

Intervening Early: Attendance and Performance Monitoring as a Trigger for First Year Support in the Biosciences

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Abstract

A centralised system monitoring attendance and performance among first year students in Biomedical Sciences has been established at Newcastle University. Early signs of absence and poor performance trigger immediate intervention by academic staff, with the aim of providing support for students at risk of failure or withdrawal. Difficulties associated with monitoring attendance in large lecture classes are avoided by monitoring attendance only at 'high stakes' classes, namely practicals and seminars. Level of attendance at non-lecture classes was a predictor of academic achievement and the early intervention strategy was associated with improvements in attendance. Student perceptions of attendance monitoring were evaluated and found to be positive. Meeting with absent and underperforming students at the earliest possible opportunity has proved an effective way of promoting dialogue between staff and students who are experiencing difficulties.

Keywords: attendance, performance, first-year, support, intervention

Introduction

The policy to increase participation in Higher Education (HEFCE 2003, 2009) has led to a significant increase in student numbers and diversity which has, in turn, placed considerable pressure on student support systems, including the personal tutor system. It is increasingly important for higher education institutions (HEIs) to develop strategies to recognise and support students who are experiencing difficulties and who may otherwise become "lost in the system" (Stephen *et al.*, 2008). This is particularly true in the first year of study, when students are undergoing the important transition to university life and are at the highest risk of withdrawing from or failing the course (Earwaker 1992, Ozga and Sukhanandan, 1997). Poor academic performance is one obvious indicator that a student is struggling and if a student is failing to reach the expected academic standard this needs to be investigated and the student offered appropriate support. A second potential indicator of dissatisfaction and disengagement is attendance, based on the assumption that a student who has disengaged from their studies is likely to stop attending classes.

Why monitor attendance?

Attendance monitoring is becoming increasingly common practice in Higher Education and there is much evidence in the literature to suggest a positive correlation between attendance and academic performance (Romer, 1993, Colby 2004, Newman-Ford *et al.*, 2008). It is worth noting, however, that not all studies find this link (St. Clair 1999; Rodgers, 2002) and that attendance may link more strongly to attainment for particular sub-groups of the student population (Gatherer and Manning, 1998). Attendance monitoring has also been highlighted in a number of reports as a useful tool in improving student retention (Martinez 2001, Smith and Beggs, 2002 and 2003, Bowen *et al.*, 2007). Bowen *et al.* (2007) monitored the attendance of 79 first year undergraduate students across 8 modules within the Business School at the University

of Glamorgan, UK using the electronic data recording system, 'Uni-Nanny' (www.uni-nanny.com/default.htm). The authors evaluated students' views on having their attendance monitored and found that the majority of students "thought the University should monitor attendance as it gave them a feeling that the University cared about their success". The majority of students also felt that "the University should intervene if attendance was unsatisfactory". An important reason identified for this positive response to intervention was that students often did not know who, or how, to ask for help and felt that non-attendance acted as a trigger for support. This finding strongly supports the hypothesis that monitoring attendance would be a good way to identify and support struggling students who may otherwise go unnoticed.

Enforcing compulsory attendance in Higher Education, as opposed to simply monitoring attendance, is an emotive issue. St Clair (1999) presents the case that enforcing compulsory attendance in Higher Education is unjustifiable and introduction of electronic monitoring systems in some universities, such as the Uni-Nanny system described above was condemned by the National Union of Students as "draconian" (Meikle, 2006). Romer (1993) suggests, however, that the "extent of absenteeism and its relation to performance" mean that mandatory attendance may be justified for at least some undergraduate courses. It is also worth noting that many courses requiring professional accreditation, such as medicine, nursing and dentistry, have a stipulated minimum attendance which must be monitored and enforced (Clearly-Holdforth, 2007). New regulations proposed by the UK Border Agency (2008) will also result in HEIs being required to monitor attendance of non-UK students more rigorously.

Which classes should we monitor?

In this study we have chosen to monitor small, non-lecture classes rather than lecture classes. We propose that non-lecture classes (laboratory classes and seminars) are better suited to attendance monitoring in the following ways:

Firstly, monitoring these classes is often necessary to ensure that specific learning outcomes are met (St Clair, 1999). Development of laboratory skills is a key learning outcome in the Quality Assurance Agency benchmarking statements for Biosciences (QAA, 2007) and cannot be taught or assessed without attendance in the lab. Generic transferable skills such as verbal communication skills and team-working skills are also named learning outcomes in most, if not all, degree programmes and are frequently taught and evaluated in the classroom. Students missing a small number of lectures can usually catch up on the work they miss, whereas skills learned in non-lecture classes tend to be much harder or impossible to learn independently. The non-lecture classes also often include some form of formative or summative assessment. These non-lecture classes may therefore be regarded as 'high stakes' classes for the students. We propose that students who choose to miss these high stakes classes at an early stage in their university career are highly vulnerable to academic failure and/or withdrawal from the course.

Secondly, small classes are more practical to monitor using a paper-based method. Monitoring attendance at lectures using a sign-in sheet is time consuming and Colby (2004) identified a number of problems inherent to the paper-based registration system, including incomplete registration and impersonation (students signing on someone else's behalf). These problems may be reduced by concentrating on monitoring smaller, non-lecture classes. In an interactive lab or seminar class of, for example, 25–50 students the academic leading the class has greater control over the register and can personally collect the signatures of each student. This minimises the problems listed above and also ensures that the staff member makes individual contact with each student.

When should we intervene?

If we accept the argument that monitoring attendance is worthwhile and that the university should intervene when a student's attendance is poor, the next question is: at which point should we intervene? Colby (2004) examined the correlation between attendance and performance for a group of 178 students on a first year module in the School of Computing and Information at the University of Central England, UK. The study suggested that 80% attendance (ie. students attending less than 80% of classes) was a key trigger point for action, and found that students attending less than 80% of teaching sessions had a 50% chance of failing, and a 67% chance of not getting a first or upper second class mark in the first year modules surveyed. Colby also proposed "The Week Two Rule: if a student is absent for only one or two teaching sessions (depending on teaching load) during the first two weeks of any module then this is cause for concern. This is an alarm point."

