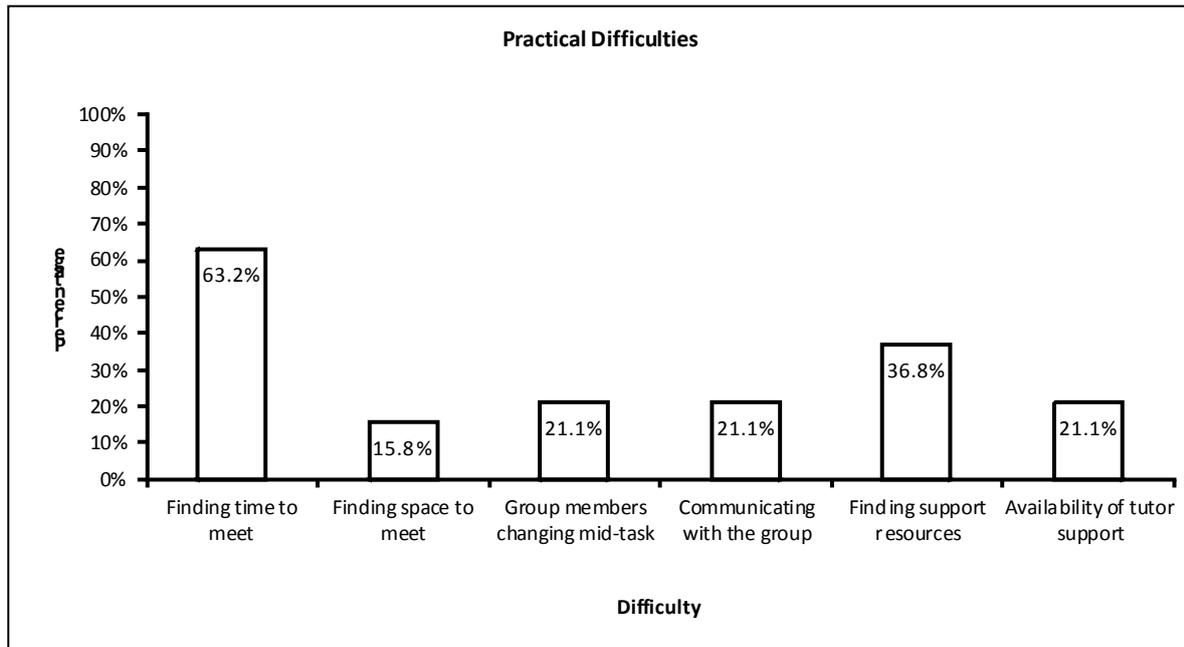
Student Readiness

As the table below shows, a significant minority of students felt they had not had enough experience of collaborative learning to fully appreciate it as part of their degree. Further, there were relatively high levels of anxiety about group working, suggesting students were not fully prepared for collaborative learning. Staff acknowledged that this assessment is a learning process and that the ability of students to work collaboratively tends to increase as a result of the process. In the focus group staff commented that students had different levels of preparedness for engaging in the collaborative aspects.

While the foci of much previous literature have been on the ending and assessment of collaborative projects, the study suggests that how these projects begin is also important to their success. The implications of these findings will be discussed in the next section.

Figure 3: Student readiness for group work (46 respondents)

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I felt I had enough experiences of group work before arriving at university, to make the most of group work on my degree	8.7% (4)	39.1% (18)	17.4% (8)	30.4% (14)	4.4% (2)
I was looking forward to group work as part of my degree	8.7% (4)	37% (17)	30.4% (14)	15.2% (7)	8.7% (4)
I did not know that group work would be part of my degree	2.3% (1)	29.6% (13)	11.4% (5)	29.6% (13)	27.3% (12)
I was anxious about the group work aspects of my degree	2.2% (1)	44.4% (20)	24.4% (11)	20.0% (9)	8.9% (4)

Benefits and challenges of collaborative learning

Hall and Buzwell (2012) found that free-riding was a concern in collaborative learning across disciplines. This finding is replicated in the present study, with students more likely to choose hard working peers than high achievers. This suggests students develop a coping strategy of excluding free-riders and this is particularly evidenced by the increase in those reporting they would prefer hard workers in their groups. However, this strategy is not without its issues – as Dimelow, Walker and Heavey (2013) established, free-riders can perceive others as more capable or may not understand the task. For these students, where a lack of confidence or aptitude hampers their ability to collaborate, their exclusion is likely to further damage their confidence, undermine the valuable learning that working collaboratively can provide, and have an impact on the success of the project. Thereby, their exclusion is likely to be bad for both the individual and the group.

