Participants' Contributions

Irish Mathematics Learning Support Network (IMLSN)

6th Annual Irish Workshop on Mathematics Learning and Support Centres

'Not Reinventing the Wheel - Research and Collaboration between Institutions'.

University College Dublin, December 16th, 2011.

Name: Olivia Gill, Mark Prendergast, Niamh O'Meara, Trevor Fitzgerald

Institute: University of Limerick, Murroe Community Group

Title of Initiative: ***Promoting Student Interest in Mathematics and Improving Pre-Service Teachers' Confidence in Teaching the Subject***

Description of Initiative:
The Murroe Community Initiative is a collaborative project run by the Murroe Community Group, the Maths Learning Centre in UL and the National Centre for Excellence in Mathematics and Science Teaching and Learning. This initiative involves pre-service mathematics teachers in their third year of study delivering 8 one-hour workshops to Junior Cycle students who are living in the Murroe area. Each week the tutors are provided with resources, lesson plans and activity ideas from two mathematics education researchers in the NCE-MSTL. The aim of this initiative is to stimulate students' interest in mathematics, to highlight the relevance and applicability of the subject and to promote mathematics as a fun and interesting subject. Furthermore the project seeks to investigate whether such teaching strategies can increase the confidence of pre – service mathematics teachers and in turn improve their ability to teach effectively.

Intended Outcomes:
1. To develop and implement resources and lesson plans that could be used for innovative mathematics classes or tutorials.
2. To promote mathematics as a fun and enjoyable subject at second level.
3. To enhance pre-service teachers pedagogical knowledge and their levels of confidence in their own teaching ability.

Preliminary Findings:
To date only four workshops have been conducted and so we have no findings to report at present. However two findings have emerged from informal conversations with parents and from the focus group we conducted with the pre-service teachers after the first workshop. These findings include:
1. Students are enjoying the activities and are beginning to see the usefulness of mathematics.
2. Pre – service teachers feel that the resources that are being developed for this class would be beneficial for larger class groups and would like to receive some instruction during their time at third level on how to create innovative resources that will promote conceptual understanding and allow for worthwhile student involvement.

Advantages:
1. Pre – service teachers and second level students appear to value this initiative and believe it to be a worthwhile venture.

2. All resources created could be used in similar projects, in larger class groups or in third level tutorials/support tutorials.

3. It is a relatively cost free, transferable project.

Disadvantages:
1. In total there are only 16 participants involved in the workshop (4 teachers and 12 students) and this small sample size is a challenge facing the study.

Potential Research Collaboration:
As mentioned previously this initiative is cost effective and easily transferable. As a result it could be used in future collaborations with other community groups, for example the Mallow Community Initiative.

Name: Paddy Johnson, Maria Gonzalez

Institute: University of Limerick

Title of Initiative: ***Using reflective writing to augment learning support.***

Description of Initiative:
"Learning can be augmented and can be more profound when students are encouraged to reflect on the learning event and exercise their judgment about the content and the processes of learning" (Judd, 2003). Research shows that students who engage with a reflective writing activity not only experience a deeper understanding of the content, but experience a greater awareness of their own style of learning (What they do; how they do it; why they do it), and additionally acquire more self confidence as well as a positive change in attitude towards the subject of study (Farrell, 2007; Lanigan, 2007). This initiative utilised students' reflective journals to investigate the mathematical experiences of commencing tertiary adult learners participating in support tutorials run by the Mathematics Learning Centre (MLC) in UL.

Intended Outcomes:
- To gain a deeper insight into the commencing students experience of mathematics.
- To encourage students to accept responsibility for their own learning by becoming critically self-aware learners.

Actual Outcomes:
- Journals provided insight on topics which students were finding challenging and also on study techniques being employed by the students.
- Journals provided information relating to the personal development of the students with regards to their attitude towards mathematics and their self-belief in their own ability to complete mathematical tasks.

Advantages:
- Reflective writing provides valuable feedback and insight into students' thoughts about mathematics.