A larger study by Newman-Ford *et al.* (2008, 2009) examined factors affecting performance for 748 students over 22 compulsory first-year modules in the School of Humanities at the University of Glamorgan, UK and corroborated Colby's definition of 80% attendance as a key trigger point for action.

Both Colby (2004) and Newman-Ford *et al.* 2008, 2009) suggest that immediate intervention with absent students is important. Smith and Beggs (2003) also support early intervention and describe a model established at Glasgow Caledonian University in which attendance was rigorously monitored and combined with an "assertive outreach" strategy. All students were sent a letter at the end of every three week teaching block informing them of their level of attendance. Those believed to be at a high risk of withdrawal were asked to meet with the First Year Tutor, who aimed to assist them to recover from the missed classes. Importantly, by reporting attendance levels to all students this system allowed the institution to congratulate students on good attendance as well as intervening in cases of poor attendance.

Aims of this study

This paper describes a student support system established in the School of Biomedical Sciences, in which the performance and attendance of first-year students is centrally monitored. Attendance was monitored specifically in high stakes classes i.e. practical and seminars, but not in lectures. Supportive intervention was made at the earliest opportunity, after one missed class or after a single failed mid-semester test. Monitoring and intervention was co-ordinated by two members of academic staff acting as Phase 1 course advisers. The work considered four areas:

1. Does early intervention with absentees and poorly performing students lead to improved attendance, retention and attainment?
2. The relationship between attendance at non-lecture classes and subsequent exam performance
3. The reasons for student absence
4. Students' perception of attendance monitoring at non-lecture classes

Although there is considerable literature relating to attendance and reasons for non-attendance at lectures, as described above, this is to our knowledge the first study which specifically evaluates attendance at non-lecture classes.

Context

The School of Biomedical Sciences offers a total of 12 BSc Honours degrees across the field of biomedical sciences. Newcastle University is a pre-92 Russell group university and the typical entry requirements in the School of Biomedical Sciences during the time of this study were BBB at A level, or equivalent (2005–6 and 2006–7) or ABB or equivalent (2007–8). The number

of students in the study was 790: 271 in 2005–6, 266 in 2006–7 and 253 in 2007–8. During the three years of the study approximately 10% of students were international students, 4% were registered with disability support and 4% entered the course via the PARTNERS scheme for widening participation (Newcastle University, 2010). In the first year of the study (2005–6) 7% of the cohort failed to continue to Year 2 (due to withdrawal or academic failure) in line with national rates of 4–15% (National Audit Office, 2007).

The first-year (Level 4) curriculum comprises 6 core modules (Biochemistry, Cell Biology, Genetics, Physiology, Pharmacology and Microbiology & Immunology) which are taken by all first-year students. Typically each module includes 30 lectures (~260 students), 4 practicals (~70 students per group) and 3–4 seminars (~25 students per group). Assessment is based on in-course work linked to practicals and seminars (10%), mid-semester Extended Matching Item (EMI) tests (10%) and end-of-semester exams, which are also EMI format (80%). The module pass mark is 40%. Students failing modules may resit exams in August of Year 1 for a maximum of 40%, in order to progress to Year 2.

Methodology

Allocation of Phase 1 advisers

Each student in Year 1 was assigned to a named Phase 1 adviser for the 2006–7 and 2007–8 academic year. The Phase 1 advisers were academic staff members with high teaching contact time and were also module leaders for a first year module. Phase 1 advisers have responsibility for all students in Phase 1 (Year 1 and Year 2, semester 1), but this study relates to year 1 students only.

Attendance monitoring

Attendance in Year 1 was monitored at seminars and practicals throughout 2005–6, 2006–7 and 2007–8 by requiring students to sign a paper-based attendance register. An average of 51 sessions per student were monitored during their first year amounting to a total of 39,955 monitored attendances. Attendance for each student was collated using an in-house electronic database 'STAMPS' created by Dr Trevor Jowett. Data input was undertaken by members of the school administrative team; the default setting assumed the student was present, so that only absences had to be entered manually. Attendance was not monitored at lectures.

Performance monitoring

Marks for mid-semester assessment and end-of-semester exams were recorded using the STAMPS database. Poor performance was highlighted to Phase 1 advisers at two key points: students failing their first mid-semester EMI test (week 5 in 2006–7 and week 7 in 2007–8) and students failing any exams at the end of semester 1. For the purpose of evaluating overall student performance the overall mean mark across all 6 Year 1 modules was calculated for each student after the August resit exams.

Intervention

In 2005–6, prior to the introduction of Phase 1 advisers, students were required to attend a meeting with the Head of School when their attendance fell below 80%. If no acceptable reason for absence was offered the student received a formal warning under Newcastle University's progress regulations.

From 2006–7 students were invited to attend a meeting with their Phase 1 adviser after missing a single class. The student was notified of the meeting by email as soon as possible after the missed session, usually within one week. The following action was then taken:

5. If there was a legitimate reason for absence (e.g. illness) the Phase 1 adviser helped the student to complete the appropriate paperwork so that their record showed an authorised absence. In many cases this was achieved by email correspondence without the need for a face-to-face meeting.
6. If no legitimate reason for absence was offered the adviser explored any issues which may be affecting the student's attendance and performance, including personal problems, part-time work commitments, problems settling into the course, homesickness, language problems and study skills problems. The adviser directed students to further sources of support as appropriate (see below). The adviser also discussed with the student the potential benefits of good attendance including improved performance and acquisition of key skills.
7. If the student failed to attend the interview a letter was sent from the Phase 1 adviser to the student's home address arranging a second appointment.
8. If the student failed to respond to either email or letter a strongly worded letter was sent from the Head of School to the student's home address asking the student to attend an appointment with the Head of School and the Senior Tutor. No students failed to attend this appointment.

