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Postgraduate Student Attendance: Face-to-Face vs. Online

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ABSTRACT

Over the last few years we seem to be experiencing a phenomenon of dropping attendance rates in classes. Anecdotal evidence suggests that this seems to be widespread, and not restricted to just undergraduate classes. Whether this phenomenon is linked to increasing student employment rates or some other societal direction not yet evident, the trend is a matter of concern. Student progression rates are under question and these are becoming a traget for monitoring by University management. While some studies question the importance of attendance as a factor in progression rate statistics, it does seem to contribute somewhat to the problem. Attendance in online classes becomes particularly important due to the essentially isolated nature of the student from the standard university enviroment and the general fast pace of these classes. In this paper we document two approaches to the attendance problem, for an online and onground course, both at the postgraduate Masters level.

INTRODUCTION

Over the last few years we seem to be experiencing a phenomenon of dropping attendance rates in classes. It is unclear whether this phenomenon is linked to increasing student employment rates or some other societal direction not yet evident, but the trend is a matter of concern. There is some doubt as to whether there is a direct correlation between attendance rates and success rates in university courses. However, students run the risk of significantly increasing their chances of poor performance and (or) failure by missing vital information due to non-attendance.

Policy makers are putting pressure on universities to be more accountable in their management of public funds. One of the methods universities can adopt to do this is to more closely monitor student progression rates (Dancer and Fiebig, 2004). Trying to reverse this trend is difficult, and it seems that at best we need to closely monitor attendance and warn those at risk as early as possible. Alternatively, we can build attendance into the grading scheme, a practice which is common in online courses due to the nature of the paradigms utilized, and the importance of attendance in this environment.

This paper examines some literature that attempts to relate student attendance to subject performance and examines two cases of postgraduate courses – one held completely face-to-face and the other completely online. The motivations for students attending class are important (and briefly mentioned in this paper), but are not a focus of the paper. In the following sections, a biref literature review is presented, followed by the presentation of two case studies. In one, a method of polling students in an onground course is utilized to monitor attendance, while in the second, an online course has attendance as a requirment.

BACKGROUND

There have been a number of studies that have examined the issue of attendance at tutorials and lectures in universities – many of them examining attendance in large first year courses.

Dancer and Fiebig (2004), in examining that factors that may offer hints about introductory accounting students who may be in risk of 'dropping out', looked at 'effort and commitment' – a component of this being tutorial attendance. They found that students that passed attended more tutorials than students that failed, who in turn attended more tutorials on average than students that dropped out.

Krohn et al (2005) recently examined some literature that compared student 'effort' (of which attendance was a component) and performance. They cited a number of studies that found that attendance at class positively affects student performance in a number of economics related fields. They do suggest that a single score (result) for a subject might be too simplistic, and does not take into account factors such as how difficult other courses are, students' financial situation (perhaps forcing them to seek employment whilst studying) and so forth. There results did indicate that class attendance was positively related to performance in the course *during* the semester, but there was *no* relationship between attendance and performance on the final examination.

Rankin et al (2003) examined a number of studies related to first year undergraduate accounting classes and noted two features. The first was that there was inconsistency in the findings related to the determinants of success. The second finding was that there appeared to be little work carried out to develop a theoretical framework to support the 'determinants' proposed by the various authors. They tested a number of propositions related to students of first year Accounting – the one of interest to this paper being *the higher the class attendance rate, the higher the grade/overall result expected to be achieved in Introductory Accounting*. They determined that attendance at tutorials was highly correlated with success in accounting studies.

The title of Rodger's (2002) article, 'Encouraging Tutorial Attendance at University Did Not Improve Performance' tends to give away the findings of that article! However, it does raise an important issue about whether there is a need to differentiate between tutorial and lecture attendance. Rodgers also cites a number of studies that examined student attendance, suggesting that it was motivated by a combination of factors such as class size, course content, ability and motivation of students, the time of the class during the day and if students financed their own study. She also quotes a number for studies that suggest that "attendance does matter for academic achievement" (p.255).

