Adapting Case-Based Teaching to Large Class Settings: An Action Research Approach

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ABSTRACT   *While literature points to significant benefits from using case-based teaching in accounting education, the extent to which these benefits can be obtained with large undergraduate classes is not evident. Using an action research approach, strategies for the use of case-based teaching in large classes at an Irish university were developed and evaluated. Insights into the nature of the challenges facing lecturers and students in the large class setting were obtained. The researchers found that, by using appropriate strategies, case studies can be successfully delivered in large class settings, as measured against criteria derived from the literature. The action research method proved effective in the reflection on and development of these strategies. However, despite the success of the strategies that were developed, there were important aspects of the students' and lecturers' responses in this setting that had an impact on the benefits realized.*

KEY WORDS: Case-based teaching, large class settings, action research

Introduction

Case-based teaching offers benefits to students both within and beyond the accounting curriculum (Stout, 1996; Boyce, Williams, Kelly and Yee, 2001). It allows for the use of realistic commercial scenarios (Weil, Oyelere, Yeoh and Firer, 2001; Cullen, Richardson and O'Brien, 2004); the application of judgement in resolving uncertainties where no single right answer exists (Libby, 1991; Adler and Milne, 1997); the debating of alternative answers (Weil *et al.*, 2001), as well as the development of technical skills and knowledge. These benefits in turn contribute to the development of a broader critical understanding of the accounting discipline (Maltby, 2001; Cullen *et al.*, 2004). Prior research has identified

barriers to the successful implementation of case-based teaching (Campbell and Lewis, 1991; Libby, 1991; Adler and Milne, 1997). Institutional factors such as class sizes, teaching spaces and overcrowded curricula can all favour more traditional teaching methods (Libby, 1991). Evidence from previous studies demonstrates that the difficulties which students encounter relate to the application of such methods, particularly in the context of larger group settings, rather than being inherent in the methods themselves (Adler and Milne, 1997; Healy and McCutcheon, 2008).

Although there is little empirically-based evidence investigating group size in the context of case-based teaching, insights can be gained from research into the general problems of large group teaching. Students report difficulties relating to participation, collective learning and peer interaction (AUTC, 2003). Lecturers, anxious to avoid chaos, resort to highly structured protocols ('procedural rules', Biggs, 2003, p. 105) when dealing with large numbers of students engaging in less familiar learning activities. Constraints on students' time, lecturers' time and class time all assume greater importance than in the small class setting.

The execution of an action research project which developed and evaluated strategies for case-based teaching with large groups at undergraduate level is documented in this paper. Reflection on this process provides insights into the nature of the challenges facing lecturers and students alike in engaging with case studies in this setting. The paper is organized as follows: existing evidence on the use of case studies in accounting education and of the challenges of large group teaching is reviewed; the choice of an action research approach is then discussed; the design, implementation and evaluation of the research cycles are described; finally, the findings are presented, related to the literature, and avenues for further research highlighted.

Literature Review

Teaching with case studies offers learners the opportunity to engage with the world of practice in a meaningful manner, described by Hoskins as 'helping to overcome some of the worst fixations of traditional pedagogy' (Hoskins, 1998, p. 57). The inherent malleability of the medium (Rippin, Booth, Bowie and Jordan, 2002) allows teachers to capitalize on the established benefits of case-based teaching (Hassall, Lewis and Broadbent, 1998; Cullen *et al.*, 2004). The process can be adapted to incorporate features characteristic of rich learning contexts including a well-structured knowledge base; an appropriate motivational context; learner activity including interaction with others; and self monitoring (Biggs, 2003, p. 75). The tasks of analysis, reasoning and decision-making provide an active learning experience while group discussion allows interaction with others and the development of key life skills in teamwork and presentation (Biggs, 1989). However, achieving student-led discussion and interaction can be more difficult in a large group context with lower individual visibility and greater opportunity for free-riding (AUTC, 2003).

Boyce *et al.* (2001) identify and discuss a number of strategies available to lecturers to realize the benefits of case-based teaching. These include the tailoring of cases, the use of interactive classroom techniques and tasks requiring information presentation and elicitation. They caution, however, that the use of case studies requires 'a concerted effort that goes well beyond the rhetorical' if such initiatives are to be productive (Boyce *et al.*, 2001, p. 55). Campbell and Lewis (1991) point to the importance of considering both the educational objectives and the practical implementation issues in the use of case-based teaching. Affective impediments to the instructor constitute 'an attitudinal barrier to case usage' (Libby, 1991, p. 210), and are augmented in contexts of large class sizes,

curricula driven by the requirements for exemptions from professional examination and lecturer perceptions of comfort and transference of control (Campbell and Lewis, 1991; Richardson and Cullen, 2004). Other reasons offered for lecturers' reluctance include: the time-consuming nature of case-based teaching in an environment which places increasing levels of emphasis on research output (Adler and Milne, 1997); the lack of appropriate materials; the lack of an appropriate venue and physical layout (Burgoyne and Mumford, 2001); concerns regarding the integrity of solutions, particularly in relation to assessment (Goldwater and Fogarty, 2007); and also resistance to such methods on the part of students (Moss and McMillen, 1980; Adler, Milne and Stringer, 2000).

Undergraduate large group settings introduce additional tensions to the case-based teaching process and shape the nature of the student experience. Booth, Bowie, Jordan and Rippin (2000, p. 66) describe this as follows:

> ... a contrast can be made between what might be expected from the Harvard-style case literature and that experienced in the classroom by students in a mass system: instead of well-informed students setting out recommendations and supporting their arguments in lively classroom debates, we found fragmented groups often reluctant to prepare and contribute, requiring significant process skills on the part of teaching staff.