Students who failed mid-semester EMI tests or exams at the end of semester 1 were also invited to attend a meeting with their Phase 1 adviser. Again the purpose of these interviews was to establish whether there were any problems underlying the student's poor performance, directing students to further sources of support as needed (see below).

Referral for additional support

If during the course of the interview the adviser identified a need for more specialised student support then the student was directed to the appropriate services. These included referral to:

- a study skills adviser for a one-to-one tutorial
- the language centre for additional language classes
- student counselling and wellbeing for mental health support
- student finance/student advice centre for financial advice
- their GP for health related problems (many students had not registered with a local GP and so were given advice about how to do so).

Student opinion

Student perception of attendance monitoring was collected by means of a questionnaire circulated to all Year 2 and Year 3 students in October 2008 (ie. students who were in Year 1 in 2007–8 and 2006–7 respectively)

Results and comments

Relationship between early intervention and absence rate

The frequency of unauthorised absences (i.e. the number of absences as a percentage of the total monitored signatures) was determined for each year of the study. The absence frequency was determined for semester 1 and semester 2 as well as for the whole year (Fig 1). Looking at the absence rates across the whole year, there was a 60% fall in absences in the two years following the introduction of early intervention by Phase 1 (2006–7, 2007–8) compared to the previous year (2005–6). In 2005–6 and 2006–7 the absence rates in semester 2 were higher than those in semester 1. This tendency for absence to increase over time was also noted by Colby (2004) and Newman-Ford *et al.* (2009). Interestingly this trend was not observed in 2007–8, when the absence rate in semester 2 was lower than that in semester 1. It is tempting to speculate that early intervention by the Phase 1 advisers in semester 1 contributed

to this improved attendance in semester 2 although this improvement was only observed in the second year of early intervention.

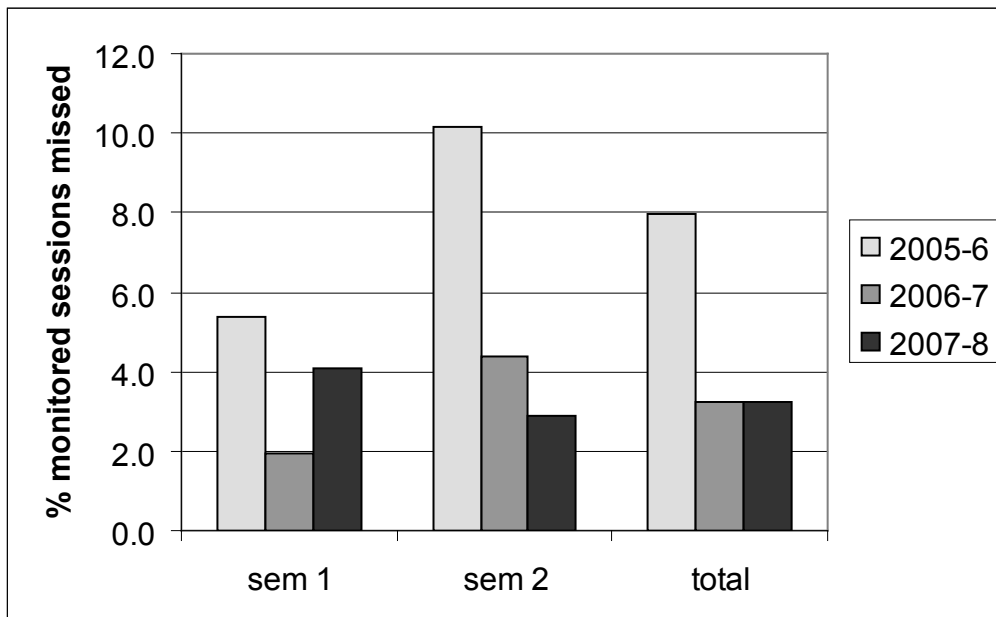


Figure 1 Absence patterns during Year 1 before and after introduction of Phase 1 adviser system in 2006. Results are broken down to show absence rates in semester 1, semester 2 and over the whole year (total). 2005–6 cohort (n=271): no early absence intervention; 2006–7 (n=266) and 2007–8 cohorts (n=253): with early absence intervention

In analysing this data, however, it is important to note that the absence rates across the whole cohort are low (<10% of monitored events) and the vast majority of students in all three years of the study attended 90% or more of monitored classes (Fig 2).

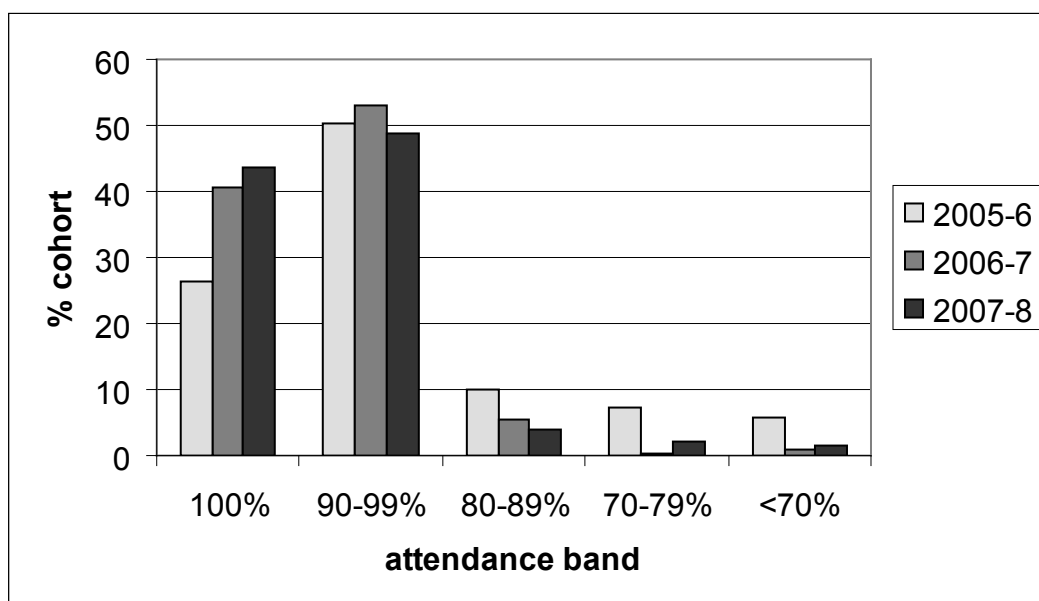


Figure 2 Attendance before and after introduction of Phase 1 adviser system in 2006, divided into attendance bands. Graph shows the percentage of students with 100%, 90–99%, 80–89%, 70–79% and <70% attendance at monitored classes. 2005–6 cohort: no early absence intervention; 2006–7 and 2007–8 cohorts: with early absence intervention