There does seem to be some evidence that 'attendance' at online classes is vital. Wang et al (2004) profiled the learning styles of students studying online courses in a Taiwanese university. One of the factors examined was the frequency of 'attendance' in classes. Obviously, 'attendance' in an online class does not reflect physical attendance as such. Their study divided the student group into aggressive knowledge seekers (high attendance; middle band interaction and involvement and high levels of course material reading), active participants (middle band attendance; high interaction and middle band material reading); silent cultivators (low attendance; low interaction; middle band material reading) and heavy sleepers (low attendance; low interaction and low band material reading). There were not enough students fitting into the first category for statistical comparison purposes, so not surprisingly

the best performed category of the other three were active participants. Wang et al found that the combination of low attendance, low interaction and low material reading was a recipe for failure.

With the physicial aspect of attendance removed in the online class, it becomes difficult to define, however, most online classes indicate attendance as a student making a posting within a class discussion. Attendance is vital to the online student as essentially, online students are isolated from local support groups to which the onground student has ready access (Bender 2003 pp 5). Additionally, online classes are necessarily fast paced and rigorous, and if students are allowed to fall into poor participation (attendance) habits, they quickly get left behind, lose interest and drop-out (Gibbons and Wentworth 2002).

Incentives for Attendance

Dancer and Fiebig (2004) suggest that if students at risk can be identified early in a course, then extra help and resources could be directed towards them. Rodgers (2002) lists a number of techniques that can be used to provide extra incentives for students to attend classes. These include points for class participation and unannounced tests that count towards the final grade. In testing her own incentive scheme (where students were deducted one percentage mark for every tutorial missed in excess of two – except where students provided a valid reason, such as a medical certificate) she was able to achieve increased attendance. However, there was no noticeable change in the final results of students. Rossman (2004) describes an education process of making students aware of the importance of attendance in class, but the success or otherwise of this education process was not indicated.

In online classes, the recognition that attendance becomes more vital to the student survival, is indicated by fact that many online classes build attendance requirments into the grading system (Gibbons and Wentworth 2002, Betz 2002, Muirhead and Betz 2002). It is not uncommon for such courses to require a minimum of 4-5 days attendance per week.

THE CASES

This paper results from a specific concern by one of the authors about dwindling numbers in his course and across the degree in general for postgraduate masters program. Further detail on this is provided in the first case. In reporting the two cases in this paper (one 'face-to-face and one fully online) it is important to note the possible effect that attendance can (may?) have on student performance. Although, mixed, the majority of the literature does tend to indicate a relationship between student attendance and performance. The first case provides two comparisons between different semesters in a particular course, one before 'incentives' were introduced and one after they were introduced. When making such a comparison, Rodgers (2002) suggests that it is ideal that:

- The lecturer was the same (in our case the principal lecturer remained the same and delivered the majority of lectures).
- The content and presentation of lectures was fundamentally the same. Apart from some 'tweaking' of lecture notes, this occurred.
- The method of assessment was the same in both years except for any incentive scheme. In this instance, the incentive offered did not involve assessment, so the assessment remained the same (apart from the topic of one assignment). More details on this are provided in the case description.
- The same tutor was employed. In this instance, the lecturer delivered the majority of tutorials.

In the second case we report on two online courses which are taught as part of a fully online MSc degree offerred by the University of Liverpool through its partnership with Laureate Online Education. The online degree has built-in attendence requirements for all its courses, and thus did not specifically suffer from the '*falling attendance phenomenon*' we seem to be witnessing in all our respective onground courses. However, it is interesting to compare the initiatives taken in the onground class to reverse the attendance problem, with those built in to the online class. Additionally the online class then provides a comparison in terms of success rates with which we can measure the effectiveness of the initiatives.

