

Why do students not engage in Collaborative Learning outside of class?

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Abstract: Collaborative learning (CL) can be a powerful pedagogy. By encouraging learners to discuss ideas and develop a shared understanding of a problem, learning can be made more-efficient and more-powerful. However, most evidence for the impact of CL focuses on the classroom. We have developed an approach, termed Shadow Modules, which uses principles of CL to support student-directed learning outside of class. However, engagement with these CL activities is low, and so this study aims to identify student attitudes towards CL, and whether there is a link between views of CL and learning strategies (deep, surface or strategic). Using a mixed-methods approach we have investigated students' perceptions of CL, and potential reasons why they may not engage fully with such learning activities of their own accord. The data suggest that students are generally skeptical of CL, although surface learners to show a mild, but significant, preference for it. Student concerns of CL are mainly that it might lead to a reduced-efficiency of studying, or be distracting. Even though many recognized the benefits of CL, still this general suspicion of sharing learning activities was pervasive. These findings have implications for the management of student-study and revision groups.

Literature Review

A major challenge for Higher Education is engaging students in active learning, as partners in the learning experience, rather than passive recipients of knowledge, especially during student-directed learning (SDL) outside of the classroom. A well-established pedagogy to enhance active learning is Collaborative Learning (CL) where students work together to discuss and solve problems (Dillenbourg, 1999). CL has been shown to enhance student academic outcomes (Gokhale, 1995) as well as group skills, confidence and metacognitive skills. The key factor for CL is the ability for learners to discuss material with each other, engaging in dialogue that leads to each participant supporting the learning of their peer(s) (Mercer, 1996). Lee, Tsai *et al.* (2014) suggest that CL and SDL are mutually supportive of one another; both activities encourage learners to be self-critical, promote deep learning strategies and 'epistemic agency', a vital tool in their development as lifelong learners. Recently we established a new pedagogy that we have termed 'Shadow Modules'; student-led, student-focused study groups which run alongside formal taught modules, but are not part of the core curriculum (Scott, Moxham & Rutherford, 2014). A volunteer student Shadow Module Leader organizes either peer-taught informal classes, group-working sessions where students collaborate on a single problem, of a support-group through social media. The outputs of these activities may then be shared with the class as a whole, through Web 2.0 collaborative technologies (e.g. wikis, social media, Google Drive), even with those who did not participate in the activities. Scott, Mistry *et al.* (2014) report that students undertaking Shadow Module activities had a better module outcome than their peers. However, only c.20% of students in a module participate in the Shadow Module activities (although many more use the learning resources produced by the study groups, which are shared online). The study reported here aims to investigate potential reasons for non-engagement with potentially-beneficial CL activities outside of class. We have investigated students' perceptions of CL and SDL, in order to identify why engagement in CL activities outside of class is generally low. In particular we are interested if perceptions of CL and SDL are associated with either surface, deep or strategic learning styles (Entwhistle & McCune, 2004).

Methodology

A mixed-method approach was undertaken for the study. A survey of 527 undergraduates used the ASSIST questionnaire (Entwhistle and McCune, 2004) to reveal deep, surface or strategic learning strategies, also questions using a 5-point Likert scale, investigating students' liking for studying alone, in pairs/threes or in small groups. The survey included undergraduate students from all year groups and across 6 academic Schools. Semi-structured interviews were undertaken of 33 individual students. Questions focused on investigating students' own self-directed study activities and their views regarding CL and similar activities. Interviewees were drawn from three academic Schools and all academic years, although with a bias towards students in their first year of study. A Grounded-Theory approach (Glaser and Strauss, 1967) was taken. Quantitative analysis used regression analyses and factor analysis to identify correlations. Qualitative analysis used a constant comparison approach (Glaser and Strauss, 1967) to identify core themes within the transcripts.

Data Analysis/Results

Quantitative analysis suggests some correlations between student learning styles and attitudes towards learning. Students who exhibited a Strategic learning strategy showed a positive correlation with liking solitary study, and a significant negative correlation with pairs and group-based study ($P < 0.05$). Students who exhibited strong Surface learning characteristics also exhibited a positive correlation with group-based activities ($P < 0.001$), and significant negative correlation ($P < 0.05$) with preference for solitary study. Students showing strong Deep learning strategies exhibited a significant positive correlation ($P < 0.05$) with pair-based learning, and a significant negative correlation ($P < 0.01$) with group-based learning. There does, therefore, appear to be significant correlations, albeit weak ones, between learning strategies and preferences for solitary, pair-wise or group learning activities.

Qualitative analysis identified codes which clustered into four major themes. These themes were common across all ages, backgrounds and genders. Firstly, *students' predominant reported learning approach undertaken outside of class was solitary-study*. Predominantly, solitary learning activities appeared to be surface approaches of reinforcing knowledge and understanding (revising existing notes and filling knowledge gaps with additional reading), rather than deep-learning approaches of developing a holistic understanding of the subject and wider-reading around the subject. This may impact on their appreciation of CL, which indeed was identified in the second theme: *The vast majority of interviewees preferred studying alone to studying in pairs, three, small groups or large groups*. All but one interviewee cited learning in larger groups as their least favorite approach, the most common reason being that large groups would be 'distracting'. Thirdly, *CL was viewed with considerable suspicion by interviewees*. Almost none of the interviewees recognized any particular benefits to CL activity, aside from the ability to ask a peer the answer to a problem or specific question. None of the interviewees could express the benefits of a discursive approach to learning, or the importance of sharing diverse points of view, which are keystones of CL (Mercer, 1996). The concern that other less-engaged students might benefit from their input into a group activity was also a factor, suggesting that students are quite territorial of their learning activities. Finally, *students generally recognized the benefits of CL for filling-in gaps in knowledge and using others' understanding to supplement one's own*.

Discussion

Our work reported here suggests that students do recognize the potential of group-based learning activities, but do not readily engage in them of their own accord and are largely suspicious of them. Concern that they might not be as efficient in studying when working in a group is contrary to reported research (Lee *et al.*, 2014; Scott *et al.*, 2014) where CL has been shown to make studying outside of class more time-efficient. Surface learners are more likely to favor group activities, but deep learners, whom one might think would welcome discussion of ideas with peers, are not generally supportive of CL studying outside of class. These findings suggest that the reason there is low-engagement with Shadow module activities is because of limited understanding of the benefits of CL and the efficiencies of it. If student-directed CL activities are to be encouraged, therefore, then academic staff need to explain the potential benefits to students, and to provide some degree of supportive structure or guidance. Without this form of 'scaffolding', it is unlikely that student-directed CL will succeed or even occur.

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