Managing spontaneity may conflict with lecturer control where individuals or sub-groups of students within the larger class perceive the same academic task differently and in ways contrary to the lecturer's intent. Joughin (2007) highlights the importance of students not only attaining declarative knowledge (Biggs, 2003), but also learning about the format in which they will be required to demonstrate that knowledge. Concerns regarding formal assessments embodied into case-based teaching raise issues as to the extent to which students learn *from* the case, rather than just learn the case. In large group settings, a greater number of learners' personal agendas are at play, creating conflict between the more active and less active student participants (Burgoyne and Mumford, 2001). This is compounded by the use of poorly designed sub-group tasks, offering little scope for either real co-operation between group members or for creating a sense of positive competition among sub-groups (De Vita, 2001; Scofield, 2005).

Biggs (2003, p. 104) distinguishes between the managerial aspects ('dealing with large numbers of people at a time') and the educational aspects ('using that space for effective learning') of large-class teaching. In asking whether change comes about by the teacher 'thinking' differently or by 'acting' differently Biggs (2003, p. 255) points towards active learning on the part of practitioners, via the use of action research, as a possible means of investigation. Greater insight is needed into more than just the 'technical' issues of large group settings however (Craig, 2000). Students are receptive to change, but may need help in adjusting to new ways of learning (Moss and McMillen, 1980; Islam, 2001; Brooks and Oliver, 2004).

Case-based teaching provides a valuable opportunity to bring relevance and reality into the classroom, promoting the integration and application of the underlying knowledge base (Boyce *et al.*, 2001). Existing research has established the existence of what Adler and Milne (1997, p. 192) term 'individual and structural impediments' to the use of case-based teaching in large group settings, but is silent on how these impediments can be overcome. In this study, the researchers used an action research approach with the objective of developing and evaluating a number of strategies for case-based teaching in large classes. Criteria for 'success' were drawn from the extant literature. These criteria were the following:

- Managerial Factors: Were 'managerial' (Biggs, 2003) factors addressed? Large class sizes can limit the potential of cases as educational tools (Rippin *et al.*, 2002) so the management of the teaching context becomes an important aspect of the facilitation of learning activities.
- Breadth and Depth of Analysis: Was there both broad and deep case analysis? Boyce *et al.* (2001) emphasize the importance of how case studies are used in terms of the development of deeper learning. Breadth and depth of analysis of case content, by students, will facilitate a move away from surface learning (learning the case), to greater understanding of the case issues (learning from the case).
- Collaborative Effort: Did the students work collaboratively to positive effect? Adler *et al.* (2004) point to the importance of how rather than if case studies are used, and the level and extent of students' involvement, if case studies are to be used to enhance generic learning skills.
- Multiple Viewpoints: Were the students exposed to multiple viewpoints in a meaningful way? In describing case studies as a malleable medium, Rippin *et al.* (2002) identify the ability of case-based teaching approaches to facilitate students' exploration of a variety of viewpoints and of multiple complex interpretations of the case content.
- Peer Interaction: Was there free flowing peer interaction? Overcoming students' impediments to case-based teaching (identified in Libby, 1991), leading to greater student engagement and interaction, is more difficult in the context of large class sizes (AUTC, 2003). Students need to be encouraged into more active roles and towards (greater) peer interaction.
- Individual Engagement: Were individual students engaged with the activities? Adler *et al.* (2004) highlight the importance (from the students' learning viewpoint) of students' involvement in case-based teaching.
- Constructive Feedback: Was feedback given in a constructive manner which validated students' efforts? Sharma (1997) identifies the provision of feedback and the generation of a personal learning context as being among critical elements of the teaching context affecting students' learning. Students also rate the giving of quality feedback highly (Ramsden, 2003), such that the goals of the learning process and activities are clear and help enable student engagement with the subject matter and case context.
- Appropriate Assessment: Was the assessment appropriate within the existing constraints? Students will adapt their learning approaches towards accommodating assessment requirements (Boyce *et al.*, 2001), thus appropriate assessment strategies complement the teaching approach used, as part of the overall learning context.

The objective of this research is to evaluate the success of specific strategies for case-based teaching in large class contexts and thus to gain insights into the factors underlying the lecturers' and students' responses to such strategies. While existing research does point to difficulties in the large class context, it does not address how these difficulties can be overcome. The researchers aim was to contribute to the accounting education literature, through the generation of a clearer understanding of the nature of the managerial and educational challenges that arise within the large class setting and impact on the response to case-based teaching.

Research Methodology

Baker and Logan (2006) advocate the use of action research as an appropriate approach to the conduct of research in accounting education. They explain action research as follows:

> Action research focuses on a problem, or particular practice, occurring within a specific social setting. The purpose of action research is to alleviate the problem or increase the effectiveness of the practice. (p. 4.)

Action research is concerned with resolving issues where the researcher is part of the research context and of the changes taking place (Saunders, Lewis and Thornhill, 2009). Four themes common to literature describing action research are identified by Saunders *et al.* (2009):

1. it is research concerned with resolving issues;
2. the researcher is part of the context;
3. the research process is iterative; and
4. the outcomes of the research should have implications beyond the immediate research project.

Cunningham (2008) cautions against simply viewing this as constituting a static research procedure or protocol, stressing the need for critical self-reflection at regular intervals and the acceptance of an emergent ('unfolding', p. 7) research design over the stages of the research process. Concerns about the ability of action research to move beyond local problem-solving are confronted by McSweeney (2000) where he highlights the need for the 'problem' to reflect the researcher's independent investigation, for the research methods to be described and justified, for the researchers to engage with all the evidence emerging, whether or not confirmatory, and for the research to be located within a pertinent research literature.