Students were divided into attendance bands, similar to those described by Colby (2004) and Newman-Ford *et al* (2009), of 100%, 90–99%, 80–89%, 70–79% and <70% attendance. The percentage of the cohort in each attendance bracket was compared for each year of the study to assess the impact of the early intervention strategy on specific attendance bands (Fig 2). The data show that after the introduction of Phase 1 advisers in 2006–7 the number of students attending 100% of monitored classes increased: 26.6% of the cohort attended 100% of classes in 2005–6, rising to 39.8% in 2006–7 and 42.3% in 2007–8. No consistent change was observed in the proportion of the class with ‘mild’ levels of absenteeism (90–99% attendance) following the introduction of Phase 1 advisers. There was, however, a consistent fall in the number of students with higher levels of absenteeism: the percentage of students with 80–89% attendance fell by 40% and the percentage of students with the lowest levels of attendance (70–79% and less than 70% attendance) fell by approximately 75%. Overall this suggests that the introduction of early absence intervention has been effective at encouraging attendance in the most vulnerable bracket of students, namely those attending less than 80% of classes. Although there is no clear change in the proportion of students with 90–99% attendance, it is possible that the early intervention has led to a shift of students both out of this band, into 100% attendance, and into this band from the lower attendance bands, leading to apparently static numbers.

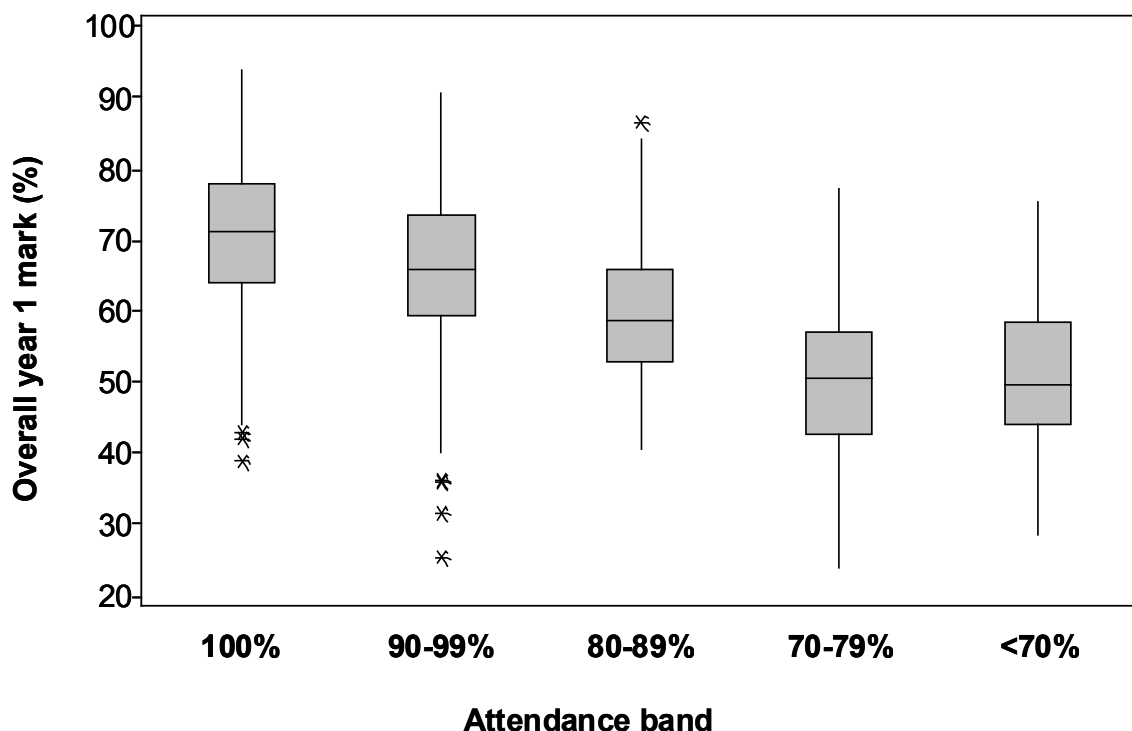


Figure 3 Relationship between attendance and final mark for the combined student cohort

The overall attendance patterns show a skewed distribution, with the majority of students (86–98%) attending 80% or more of their classes. Colby (2004) observed a somewhat broader distribution of attendance, with around one third of students attending 80% or more of their classes and Newman-Ford *et al* (2009) reported that one tenth of students attended 80% of their classes with 57% of students missing at least half their classes. These differences are likely to reflect the different nature of the student cohorts at each University and the different types of courses studied. For example our student cohort includes a relatively low proportion of mature students, who are more likely to have external pressures (such as child care) influencing their attendance. Newman-Ford *et al.* (2008) showed that attitudes to attendance are closely linked to prior academic achievement, with the more academically successful students being

more likely to form and maintain good attendance habits. It is possible that the prior academic achievement of the Newcastle students is higher than the students at the post-92 universities described by Colby and Newman-Ford and that they are therefore inherently more likely to attend regularly. Also in the Newcastle study we have monitored high stakes classes which students are less likely to miss than lectures.