Over half of the respondents reported experiencing practical difficulties in the completion of their project, with the most common issue being finding time to meet. As such, it is suggested that group working time be allocated throughout the timetable to facilitate collaboration for first year students. This scaffolding would support student's progress through their degree with the experience of working together serving as motivation to endeavour to meet and work as a team. Staff frequently commented that students 'should' be meeting in their groups at certain stages of the module, but admitted that they had no idea if they were. Staff provided weekly drop-in sessions throughout the assessment which were attended by increasing numbers of students towards the assessment deadline, which caused a degree of frustration amongst staff because students left it so late to seek assistance. As such, timetables could be taken further to address other practical difficulties, for example meeting in large workspaces with multiple seminar groups, with tutors on hand to facilitate learning. This need not place huge time demands on already busy schedules as tutors are not teaching directly, but are simply available if support is required.

This leads onto an institutional issue regarding staff time. The Associate Lecturers were paid to participate in the focus group as it was considered important to include views from the entire teaching team. This was facilitated by participation in the research study. The nature of casual employment means that Associate Lecturers are not generally able to be included fully in the design and planning of the module and assessment.

A key debate for the staff team, which would be aided by a whole team discussion, was where the focus of the assessment lay. Staff opinions differed as to whether they should be using professional skills for business to support the development of collaborative learning skills (with the main goal of the project being the inculcation of the ability to collaborate) or using collaborative learning to improve professional skills for business, where the main goal is to inculcate professional skills for business).

The importance of support when beginning collaborative learning

As we have illustrated, students and staff both acknowledged difficulties with group formation. First year students have limited experience of collaborative learning and as such this group assessment is likely to significantly affect their attitude regarding working collaboratively in the future. As such, support should be focussed on the beginning of the process, including both group formation and the development of collaborative learning skills. Attention should also be paid to these skills throughout the group work process, providing space and time for working together independently as well as offering tutor support in the event of difficulties.

There were stark differences in opinion amongst students regarding how groups should be formed. As noted above, students are split on this issue, with marginally more favouring choosing groups themselves over staff allocating groups. Various reasons are provided on both sides, with avoidance of free riders notably being provided as a reason for both options. Taking this into account, we recommend that during first year modules groups are allocated by staff, thus eradicating the problem for students of selecting peers without knowing each other. This also allows for increased integration, allowing students to gain experience of working with a diverse group of individuals with different styles of working. Further into a degree course, however, students could be allowed to choose their own groups, giving them more responsibility for their work and encouraging learning to be fully self-directed (Orr 2010). A combination of both self-selection and tutor-selection is another approach, as discussed in Mahenthiran and Rouse (2000). Certainly, the range of approaches to group formation, including others not discussed here (such as analysing individual contributions based on group roles and personal skills) and their likely impact on the student and staff experience, is worthy of further research.

A further suggestion from staff in the PVM exercise was to improve the group formation phase in the first session by splitting the module guide into sections and having groups work together to present each element. This would provide experience of working in a group, allowing students to better identify those they felt they would work well with, should there be a self-selection approach to group formation.

As we have discussed, it is important for students to be well supported in the beginnings of their collaborative learning project. Concurrently, on a meta-level, this whole assessment can be seen as the beginnings of their collaborative learning as it is, for many, their first experience of working in this way. As such, additional support is required not just at the beginning of the project but also throughout and after the assessment has been completed in order to ensure students' initial experiences are used to continue to learn and develop collaborative skills, particularly where collaborative work has been perceived negatively.

Conclusion

We have seen that the process of group formation requires more support, particularly for students with little experience of collaborative learning. It would have been useful to conduct PVM focus groups with students to assess whether staff and student perspectives differ. While we surveyed students, results were likely to exhibit a response bias meaning we cannot claim survey results are representative of the student population. Within the survey, students reported on how their views had changed; a longitudinal survey tool would have been more accurate in assessing this change, but time constraints meant this was not possible. While we can tentatively suggest support workshops and timetabled group working would be useful, the specific form of this support is unclear – more research is required to explore different options.

One issue preventing the adequate support of collaborative learning is the diverse nature of staffing on the module. Due to the size of the module, a large staff team is involved in delivery. Within this team, part time Associate Lecturers run seminars, but are not involved in planning the module or in discussions regarding the coherence of the module within the overall degree programme, specifically relating to constructive alignment between anticipated learning outcomes and the assessment tool employed. This is because the nature of their contracts does not include provision for development and reflection time aside from session planning. Indeed, the staff focus group allowed some members of the staff team to come together and discuss these issues for the first time, as Associate Lecturers were unusually paid for participation. This sort of design, planning and evaluation work is crucial to staff understanding and for effective student learning experience. As we know, collaborative learning is simultaneously valuable and difficult for both staff and students and the inherent difficulties require time to plan, develop and reflect on practice.

This research sought to trial Process Value Mapping as a qualitative research tool, facilitating discussion in focus groups. This tool was successful in illustrating the process and elucidating debate about the assessment and collaborative learning.

In conclusion this study indicates that the process of beginning a collaborative project requires more focus and support, particularly for first year University students, who are experiencing collaborative working for the first time.

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