The research issue or problem for this paper was drawn from the literature on case-based teaching, as were the criteria for success. The manner in which the research was carried out followed established practice in action research, as outlined in the previous paragraph. Research was conducted over three cycles or iterations in which the researchers developed strategies for the delivery of case-based teaching and subsequently adapted those strategies for the following iteration in the light of difficulties identified.

The context in which this study took place was that of the teaching of accounting and finance, using case-based methods, with undergraduate students across a range of business programmes, in large class settings, at one Irish university. Three of the researchers each had sole responsibility for one of the courses or modules underlying the research cycles described in this paper and managed the teaching and learning activities of that cycle. The fourth researcher acted as 'critical friend' (Kember *et al.*, 1997), observing each of the three cycles, but playing no part in any of the classroom activities, apart from distributing and collecting student surveys at the end of the class session, as part of the research exercise. It should be noted that this is not a research exercise undertaken in the classroom setting. Rather it is research into new classroom practices which address existing challenges. Case-based teaching was already in use in each of the modules. However, the lecturers were less than satisfied with the quality of the students' learning experience. For these lecturers the large class issue was compounded by resource and other constraints such as: two-hour scheduled lecture periods; traditional lecture rooms; pre-determined assessment criteria; and no tutorial support.

Cycles 1 and 2 of the research exercise involved case study classes within modules in Governance and in Business Finance respectively, each taught in the first semester to the same 84 third year students from two four-year degree programmes. Cycle 3 involved the case study element within an optional Management Accounting module taught in the second teaching period (semester?) to a different cohort of 72 final year students drawn

from three distinct four-year business degree programmes. In defining large group settings, the researchers were guided by the definition used in the final report of the 'Teaching Large Classes Project' of the Australian Universities Teaching Committee (AUTC, 2003). Simpler but more arbitrary definitions would exclude the complex interactions between delivery and context. Classes were defined as constituting large group settings based on the relationship between the number of students, the teaching and learning activities, and the facilities available. Arguably, it is desirable for each cycle to work with the same student group and module. However, such an approach may also be unnecessarily limiting and not reflective of the higher education teaching and learning environment. Paisey and Paisey (2003, p. 295) state:

> It is therefore the authors' belief that to limit action research to one establishment and module would be to lose some of the opportunity for the improvement in practice that the action research method is designed to foster.

Action research centres on the practitioner (Calhoun, 1993); nevertheless, the views of the students are paramount in terms of the success or otherwise of the changes made (Paisey and Paisey, 2003). As key stakeholders in the learning environment, students' evaluation of each case-teaching session was an important element in the determination of how successful or otherwise the teaching and learning activities were. Students' feedback was gathered via a short anonymous survey administered at the end of each relevant case class. The survey asked a number of open-ended questions regarding what students felt they had learnt from the respective case study class, which aspects worked well and which did not work well, and what changes could be made, both on their own part and on the part of the lecturer. The open-ended nature of the questions asked, with equal allowance for positive and negative responses, provides for the impartiality and avoidance of preconceptions deemed critical to valid action research by McSweeney (2000). Table 1 summarizes the response rates over each of the action research cycles.

Hand and Rowe (2001) caution researchers using an action research approach against reliance on just one source of student feedback, stating that:

> Any single instrument, used in isolation, may at best raise further questions, and at worst give a misleading view of the student experience. A combination of instruments allows some of these further questions to be addressed and presents challenges to simplistic summaries of student experiences. (p. 154)

In addition to the student surveys described earlier, two student focus groups were also conducted—one at the end of the first semester involving students who took part in Cycles 1 and 2 of the action research process; and the other at the end of teaching period two (semester 2?) with students from Cycle 3. In each instance students were randomly selected from the class list and invited by e-mail to participate in the focus group (14 students from Cycles 1 and 2; 22 from Cycle 3). Seven students attended the first focus group; eight attended the second. The focus groups were run by two of the researchers who had not been involved in the teaching activities of the particular research cycles under review.

Table 1.   Response rates to post case study surveys

	Sample size	Response rate	% Response rate
Cycle 1	84	79	94%
Cycle 2	84	67	80%
Cycle 3	72	63	84%

The focus groups were audio recorded with the prior permission of the participating students; in addition, one researcher noted the discussion on a series of flip chart pages, confirming the correctness of the entries with focus group participants and adding refinements as required. The focus group discussions were transcribed and independently checked against the original recording by each of the researchers to ensure not only a concise reproduction of the conversations but also a sense of the nuance and emphasis placed on those words by individual students.

The key role of the lecturer, described by Tickle (2001, p. 350) as being that of both as 'actor' and as 'information gatherer' in the action research process, was also recognized. Lecturer data was gathered via a process of individual and group reflection before, during and after each action research cycle. Views about each cycle were collated using pre- and post-case teaching reflections from the point of view of the lecturer responsible for that module, as well as the independent comments of the 'critical friend'. These were circulated and discussed by the research team over a series of regular weekly meetings.

Research Findings

The following paragraphs discuss and evaluate the case-based teaching and learning activities for each of the research cycles based on evidence from students and lecturers.