Effect of early intervention on fail rates and student retention

The number of students withdrawing from the course, or failing to progress to Year 2 (i.e. failing more than one module), is low: 7.4% of 2005/6 cohort, 3.4% of 2006/7 cohort and 4.7% of 2007/8 cohort. The low numbers of students involved (20, 9 and 12 respectively) prevent a full interpretation of the data, but in the two years following the introduction of early intervention there was a reduction in the number of students withdrawing or failing to progress to Year 2, compared to the first year of the study.

Relationship between attendance at non-lecture classes and subsequent exam performance

Although evidence in the literature suggests that attendance at lectures is positively linked to good academic performance, to our knowledge there have been no similar studies relating to attendance at non-lecture classes. To address this question, the student cohorts were combined and the overall mean mark for Year 1 was calculated for students within each attendance band (Fig 3). Students who withdrew prior to taking exams were removed from this analysis because the attendance data for these students after withdrawal was unreliable. For example, in some cases the student's name remained on attendance registers after withdrawal, leading to falsely high absence rates. The data in Figure 3 show that lower attendance bands are associated with a lower median mark. However there is a broad range of marks in each attendance band, with some students achieving low marks despite high attendance and, conversely, some students with low attendance performing relative well. The relationship between attendance band and mark for the combined student cohorts was also analysed using a linear regression model. The predictor consisted of a set of 5 indicators reflecting the attendance band that each student belonged to, and the response variable was the final mark. The results are summarised in Table 1.

Table 1 Attendance band as a predictor of final mark for the combined student cohort

Attendance band	Expected mark	95% confidence interval
100%	71%	69.9, 72.3
90–99%	66%	64.3, 67.6
80–89%	60%	56.7, 63.3
70–79%	51%	46.5, 55.5
<70%	51%	45.6, 56.4

Having divided the students into attendance bands, the students in each band were further divided according to their mean Year 1 mark, to reveal the mark profile within each attendance band. Thus the number of students achieving a mark of >70% (1st class), 60–69% (2.1 class), 50–59% (2.2 class), 40–49% (3rd class) and <40% (fail) was determined for each attendance band. These figures were used to calculate the percentage probability of a student in a given attendance band achieving a particular mark (Fig 4). It is important to note that some students may fail one or more module (<40%) but achieve an overall Year 1 average of >40% if they perform better in other modules. Therefore, any students achieving less than 50% were regarded as vulnerable to failure. Interestingly, missing even a small proportion of non-lecture classes (90–99% attendance) predicted a lower probability of obtaining a 1st or 2.1 level mark (i.e. a mark of 60% or higher), falling from 84% to 74% chance. Missing 80–89% of classes actually predicted a halved probability of a 1st or 2.1 level mark, falling from 84% to 42%. These data strongly suggest that early intervention after a single absence is desirable.

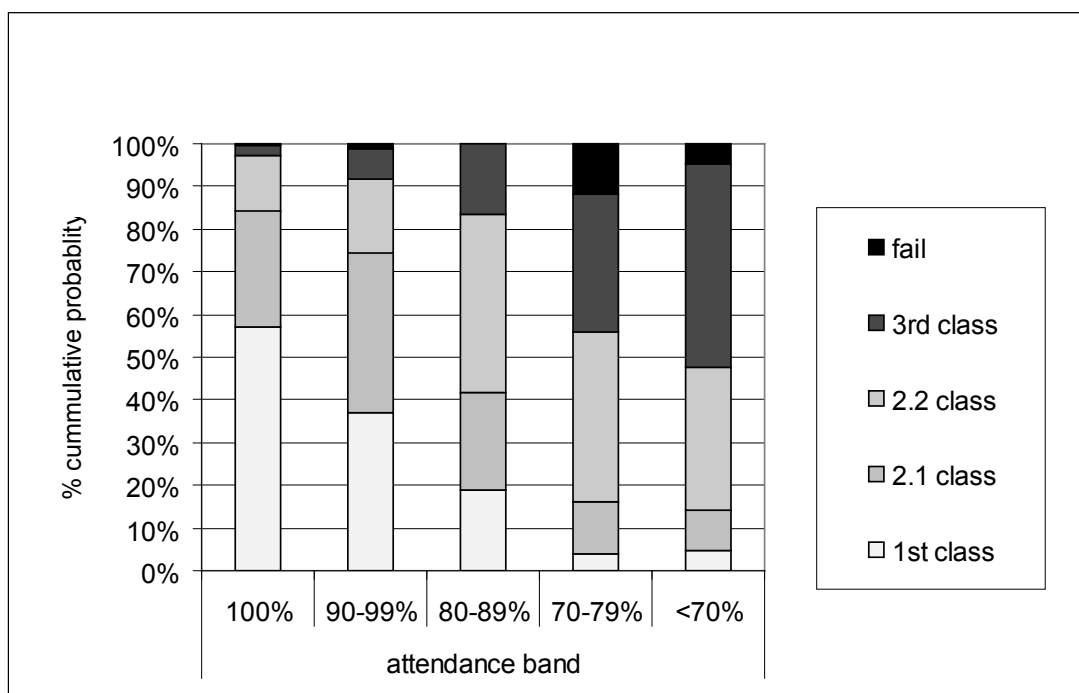


Figure 4 Relationship between attendance and mark distribution. Graph shows the percentage cumulative probability of achieving a particular grade.