Case One: Postgraduate Face to Face Classes

This case discusses learning activities in the course "BCO6653 Management of Information Technology," offered by the School of Information Systems, part of the M.Bus (Information Systems). The degree format is a total of twelve subjects, usually taken over three semesters full time. BCO6653 is a core course in this degree, and one of the first courses that students study. Enrolment in this course ranges from 50 to 80 students per semester. Over 80% of these students are full-time overseas students. A number of these students do not have any prior working experience in information technology or in the management arena. The purpose of this course is to introduce students to the issues faced by the manager of an information technology (IT) department.

Specifically, the course aims for each student to:

- Be familiar with current research and developments in information technology management;
- Be familiar with important management issues in managing information technology;
- Understand the information management approach, its nature and importance
- Be able to apply relevant methods and techniques to better manage information resources;
- Have applied a relevant method or part of a method to an organisation or part of an organisation and prepared a report;
- Plan and prepare a substantial research paper on a designated topic; and
- Have critically reviewed research papers, presented the evaluations and lead group discussions on the evaluations.

In order to do achieve these objectives, the course is based around a number of major issues that are examined in each of the two major learning activities (assignments). The number of issues covered varies slightly from semester to semester. Many of these topics are covered in other courses in the degree. An important component of this course is that it concentrates upon each of the topics in relation to how they affect the manager of an IT department in an organisation. Students are constantly reminded of this as they prepare their assessment tasks for the course.

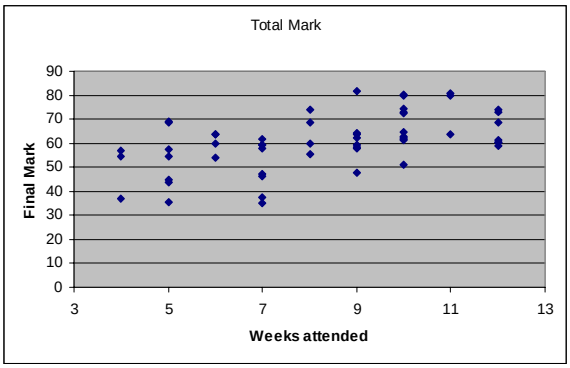
Both major learning activities/ assignments involve students selecting one of the major topics and investigating it at some depth. Students prepare a paper for the first learning activity. The paper is based upon 'theory' and 'practice'. For 'theory', the students have to search online literature databases for materials to prepare a 'mini' literature analysis. For the 'practical' component, each semester the students have to relate what they have discovered in their literature analysis with a 'real' application. In recent semesters these have included the use of case studies in each of the major areas or reference to materials gathered from 'online' magazines for IT managers (such as www.CIO.com). In this way the students are introduced to the notion of gathering the best research in the area from peer-reviewed publications and comparing it in some way to actual practice.

It is important that students are encouraged to access these materials from wherever is convenient (Home, school, work or even an Internet café). To us it seems easier to embrace these technologies rather than try to avoid or restrict them. To avoid plagiarism, we modify the particular 'practical' task to be performed each semester.

The second learning activity involves students conducting interviews with IT managers on selected issues – but also involves a literature analysis. By this time of the semester, the standard of literature analysis submitted is usually quite high, being original work based upon high quality references and is typically well crafted.

For a number of years it was well known amongst staff members associated with teaching our degree that student attendance levels, in

Figure 1. BCO6653 results by weeks attended - Semester 2, 2004



lectures particularly, had fallen. Reasons for this (although not a concern for this paper) were the number of hours that students worked and the fact that lecture notes were 'posted' on the course website. It could be argued that this is not of concern as it is an individual student's choose as to how he/she uses their time. However, it could be considered a concern when the literature outlined earlier in this paper is considered. What became a concern in semester one, 2004 for the course's principal lecturer (an author of this paper) is the number of mistakes in assessment that were obviously being made by students because they were *not regularly attending.* As an example, a template was provided on the course website for students to follow when preparing their papers. A number of students, despite reminders in class, were not using the templates and often missing out on completing valuable parts of the assessment. Over the period of this study, student numbers in the course were consistent at around 60 students per semester.