Action Research Cycle 1: The Debate

Cycle 1 took place as part of a module examining the governance, regulation and control of financial organizations, which was assessed entirely by continuous assessment. The case study used examined internal control systems in WorldCom. The case assignment accounted for 25% of the total marks for the module (pre-determined by course regulations). This requirement for summative assessment was a constraint but it was also considered that it could act as a motivator. The intention was for all learning activities to lead potentially to graded assessment which the lecturer felt would be essential to motivate attendance and participation given the overall student workload. Two assessment points were chosen: an in-class presentation and a reflective written submission.

To encourage structured interaction amongst the students, a debate format was designed, which it was felt would facilitate a higher degree of student participation in the large class setting than the standard approach to case teaching. It was hoped that a debate would facilitate a process of learning *from* the case rather than learning *of* the case. Students were randomly assigned into fourteen groups of six. To encourage breadth and depth of analysis of the case, students were given a menu of seven debate motions dealing with aspects of the case (listed in Appendix 1) one week in advance but were not told which motion their group would be proposing or opposing. As a consequence the students' deliberations had to be open-minded and they had to look for contrary indicators within the case description. Additional reasons for choosing the debate format were to expose the students to multiple viewpoints and to provide opportunities to develop soft skills in presentation and communication.

At the start of the debate class all groups were given a short period to prepare a single slide to argue their assigned side of a designated motion. In class, one member of each group debated one side of one of the seven motions, using only the single slide to accompany the presentation, and with a limit of five minutes time allowed in which to present the arguments. Following each motion, the class as a whole was asked to vote on the motion, based on the arguments made. An individual post-class assignment served as the means of

enabling the students to reflect on the materials covered, integrating the seven motions in the construction of a coherent understanding of the topic area generally.

Affective concerns identified by the lecturer prior to the class related to difficulties in rectifying any problems that might arise during the class time. Careful management of a tight time schedule was deemed necessary to ensure all motions/students were given equal presentation time. Detailed scheduling instructions had been communicated to all students in advance. Concerns were also identified regarding the reliability of assessment, specifically, maintenance of objectivity and replicibility, when each student group would be addressing a different motion. It was hoped the individual post-class assignment would partially address these concerns.

Evaluation of Cycle 1

Reflection on the outcome of Cycle 1 pointed to its being a positive experience for all participants. Prior preparation and planning ensured that the class ran smoothly and to time. Students participated readily, the class was well-attended and all groups came well-prepared. Student satisfaction, as evidenced by the student surveys, was high and students engaged both with the clarity of the task and the novelty of the debate format. Despite lecturers' concerns to the contrary, the tiered, fixed-seating layout of the classroom did not interfere with the reported student experience. It may in fact have facilitated the actual debate by providing a relatively intimate setting and clear acoustics for a larger group. There was no heckling or interruption throughout the exercise and the audience, although passive, appeared to the critical friend to be more engaged than in a lecture of similar duration, even when compared to one with a good deal of discussion and interaction. When compared to previous iterations of the case, with similar student cohorts, the lecturer noted the high quality of analysis undertaken. Whilst there was no outstanding speaker, all student representatives spoke confidently and were well-prepared.

The case chosen complemented the previous taught classes on the topic of internal control. It dovetailed with the course material but also went beyond material explicitly discussed in previous classes and students extrapolated well into these areas either by out-of-class research or making connections to other modules studied. The larger size groups actually helped this by enabling economies of scale in the students' learning within each group and across groups. To cite one student's response:

> [Today I learnt] many different aspects of the WorldCom case from other groups that I may have missed out upon had I not heard their presentation/debate.

A number of aspects of the Cycle 1 process were problematic, however. The survey responses suggest that some students did not prepare for the class collaboratively as anticipated by the lecturer. Instead, they tactically divided the motions among their members and each member researched and prepared one or two of the debate motions only. One participant in the focus group described this as follows:

> You meet up and everyone says: [Student A], do this; and [Student B], do this. So you go away and do it yourself and then put it back together. You don't really have time to sit down as a group and work for two or three hours doing it.

In these circumstances, the particular student who presented was not necessarily the best speaker, but one who was selected on the basis of whichever motion the group was assigned. This issue was of concern to some students, with one suggestion offered being to:

> Provide [assigned] motions in advance as there are too many for the best speaker to prepare for.

Because of the nature of the debate only one in six students had an opportunity to speak. Peer interaction was limited, between the debaters themselves and between the debaters and the audience. Outside of the voting aspect there was no opportunity for peer feedback. Students' suggestions included allowing speakers a rebuttal of the opposing point (as in classic debating), allowing questions from the floor, or the lecturer posing questions. The need for careful management of the time constraints created a more formalised atmosphere than originally intended by the lecturer, and did not allow for the lecturer's feedback after each speaker or each motion. While the strict adherence to a five minute contribution per speaker was praised by students as being fair, the lack of feedback meant that there was no synthesis, conclusion or indication as to how the lecturer felt the debaters had performed and the quality of their arguments.

The voting element of the exercise at the conclusion of each motion was by far the most criticized aspect of the exercise by students in the survey evidence. Voting went strongly on degree programme lines rather than on the merit of arguments. (There were students from two degree programmes taking the module and, for logistical reasons, each debate group was drawn from a single degree class). Students described the voting as being 'pointless', 'biased' and even 'corrupt'. A paradox here is that this was the part of the exercise most under student control. This might not have been an issue if the groups had been randomised across degree programme.

Assessment of the actual debate was challenging for the lecturer. Concentration on time-keeping and smooth turnaround between each of the 14 speakers left little scope for detailed assessment of the individual components. A holistic approach had to be taken rather than using a disaggregated marking scheme. This difficulty was compounded by the varying levels of difficulty of some of the debate motions. A typical student's comment on this was:

> A lot of the motions would have been clearly one-sided, very hard to argue for something that was clearly wrong.