The mark distribution was calculated for the group of students within each attendance for all 3 years of the study. For example, % probability of students with 100% attendance achieving a mean first class mark was calculated as:

$$100 \times \frac{\text{Number of students who attended 100\% of classes and gained a first class mark}}{\text{Number of students who attended 100\% of classes}}$$

Reasons identified for absence

Reasons which students gave for absence from classes were recorded for a sample of 60 students during the first semester of 2006–7. This was the first year after the introduction of Phase 1 advisers. The 60 students represent all the students who came met with one (of two) advisers during that first semester. In almost half of the cases, the student reported that they had missed the session due to medical problems (22 cases) or personal problems (7 cases). Medical problems ranged from short term illness, such as colds, through to chronic illness and mental health problems. Personal problems included bereavements or close family members being seriously ill, problems with flatmates and domestic violence. In many of these cases the student had not reported the problem to their tutor or via the well advertised systems which exist to allow students to report extenuating circumstances affecting their studies. The Phase 1 advisers were able to help these students to complete the necessary paperwork so that they received exemptions or extensions for work they had missed and so that, where relevant, their problems could be brought to the attention of the Board of Examiners. Importantly the advisers were also able to direct the students to appropriate sources of support such as student counselling and disability support.

Other problems which were reported by students during the course of interviews included:

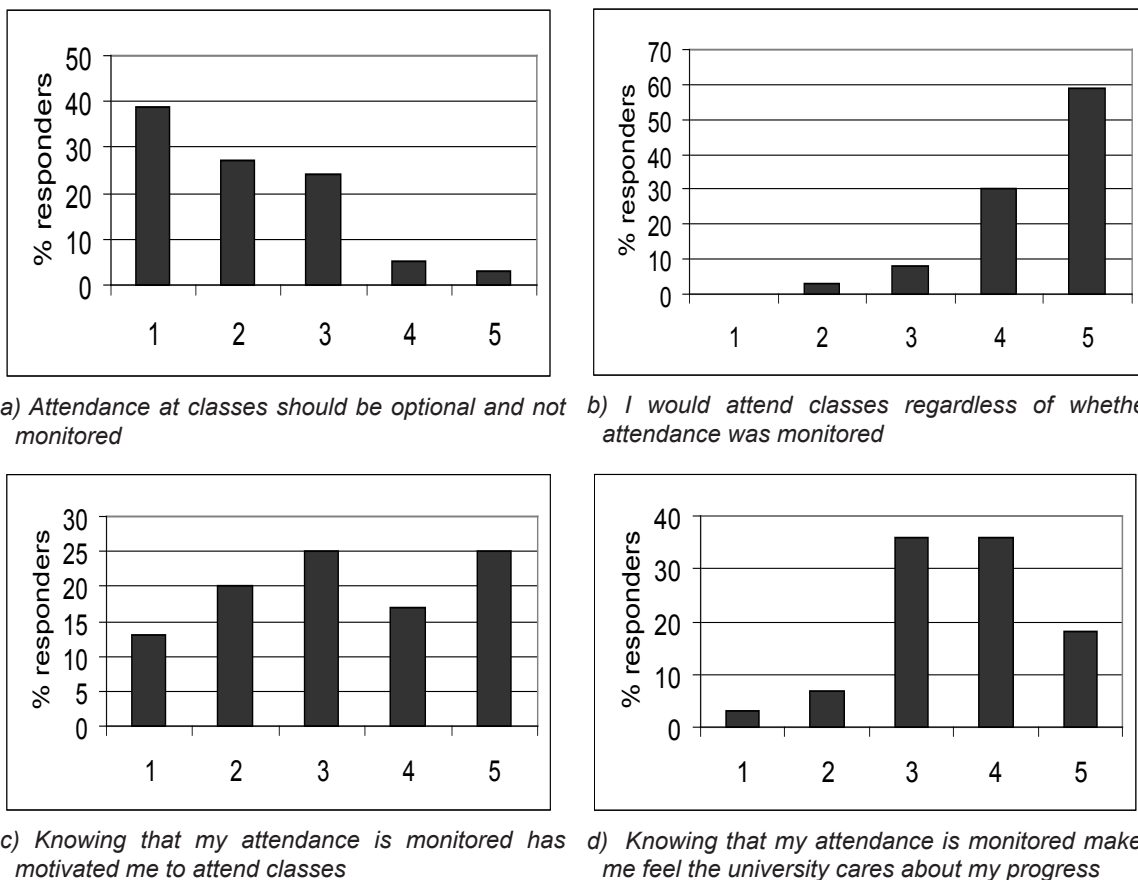
- Not attending seminars because they were afraid of giving oral presentations
- Not knowing how to access virtual learning environment
- Not knowing how to read timetable or being unable to find the room
- Struggling to balance part time work commitments with studies
- Childcare problems

Just over one third of the students (18 cases) gave no legitimate reason for absence. In these cases the Phase 1 adviser discussed with them the benefits of good attendance, including the links between attendance and performance and the importance of attending laboratory sessions and seminars to acquire key skills.

Student perception of attendance monitoring at non-lecture classes

The students' perception of attendance monitoring was assessed by means of a paper based questionnaire. The questionnaire invited students to rate their agreement with a number of statements on a Likert scale of 1–5 where 1 represents strong disagreement and 5 represents strong agreement (Fig 5).

Figure 5 Student perceptions of attendance monitoring for non-lecture classes. Students rated each statement on a Likert scale of 1 (strongly disagree) to 5 (strongly agree)



Of a total of ~520 students, 105 completed and returned the questionnaire (20% compliance). It is important to note that these were a self selecting sub-group of students, and may not fully represent the whole cohort. The majority of students disagreed with the statement that "attendance should be optional and not monitored". The majority indicated that they would attend classes regardless of whether their attendance was monitored, though opinion as to whether attendance monitoring encouraged them to attend classes was fairly evenly spread between agreement and disagreement. Interestingly the majority of students agreed that attendance monitoring made them feel that the university cared about their progress.

Conclusions

The implementation of centralised attendance and performance monitoring, combined with pro-active early intervention for students at risk of failure or withdrawal from studies, has placed a significant demand on staff time. This includes the time spent by administrative staff

inputting attendance and performance data into the student database and arranging student appointments, as well as the time spent by the Phase 1 advisers meeting with students whose attendance or performance falls below expected levels. It has therefore been valuable to review the impact which the system has had on the students it aims to support. This paper considers four areas:

1. Does early intervention with absentees and poorly performing students lead to improved attendance, retention and attainment?