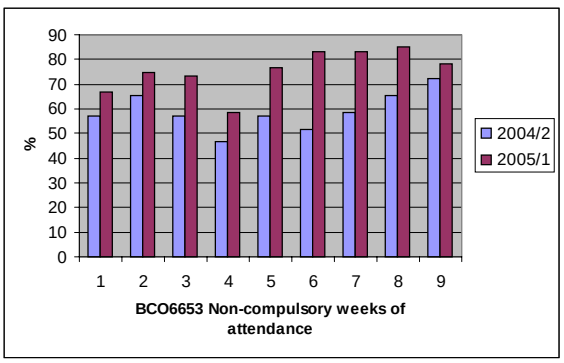
In semester two, 2004, the principal lecturer started to record attendance in lectures by handing out slips of paper to students, asking them to fill out a 'poll' related to the previous lecture. The results of these polls (that showed student opinions on various course matters) were discussed in the following week's tutorial. In a twelve week semester, the polls were taken between weeks 2-10. There were no polls taken in the first week (familiarisation) or in the final two weeks when attendance at class was compulsory (during student presentations).

The results showed that student attendance averaged a little over 50% in weeks 2-6. It then gradually rose by about 5% per week up to just over 70% in week 10. Weeks 7-10 contained a small participation component (5% over the four weeks).

At this stage it was decided to map the attendance level in class against the final results in the subject. Figure 1 shows the result of this.

Although it seemed that there some students that were certainly able to cope with attending class (face to face) on a regular basis, all but one

Figure 2. BCO6653 - Attendance in weeks 2-10 (S2, 2004 and S1, 2005)



student who attended eight weeks or over passed the course. Eight students that attended seven tutorials or less failed the course.

The next semester a number of initiatives were introduced. Students were shown the graph in Figure 1 in the first lecture. The polls were continued. After weeks 4 and 8, students with less than 50% attendance rate were sent 'reminder' emails, reinforcing to them of the importance of attending lectures. It should be noted that attendance for most weeks was not compulsory and not assessed and students were reminded of this. There was quite an impact on attendance is semester one, 2005 – as shown in Figure 2.

Note that there is an increase in attendance in semester one, 2005 over the previous in each week where the poll was taken.

As for performance – 100% of students passed the course!

Case Two: Postgraduate Online Classes

This cases discusses two courses taught as part of the online Msc degree offerred by the University of Liverpool and its partner, Laureate Online Education, based in Amsterdam. This programme differs significantly from many onground programmes as it specifically targets working professionals in the IT industry with practical experience (Devlin 2002). One of the more distinctive features of the degree is the method by which each course is assessed. The modules within the degree programme utilize a constructivist approach which relies heavily on the synergy produced as a result of student discussions centered around weekly topics.

The courses in the online Msc degree all have a minimum attendance requirement for each week. This requirement is for students to participate in the class discussions on at least 4 days of every week. The only way the instructor knows the student has attended class is if they participate in one of the discussion threads. Thus, attendance and participation become entwined within the online environment. This required participation component serves two purposes. It sets minimum requirements for student participation inorder to keep them active within the class. It is also needed to ensure the survival of the constructivist paradigm used within the online class. If the students only sent messages on the last night of the week, the paridigm would quickly become unworkable.

The two courses looked at in this case are "*Computer Structures*" and "*Web Applications*". The first is the mandatory first course within the degree programme, while the second is an elective which is taken later in the programme. The reason for looking at the two courses is that, in the *Computer Structures* course, students are becoming used to the paradigm used, and hence to the attendence / participation requirements. In the *Web Applications* course, students will have progressed someway through their degree and will be used to the participation requirements by this stage. A comparison of the two provides a good basis on which to judge changes to onground subjects in the first case study to boost attendance levels.