In summary the educational experience of the Cycle 1 case event was evaluated against the initial criteria as shown in Table 2.

Action Research Cycle 2: The Board Meeting

The design of Cycle 2 was informed by the feedback from Cycle 1 (which was held three weeks earlier), the objective being to retain elements which worked well and adapt or abandon those which did not. This cycle involved the same group of 84 students but

Table 2. Summary evaluation of cycle 1

Managerial factors	Time constraints
Breadth and depth of analysis	High quality analysis, achieving breadth, depth and integration
Collaborative effort	Limited collaborative effort
Multiple viewpoints	Strongly positive experience
Peer interaction	Formalized interaction; peer evaluation problematic
Individual engagement	Positive response to the novelty of debating, but limited active engagement
Constructive feedback	Feedback inhibited by time constraints
Appropriate assessment	Lecturers' concerns with reliability; students' concerns with fairness

this time as part of a business finance module. The case study used examined a potential acquisition by Cadbury Schweppes of Adams, a chewing gum company. The format for the case study session was a 'Meeting of the Board of Directors of Cadbury Schweppes'. Again, students were allocated into 14 groups of six. Each group was randomly assigned individual perspectives from which to analyse the proposed acquisition (see Appendix II for a list of the perspectives) and was required to submit a short analysis of the acquisition to the lecturer the day before the case study session. For the case study class, a Board was formed, which comprised one representative from each group (perspective) and was chaired by the lecturer, acting solely as facilitator. Each Board member presented his/ her group's analysis to the Board. Following the Board meeting the same groups then reconvened to decide whether, as shareholders in Cadbury Schweppes, they would vote in favour of the acquisition. They were then asked to declare their position and justify it.

After the case study session groups were required to submit a short analysis of the acquisition from the perspective of a shareholder in the acquiring firm. The case assignment accounted for 30% of each student's overall grade for the module. As per Cycle 1, the existence and extent of summative assessment was outside the lecturer's control. As previously done, the lecturer sought to use assessment as a motivator by allocating marks across key aspects of the learning activities (pre-class submission, board meeting, and reflective report). It was also hoped that having three rather than two assessment points would mitigate lecturers' concerns expressed in Cycle 1 about reliability by allowing the lecturer to build a more objective view of students' performance.

It was expected that the board meeting format would be less rigid than the debate format and, therefore, conducive to interaction among students—something that was identified as lacking in Cycle 1. Voting in Cycle 1 had split along degree programme lines and, to avoid this, groups were composed of students from both degree programmes. The evaluation of Cycle 1 established that groups had apportioned the preparation work to individual members and there was little genuine collaboration within groups. In this cycle the preparation work required of students was shorter and less divisible and so was less readily apportioned amongst group members.

Evaluation of Cycle 2

As was the case in Cycle 1, students commented positively on the novelty of the teaching approach. Several survey respondents favourably compared the session with more traditional 'presentation based' case study approaches, a typical comment being '... more interesting than just doing presentations'. The board meeting structure 'gave a sense of realism' to the analysis. One student replied that speaking in the forum of a board meeting was less intimidating than giving a presentation to the class. The board meeting clearly engaged students. They were enthusiastic in their adoption of their assigned roles and demonstrated no difficulty in robustly putting forward their arguments. The analysis presented was of a high quality, students displayed an ability to draw from a wide base of knowledge and to research areas in which they did not have an academic background. Students themselves highlighted the hearing of multiple points of view as a valuable learning experience:

> Board meeting approach to the case study was interesting.... You hear everybody's views instead of the core point you have, which you usually focus on.

The students were required in the second segment of the class to move from analysis of the decision from a particular perspective to a broad assessment of the case as a whole. This did not appear to present them with much difficulty and they demonstrated an

ability to synthesise a large amount of, at times, conflicting evidence and come to a coherent conclusion. Comments in the survey forms suggested that students gained a valuable understanding of the potential for actors to have divergent interests, and for a range of conflicting points of view to have validity, with the result that decisions that appear straightforward, may not in fact be so.

Generating a genuine discussion amongst students rather than a formal presentation of analyses was a primary objective of this exercise. The board meeting, however, did not develop into a robust discussion. A number of factors may have contributed to this failure. Most students read from prepared notes rather than addressing the board directly. They were reticent about challenging one another. This may have been due to time pressure imposed by the lecturer in the meeting given the number of contributions to be made. There is a trade-off when using cases in large classes between facilitating a large number of contributors and not limiting time for individual contributions. The reticence of students to challenge their peers may be lessened if the structure of the class actively promotes interaction - the number of students who criticized the lack of discussion among board members suggests that this may be the case.

A related issue, highlighted in the survey evidence, was that students who were not members of the board were not permitted to question board members. Students also expressed concern about what might be termed the 'representativeness' of the process in general and of the assessment in particular. There were two facets to this concern evident from the survey data: first, students were uncomfortable with a single member of each group representing the efforts of the entire group; and second, the board meeting, limited to one member of each group, led to a degree of disengagement amongst the non-participating students. Repetition was also a feature of the final segment of the session, in which each group outlined its reasons for or against the acquisition:

 It did drag on a bit which made it hard to pay attention—especially when points were repeated.

In Cycle 1 groups were composed entirely of students from one of the two degree programmes. For Cycle 2 groups comprised a mix of students from each degree programme. Students' reactions were mixed on this aspect. Several students pointed out that, due to their having different timetables, arranging meetings was difficult, while others criticised the decision without providing reasons. However, some were positive about the experience and a practical advantage was that 'block voting' by programme, which was a feature of Cycle 1, was avoided.