Following the introduction of the early intervention strategy there was a marked fall in the absence rate among first year students. There was also a reduction in the number of students withdrawing during the first semester and a reduction in the number failing to progress to Year 2 although the number of students involved is very small. Of course correlation does not necessarily mean causation; there are other parameters which may have influenced the students increased tendency to attend classes. The entry requirements for students entering the programmes in this study increased by the equivalent of one A level grade in the final year of the study (2007–8). As mentioned previously, high levels of prior academic achievement may be an indicator of previously good study and attendance habits which are maintained into University (Newman-Ford *et al.*, 2008) and so it is possible that the student cohort in 2007–8 was more inherently likely to attend classes than those in previous years. However this does not account for the improved attendance in 2006–7. Another factor which may have motivated students to attend non-lecture classes in particular was the introduction in 2007–8 of a new rule within the School, requiring students to pass the course-work element of each module (as well as the exam) in order to pass the module. Again, this may account for improved attendance in 2007–8, but not in 2006–7. Finally the introduction of increased tuition fees in 2006–7 may conceivably have motivated students to attend more diligently in order to get value for the increased amount of money they were investing.

2. The relationship between attendance at non-lecture classes and subsequent exam performance

The results presented indicate that students with poor attendance at non-lecture classes have a lower expected mark than students with high attendance, though overall correlation between attendance and marks was weak. Rather surprisingly we identified 90% attendance at non-lecture classes as being a key trigger point for action: students with attendance of less than 90% were at least half as likely to achieve a 2.1 or 1st level mark, compared to their peers with 100% attendance. This contrasts with earlier studies by Colby (2004) and Newman-Ford *et al.*, (2009) who identified 80% as a key trigger point for action and may suggest that attendance at high stakes classes is a more sensitive predictor of achievement than attendance at all classes (including lectures). However the differences between the nature of the student cohort and subject area make it very hard to draw clear comparisons with the present study and those described by Colby and Newman-Ford. If poor attendance is a predictor of low achievement it follows that interviewing students who absent themselves from these high stakes classes is an effective way of making one-to-one contact with students who are at risk of underperforming academically.

3. The reasons for student absence

In the sample of 60 students interviewed by the Phase 1 adviser around half reported medical and personal problems which, in most cases, the students had not reported via other routes. Our experience indicates that interviewing students about poor attendance often reveals underlying problems and that without the 'enforced' one-to-one contact some students are unsure of how, or are reluctant, to ask for help. This concurs with the similar conclusion drawn by Bowen *et al.* (2007), following her survey of student reactions to attendance monitoring at

the University of Glamorgan. It is, however, highly likely that there are other students who are attending diligently and performing well, yet are in need of support of some kind. Identifying students of this type remains a challenge.

4. Students' perception of attendance monitoring at non-lecture classes?

Our survey of student perception of attendance monitoring suggested that the majority of respondents had a positive attitude to attendance monitoring. This appeared to be largely due to the perceived reassurance that their attendance was valued by the university. This student response again concurs with those reported by Bowen *et al.* (2007), despite differences in the nature of the student cohort, type of classes monitored and method of attendance monitoring in the two studies.

The positive response of students to attendance monitoring in both the current study and that of Bowen *et al.* (2007) is somewhat surprising and merits further investigation. Could it be that another reason why students appreciate having their attendance monitored, and absences proactively followed up, is that it clearly defines the expectation that they will attend? Clearly defining what is expected of students when they enter higher education is seen as good academic practice and to "communicate high expectations" is one of the 'seven principles of good practice in undergraduate education' (Chickering and Gamson, 1987). We suggest that included in these high expectations should be the expectation of good attendance.

Romer (1993) suggested that one reason students may be absent is that "they mistakenly believe that attendance is not important to learning". Disparity between the expectations of students arriving at university and the reality of university life has been identified in numerous studies (Ozga and Sukhnandan 1998, Cook and Leckey 1999, Lowe and Cook 2003, Laing *et al.*, 2005). Ozga and Sukhnandan (1998), in a study of 338 students at a campus university in the UK, found that students entered higher education with "stereotypical assumptions" based on information gleaned from teachers, friends and family, which was often unreliable. These included assumptions that academic demands at university would be "moderate" compared to school and that their social life would be "extremely exciting". Although not explicitly stated in the study, an expectation of moderate academic challenge and a lively social life would quite probably result in a relaxed attitude towards attendance. A strong steer at the start of a university career may help to counter stereotypical assumptions about attendance and help to encourage good study and attendance habits from the start. A progressively lighter touch may then be used in subsequent years of study as the students' autonomy increases. Further studies of student perceptions of attendance monitoring and follow-up are needed to establish the validity of this hypothesis.

In conclusion, our experience of attendance and performance monitoring combined with early, pro-active follow-up of non-attendance has been predominantly positive. The evidence presented here suggests that, in terms of identifying students at risk of underachievement or withdrawal, monitoring attendance at a relatively small number of "high stakes" classes is as effective as monitoring all sessions or monitoring just lectures. Although demanding in terms of staff time, quick follow up of absent students has proved an effective way to promote dialogue between staff and students who are experiencing difficulties and has led to better support for many of the students concerned.

Since beginning the Phase 1 adviser system we have become aware of similar approaches being taken in other UK universities eg. the Personal Academic Support System (PASS) system at the School of Life Sciences at Oxford Brookes (Robbins, 2009), the Academic Progress Review system in the School of Biosciences at Cardiff University (Rutherford, 2009), and the "assertive outreach" model in the School of Engineering, Science and Design at Glasgow

Caledonian University (Smith and Beggs 2002; 2003). It will be interesting in the future to compare the outcomes of these various pro-active student support strategies and work towards a model of best practice.