Both courses were tracked over eight terms over a 3 year period. The comparative bar chart in Figure 3 shows the number of students taking each of the *Computer Structures* classes, along with the number of fail grades awarded for the class. As can be seen in Figure 3, typical class sizes are kept small (under 20 students). This is necessary in a class utilizing a bounded discussion constructivist approach, otherwise the number of postings can become too large. In the Msc programme, students can withdraw from a subject until the beginning of week 3 without penalty. Thus the number of fails awarded in Figure 3 are for those students that have persisted bewond week 2. However, in all cases except one in the Jun 2005 class, the fail grades were awarded because the students stopped participating at some point. In the Exception case in Jun 2005, the student persisted until the end, but had not participated enough over the course duration. In each class, there are 3 components of assessment each week. Failing a component of assessment for 2 weeks means the student will fail overall that component of assessment for the course. Not participating in discussions in a particilar week causes the student to fail the component for the week.

Figure 3. Comparative bar chart indicating fail rates for computer structures

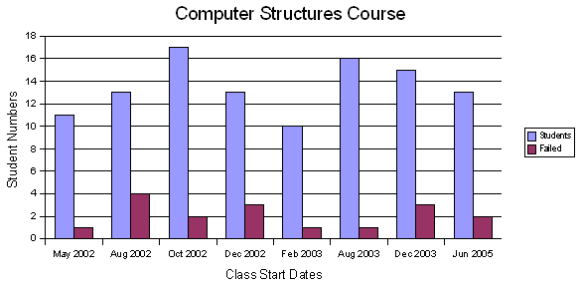


Figure 4. Comparative bar chart indicating fail rates for Web applications

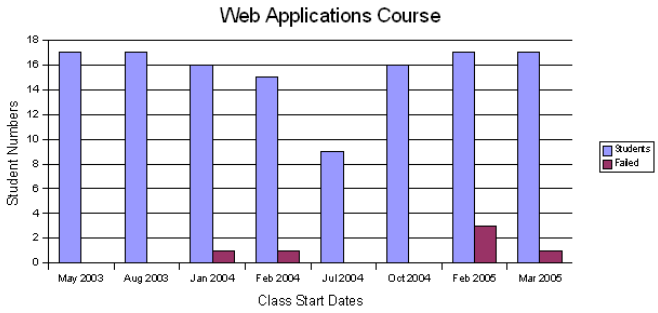


Figure 4 shows the number of students taking each of the *Web Applications* classes, along with the number of fail grades awarded for the class. As this class is an elective studies later in the Msc programme, students are now familiar with attendance rand workload equirements. It is not uncommon for the odd class with zero fails, depending of course on the mix of students undertaking them. As can be seen in Figure 4, the average number of fails per class is comparatively low in comparison with Figure 3. Again, in all cases except one for the *Web Applications* course, the fail grades were awarded simply because the students stopped attending at some point. The one exception case was again because the student missed too many components of assessment, or did not participate/ attend for two or more weeks.

The pass rates indicated in Figure 4 show a better result overall than those indicated in Figure 1 in the first case study. But we must note that it is difficult at best to compare the two courses directly in terms of attendance. There are many factors involved which complicate the differences between the two, including the paradigm utilized and the target student population. However, we can note the stability of the *Web application* course in terms of attendance over the 3 years it was tracked. During this time in our onground courses, we have noticed anecdotally a trend towards non-attendance. There was an anomoly in the February 2005 class, but medical reasons were involved here.

CONCLUSIONS

The two cases discussed present two very different methods for combatting the 'non-attendance phenomenon'. In the first case, by polling the students at the end of every lecture, and requiring identification, we can accumulate attendance figures by default. By monitoring these levels we can provide early warning for students 'at risk'. Utilizing this method we obtained a significant increase in overall performance of students in subsequent classes. In the second case presenting the online course, attendance was built into the weekly requirements by requiring levels of participation commensurate with good attendance. We obtained very good pass rates utilizing this method, and the stability of the pass rate over a 3 year period indicated that we were not affected by the 'non-attendance phenomenon'.

It seems clear that we are teaching in a vastly different environment than that of 5-10 years previously. It is unclear at this stage just what are the contributing factors of non-attendance which we have witnessed over the last few years, however it is clear that we need to take active measures to preserve acceptable progression rates. More research is needed on direct correlation between attendance and outcomes so as to provide clear direction for academics trying to combat this looming problem.

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