The lecturer's role in the class was intentionally limited to that of ensuring the session proceeded in accordance with the schedule distributed to students. No feedback was given to students either during the board meeting or following the voting. The lecturer was concerned that to comment on contributions during the course of the meeting may have inhibited a free flowing discussion among students. Feedback after the voting was not possible due to time constraints. A consequence of this was that some significant errors of fact made by students were not corrected during the class. These were corrected in the following week's class. The overall experience was less coherent as a consequence.

In summary, the educational experience of the Cycle 2 case session was evaluated against the initial criteria as shown in Table 3.

Action Research Cycle 3: The Family Council

Reflection on Cycles 1 and 2 highlighted a number of positive outcomes achieved to that point but also illustrated aspects of the experience that were still unsatisfactory. The use of novelty in setting up the case session was clearly welcomed and enjoyed by students, as

Table 3.   Summary evaluation of cycle 2

Managerial factors	Time and space constraints
Breadth and depth of analysis	High quality analysis, achieving breadth, depth and integration
Collaborative effort	Extensive collaborative effort
Multiple viewpoints	Positive response; some degree of repetition
Peer interaction	Formalized interaction; limited class discussion; passive listening, rather than active learning
Individual engagement	Students engaged well but opportunities for participation still unequal
Constructive feedback	Inhibited by time constraints; technical errors not corrected during case session
Appropriate assessment	Lecturers' concerns with objectivity; students' concerns with representativeness

were the provision of clear instructions in advance and the opportunity to work in a group context with other students. However, time constraints during the two-hour class time were restricting the level of immediate feedback on inputs given to students. Additionally, not all students were equally active—something which they themselves had noticed and commented upon. Whilst students were working collectively, quality collaborative engagement was still largely elusive. Cycle 3 was designed, therefore, to build on elements that had worked successfully in the previous cycles, as well as to attempt to give all students 'a voice' (despite the large class size) and to encourage the development of collaborative working during the in-class case session. Cycle 3 was conducted with a different class group from Cycles 1 and 2.

In Cycle 3 the case used concerned a family business at a decision point in its strategic and operational development. The case formed part of an optional advanced management accounting module, taken by final year students from a range of business programmes. The format of the case session was a series of concurrent 'Family Council' meetings. It was hoped this would address concerns that only a minority of students were really being given an active learning opportunity. The students were allocated into groups of three, with each group being assigned the task of identifying three key issues of concern to one of four actors/positions in the case (see Appendix III). This initial analysis was submitted the day before the case session, compiled and then made available to all students via the module intranet site. Each group was combined with three other groups (representing the other three actors) to form a family council of twelve students. The family councils, of which there were six, were given the task of determining the way forward for the company. Due to space constraints, an alternative to the regular classroom was used for this part of the case session. The conclusions of each family council were summarised by the students on two slides to be presented to the full class group.

During the presentation of each family council's deliberations and ultimate decision as to the way forward, the other students in the class were asked to rank the presentation in terms of visual impact, delivery and content. It was stressed to students that this was not part of the formal grading process but that the lecturer would report the winner of 'the popular vote' at a subsequent class. It was also decided that the lecturer would take the opportunity to give immediate feedback following the presentations thus addressing some concerns emerging following Cycles 1 and 2. In determining the assessment criteria it was necessary to accommodate an individual interim examination required by course regulations. The examination was based on the materials worked on in the case study

class, augmented with additional information. The case study accounted for 15% of the module marks. Of this, 70% was allocated to the interim examination with 15% each being allocated to the pre-class submission and the in-class presentation. Here again it was felt that some allocation of marks to the learning activities was necessary to ensure participation.

Evaluation of Cycle 3

The students responded well to the novel approach taken and had little difficulty with the task instructions. The family meetings forced the students to work collaboratively in order to reconcile opposing viewpoints. All students had a voice in the process; at times the volume of sound in the room was noticeable higher than comfort dictates. Many students highlighted the value of the experience of teamwork and collaboration. For example, one student wrote:

> Today I learnt how to work well in a team that consists of groups with opposite opinions and ideas . . . importance of listening to everyone, weighing up opinions and then coming to a suitable agreement.

Although it was evident that, in at least one instance, failure to select a chair for the meeting at the outset resulted in some disarray, this in itself proved a valuable learning experience. Students entered enthusiastically into their roles. Even when the meeting had finished and the observers were collating and identifying the way forward, some students continued to lobby for their particular perspective to be adopted.

The lecturer noted that the analysis was generally of a high standard. Students moved quickly from specific management accounting issues towards consideration of the broader concerns to be addressed. The breadth and depth of analysis conducted took students away from viewing the exercise as one of a management accounting task to an extent unanticipated by the lecturer at the planning stage. Accounting topics not central to the case were also raised by students as relevant to the analysis presented. While this was a fictional case, students looked at it in the broader context of their knowledge of the industry and the local area in which the case is set.

It had been anticipated at the outset that each family council would come up with a distinct solution, reinforcing the 'no single right answer' aspect of case-based learning activities. However, all groups reached very similar conclusions, albeit via differing routes. This led to a degree of repetitiveness in the presentations. There was also little interaction at the large group discussion stage; this may be partly ascribed to the lack of conflict in the presentations. Students were not particularly interested in the immediate feedback given. They were more interested in how the subsequent examination would be structured. They did not appear to relate the feedback at this stage to the forthcoming examination. They were unfamiliar with the concept of a case-based examination, as indicated in the following students' responses:

> I would not use this format as part of an exam as there's too much work and I don't understand how it can be graded fairly.