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References

- Bowen E., Price T., Lloyd S. and Thomas S. (2007) "Improving the quantity and quality of attendance data to enhance student retention. *Journal of Further and Higher Education*, **29** (4), 375–385
- Chickering, A.W. and Gamson, Z.F. (1987) Seven Principles for Good Practice in Undergraduate Education. *American Association of Higher Education Bulletin*. **39** (7), 3–7
- Clearly-Holdforth, J. (2007) Student non-attendance in higher education. A phenomenon of student apathy or poor pedagogy?, *Dublin Institute of Technology, Level 3*, **5** available at http://level3.dit.ie/html/issue5/clearly-holdforth/clearly_holdforth.pdf (accessed 8 June 2010)
- Colby J., (2004) Attendance and attainment. *Fifth Annual Conference of the Information and Computer Sciences – Learning and Teaching Support Network (ICS-LTSN)*, 31 August – 2 September, University of Ulster. Available at: www.ics.heacademy.ac.uk/italics/Vol4-2/ITALIX.pdf
- Cook, A. and Leckey, J. (1999) Do expectations meet reality? A survey of changes in first year student opinion. *Journal of Further and Higher Education*, **23**, 157–17
- Earwaker J., (1992) *Helping and Supporting Students: rethinking the issues*. The Society for Research into Higher Education and Open University Press.
- Gatherer D. and Manning F.C.R. (1998) Correlation of examination performance with lecture attendance: a comparative study of first-year biological science undergraduates. *Biochemical Education*, **26**, 121–123
- Higher Education Funding Council for England (2003) HEFCE strategic plan 2003–8 available at www.hefce.ac.uk/pubs/hefce/2004/04_17/ (accessed 8 June 2010)
- Higher Education Funding Council for England (2009) HEFCE strategic plan 2006–11 available at www.hefce.ac.uk/pubs/hefce/2005/05_45/ (accessed 8 June 2010)
- Laing, C., Chao, K-M. and Robinson, A. (2005) Managing the expectations of non-traditional students: a process of negotiation, *Journal of Further and Higher Education*, **29**, 169–179
- Lowe, H. and Cook, A. (2003) Mind the gap: are students prepared for higher education? *Journal of Further and Higher education*, **27**, 53–76
- Martinez, P. (2001). *Improving student retention and achievement. What do we know and what do we need to find out?* London: Learning and Skills Development Agency.
- Meikle, J. (2006) Universities try clocking in to stop students skipping classes *The Guardian* October 9 2006.
- National Audit Office (2007) Staying the course: the retention of students in higher education. Report by the comptroller and auditor general. available at: www.nao.org.uk/publications/0607/retention_of_students_in_he.aspx# (accessed 8 June 2010)
- Newcastle University (2010) PARTNERS: Developing Potential and Supporting Success www.ncl.ac.uk/partners/ (accessed 25 March 2010)

- Newman-Ford, L.E., Fitzgibbon, K., Lloyd, S. and Thomas, S.L. (2008) A large-scale investigation into the relationship between attendance and attainment: a study using an innovative, electronic attendance monitoring system. *Studies in Higher Education*, **33** (6), 699–717
- Newman-Ford, L.E., Lloyd, S. and Thomas, S.L. (2009) An investigation into the effects of gender, A-level points, place of residence, age and attendance on first year undergraduate attainment. *Journal of Applied Research in Higher Education*, **1** (1), 13–28
- Ozga, J. and Sukhnandan, L. (1997) Undergraduate non-completion. In *Undergraduate non-completion in higher education in England (Research report 97/29)*. Bristol: Higher Education Funding Council for England
- Ozga, J. and Sukhnandan, L. (1998) Undergraduate non-completion: developing an explanatory model, *Higher Education Quarterly*, **52**, 316–333
- QAA (2007) *QAA Subject benchmark statement: Biosciences*, The Quality Assurance Agency for Higher Education, available at: www.qaa.ac.uk/academicinfrastructure/benchmark/statements/Biosciences07.pdf
- Robbins S. (2009) PASS tutorial system: Addressing the challenges of transition to university and providing a safety net through pro-active personal tutoring, Presentation at *National Academic Advising Association (NACADA) 3rd international personal tutoring and academic advising conference: Improving Student Success*, April 2009, Edgehill University, Liverpool, UK. Available at www.nacada.ksu.edu/IntnrnlConf/PersTutAvsg/2009UK/documents/Paper%20Session%202%2021st%20April%202009.pdf (accessed 8 June 2010)
- Rutherford S. (2009) Academic progress review: can it be more than a pat on the back? Presentation at *Differentiated learning – Stretching able students*, UK Centre for Bioscience Professional Development Event, University of Bristol, June 2009. Available at www.bioscience.heacademy.ac.uk/ftp/events/bristol09/rutherford.pdf (accessed 8 June 2010)
- Rodgers, J.R. (2002) Encouraging tutorial attendance at university did not improve performance, *Australian Economic Papers*, September, 255–266
- Romer D. (1993) Do students go to class? Should they? *Journal of Economic Perspectives*, **7** (3), 167–174
- Smith, E. M. and Beggs, B. J. (2002) Optimally maximising student retention in higher education, *SRHE Annual Conference, Glasgow, December 2002*. Available at www.ulster.ac.uk/star/resources/srhe_paper.pdf (accessed 8 June 2010)
- Smith, E. M. and Beggs, B. J. (2003) A new paradigm for maximizing student retention in higher education, *IEE Engineering Education Conference, Southampton, January, 2003*. Available at www.ulster.ac.uk/star/resources/paradigm.pdf (accessed 8 June 2010)
- St. Clair, K.L. (1999) A Case Against Compulsory Class Attendance Policies in Higher Education *Innovative Higher Education*, **23** (3), 171–180
- Stephen, D.E., O'Connell, P. and Hall, M. (2008) 'Going the extra mile', 'fire-fighting', or laissez-faire? Re-evaluating personal tutoring relationships within mass higher education. *Teaching in Higher Education*, **13** (4), 449–460
- UK Border Agency (2008) Students under the points based system — (tier 4): statement of intent, Home Office publication.