> [Do] not include a case study as part of an interim exam. Work only with theory and quantitative aspects of topics.

In summary the educational experience of the Cycle 3 case event was evaluated against the initial criteria as shown in Table 4.

Table 4.   Summary evaluation of cycle 3

Managerial factors	Space constraints resolved at cost of continuity of experience; no time constraints
Breadth and depth of analysis	High quality analysis, achieving breadth, depth and integration
Collaborative effort	Extensive collaborative effort
Multiple viewpoints	Strong positive response initially, but similar solutions emerged
Peer interaction	Spontaneous interaction at early stage; limited full class discussion
Individual engagement	Active engagement; participation opportunity for all students; variation in experience
Constructive feedback	Inhibited by time constraints
Assessment appropriate	Lecturers' concerns with objectivity addressed through individual examination; students' concerns with unfamiliar assessment protocols

Discussion

In the previous section the researchers describe the process and results of an action research project aimed at developing strategies for case-based teaching with large groups which capture the empirically observed benefits of the case method. Success was measured against a set of eight criteria, drawn from the literature and used in the evaluation of each cycle (see Tables 2–4). The iterative development of the case-based teaching approach over each of the three cycles of action research used is shown in Figure 1.

Cycle 1 satisfied several of the criteria. Managerial factors (Biggs, 2003) were largely addressed, although time constraints were a negative factor. Once the lecturer's expectations and the structure of the case session were clearly communicated to students, they demonstrated strong, active engagement. Initially driven by the lecturer's need to manage time constraints, pre-class preparation also proved to be effective in promoting group bonding and forcing pre-class preparation amongst the student groups. Structured peer interaction was incorporated by means of a debate (a novel classroom format for the teaching of accounting for these students). Disaggregating the case into a variety of debate motions worked to avoid repetition and simultaneously achieve depth of analysis and exposure to multiple viewpoints. A written assignment given immediately after the case study class in Cycle 1 served as a means for getting students to integrate the materials from each of the debate motions and to consider the case as a whole.

Several of the criteria were not addressed in Cycle 1. While a level of peer interaction was observed this did not move beyond the formal requirements of the debate format. Tasks assigned to groups were amenable to division among members and this limited collaborative effort. There were also concerns about assessment, both on the part of students and the lecturer, concerning reliability and fairness.

In Cycle 2 the key positive features of pre-class preparation, structured interaction, disaggregation and synthesis were retained. In-class group work was added in Cycle 2 to facilitate collaborative group work. This enabled students to synthesise the multiple viewpoints that emerged during the board meeting to form an overall perspective on the case. However, peer interaction again did not move beyond the formal requirements of the class protocols. Concerns about assessment also featured in Cycle 2, although of a different nature to those in Cycle 1.
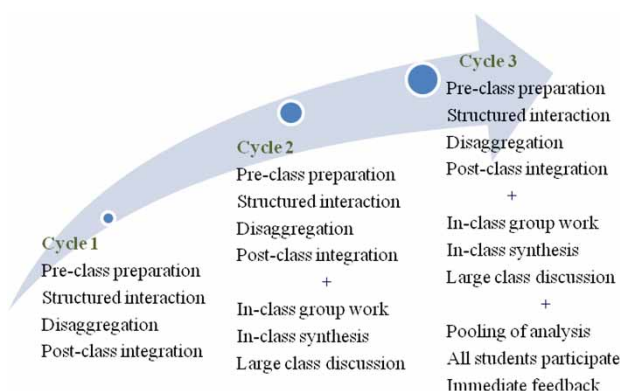
Figure 1. Summary of research findings

A difficulty experienced in both Cycles 1 and 2 was that, while students' preparatory work formed the basis of subsequent discussions at the debate or the board meeting, only a minority of students were afforded real opportunities to be active participants during the class session. There was little spontaneous peer interaction observed. The format ultimately used in Cycle 3 gave all students equal opportunity to participate. The teaching activities also provided for greater student interaction and collaboration. Favourable students' comments on these aspects of the case session demonstrate little evidence of students' resistance to active learning anticipated by Adler *et al.*, 2000.

Collation and distribution of small group outputs at the pre-class stage in Cycle 3 had the effect of allowing groups to compare their own outputs with those of other students, providing opportunities for peer learning. In the first focus group the students had commented unfavourably on the lack of immediate feedback in Cycles 1 and 2. Efforts were made to rectify this in Cycle 3 by providing immediate feedback to the students, although it is unclear whether at that stage students perceived this to be of value. Collaboration amongst groups and interaction among students was at a significantly higher level in Cycle 3 than in previous cycles. Concerns about assessment, on the part of students and lecturers, remained partially unresolved at the end of the research project. For example, students were very sensitive to perceived inequity in assessment exercises, such as having some debate motions that are easier than others to defend or oppose. They also attach importance to all effort being recognized and were aggrieved that only one of the seven debate motions prepared could be presented by each group.

Conclusions

The benefits of case-based teaching in terms of broad and deep case analysis (Boyce *et al.*, 2001) and exposure to multiple viewpoints (Rippin *et al.*, 2002) were achieved at an early stage of the process. In the teaching exercises described in this paper, students' individual engagement was apparent from the outset and great value was placed by all students on active rather than passive involvement. The students responded well to novelty once the detailed requirements of the task were explained to them. They quickly sensed the opportunities to learn presented by each case experience and wanted to be part of it. The findings do not support the perception that accounting undergraduate students are reluctant to actively engage with case-based teaching (Adler *et al.*, 2000).

Managerial factors had been anticipated at the outset to present a significant obstacle (Rippin *et al.*, 2002; Biggs, 2003) but they were readily resolved through the use of detailed planning and communication. However, addressing the managerial factors was not without cost. In particular, the process became formalised and opportunities for flexibility and spontaneity were reduced. Detailed procedural rules (Biggs, 2003) helped to allay some of the insecurities that may otherwise have been felt by lecturers, thus partially addressing pre-existing affective concerns identified by Libby (1991) and providing a means of resolving some of the tensions identified by Booth *et al.* (2000). However, they also constrained lecturers in areas such as the provision of feedback or the ability to respond dynamically to student reactions.

Collaborative work proved more elusive, with students displaying an initial preference to avoid group work. Students reported that they struggled to manage the process of working in groups and, while they recognize that subdividing the workload is often sub-optimal, they view it as an efficient solution unless forced to act otherwise. Getting students to adopt a collaborative approach requires some degree of engineering of activities on the part of the lecturer (as suggested by Brooks and Oliver, 2004): for example, mixing the student groups, rather than opting for the more expedient solution of self-forming groups. Once collaborative work was achieved students regarded it as a positive feature of their learning experience.

While initial reluctance to work in small groups was overcome, efforts to encourage large group discussion were less successful. Designing the process for highly structured interaction is one part of the solution but the level of spontaneous peer interaction fell short of what was desired. Students reported being slow to critique the work of other students, fearing confusion between critique and personal criticism, and demonstrating a lack of willingness to have their own work subject to comment. Students' reluctance to question their peers in class—whether stemming from a sense of innate loyalty to their classmates or simply their own individual inhibitions—requires further research.

Students' desire to participate beyond the opportunities offered by the learning activities and their recognition of the value of soft skills was evident from the first cycle. For example, some students suggested having concurrent board meetings, thus offering the experience to a greater number of participants. Part of this concern with the provision of individual opportunities to participate appears to stem from the problematic nature of 'representativeness' where one member of the group became the voice of the group as a whole. This led to perceptions of unequal opportunities to participate, uneven burdens and unfairness in assessment as one member's performance carries the marks of the group.

Institutional factors limited the extent to which assessment issues could be addressed. In consequence, students' concerns in relation to assessment were not fully resolved. These concerns were voiced by the lecturers rather than the students for whom assessment was not the only motivator of effort. Other motivators were also evident in the survey responses: the development of soft skills, peer recognition, competitiveness, and the adoption of a professional persona. Strategies that harnessed these motivators proved critical to generating a high level of student engagement.

The action research approach provides an effective framework for identifying strategies which delivered case-based teaching in accordance with the criteria identified in the literature. The underlying process of reflection ensures that the specific strategies adopted provide insights, which are relevant beyond the local context. This research study demonstrates that case-based teaching can be successfully delivered in large class settings; however, there are important aspects of the students' and lecturers' responses which impact on the benefits realized. Managerial constraints which led to more formal

procedures and students' reluctance to interact combine to diminish the educational experience. These factors are likely to become more dominant as class size is increased. Such challenges could be overstated; students' recognition of the value of opportunities for participation suggests that, with some creativity on the part of lecturers, these benefits can be more fully realized in larger class settings.

Acknowledgement

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Appendix I. Debate Motions Used In Cycle 1

Case: 'Accounting Fraud at WorldCom', Kaplan, R. and Kiron, D. (2004), Harvard Business School, #104107.

The financial analysts did the job investors expected of them.

The Board could not have seen the problem coming and did what was expected of a Board.

The senior management at WorldCom were victims of circumstance.

The auditors could not have been expected to anticipate the events described and did what was expected of auditors.

The accounting staff at WorldCom should have realized that what they were asked to do was wrong and refuse to obey these instructions.

Due to the accounting and book-keeping tactics adopted by the management no one could have noticed the fraud that was perpetrated.

The internal auditors should have easily dealt with the issues at WorldCom before they harmed the business.

Appendix II. Stakeholder Perspectives Used in Cycle 2

Case: 'Cadbury Schweppes: Capturing Confectionery (A)', Collis, D., Stuart, T. and Smith, T. (2008), Harvard Business School, #708453.
Institutional Shareholder in Cadbury Schweppes
Marketing Manager, Cadbury Schweppes
Sir John Sunderland, CEO Cadbury Schweppes
Mr Todd Stitzer, Chief Strategy Officer Cadbury Schweppes
Representative of Cadbury Schweppes' employees
Human Resource Manager, Cadbury Schweppes
Operations Manager with responsibility for Production, Cadbury Schweppes
Operations Manager with responsibility for Quality Control, Cadbury Schweppes
Investor Relations Manager, Cadbury Schweppes
CFO, with responsibility for analysis of Adams' financial performance
CFO, with responsibility for structuring of merger deal
CFO, with responsibility for post-merger integration
Representative of Cadbury Schweppes' bankers
Legal advisor to Cadbury Schweppes

Appendix III: Family Member Perspectives to be Considered in Cycle 3

Case: 'Halvey's Bakery', Doran, J. and Healy, M., case 18 in Cases in Management Accounting and Business Finance, Hyndman, N. and McKillop, D. (editors) (2006), The Institute of Chartered Accountants in Ireland.
Taking John's position: 'We should outsource production of the speciality breads contract'
Taking Noleen's position: 'This contract is the way forward'
Taking Annie and Denis' position: 'This Company must provide for our retirement'
Taking the External Family Advisor's position: 'The family needs to agree on the best way forward'