Disadvantages:
- Reflective writing is an ongoing activity which requires concentrated effort. It is a skill that in most students needs to be developed, nurtured and refined.
- Some students may not fully engage with the activity.

Potential Research Collaboration:
- Collaboration between institutes to examine if students at different institutions experience the same difficulties.
- The development and testing of a more concrete theoretical framework for reflective journal writing in mathematics.

References
Judd, J. (2003). Reflective+Journals.pdf. [Online] Available: http://letsgetengaged.wikispaces.com/file/view/Reflective+Journals.pdf
Farrell, A. (2007). The Use of Learning Journals in Assessment. [Online] Available: http://www.aishe.org/readings/2007-1/No-16.html
Lanigan, M. (2007). Case Study: Utilising Learning Journals in Mathematics Assessment. *MSOR Connections* 6(4), 38–42.

Name: Maura Clancy (GMIT)

Institute: NUIG

Discussion Point: ***Assignment sheets and past exam papers***

Description:

As part of its philosophy, the maths support centre (SUMS) at NUIG states that tutors will not work on assignment questions or work through past exam papers in the pre-exam period.

Intended Outcomes:

1. To avoid the centre becoming a "provision of solutions" service.
2. Promote independent learning.
3. As there is a great degree of repetition and predictability in exam papers the provision of solutions may encourage less work and more pre-exam cramming. That is, the centre wished to avoid indirectly aiding rote learning.

Actual Outcomes:

The majority of students attending the centre only want to discuss an assignment/exam question, thus lower numbers using the service.

Advantages:

1. Only students interested in learning came to the centre.
2. Tutors could spend the necessary amount of time with students.

Disadvantages:

1. Lower numbers.
2. Potentially fail to reach students that could be "saved".

NOTE: a change in the centre's philosophy did occur, in that tutors would discuss *student attempts* at assignment/exam questions. Once assignment/exam questions were discussed, the centre was often over-crowded and under pressure.

Potential Research Collaboration:

I would be very interested in carrying out research on the effect that the drive for high marks actually has on learning.

Name: Diarmuid Ó Sé

Institute: Institute of Technology Carlow.

Title of Initiative: ***Mandatory Homework***

Description of Initiative:

At the end of every support session the student is given problems to do which relate to and extend from the subject of their visit. They are invited to submit this work to the centre by an agreed and specified time. Further support from the centre is conditional on them attempting and submitting this 'homework'. This homework is then read through and detailed written feedback is provided on the script. The homework is also discussed with the student at their next visit.

Intended Outcomes:

The student is

- 'forced' to reflect on the learning experience from their visit,
- able to evaluate their progress made as a result of the visit. The tutor can also evaluate this progress.
- given a structured opportunity to apply and extend on what they learned.

Actual Outcomes:

As outlined above in the 'Intended Outcomes' along with a fall off in attendance, at the centre, from students who do not (or cannot?) attempt the 'Homework'. A commitment from students 'in danger' of dropping out to stick with it under the guidance of this support.

Advantages:

- Tutors can monitor and evaluate the progress of the students and then tailor their support strategies to match needs.
- Avoids inefficient use of time on students who tend to simply 'drop in and forget'.

Disadvantages:

- Large work load for tutors.
- Might intimidate some students although it is emphasised to them that the homework is not a test.

Potential Research Collaboration:

Not Sure??

Name: Martin Marjoram, Ciarán O'Sullivan, Paul Robinson

Institute: Institute of Technology Tallaght

Title of Initiative: ***Implementing Key Skills in mathematics to cope with large numbers, long teaching hours and no budget!***

Description of Initiative:

Each group in the school of Engineering from semesters 2 to 6 inclusive do computer based tests in mathematics on their Key Skills for that semester. These are skills taught in previous semesters which they will use this semester. Tests are Moodle based and comprise multichoice and numerical input questions. Tests are tailored for each group. Tests are automatically marked and question feedback on where to find notes on that topic are given with each question. Students can access their tests with feedback after the test. Mixed groups can all do a test in one lab with one supervisor, allowing multiple test opportunities in a semester.

Tests comprise 15 questions chosen randomly from 40+ categories of question (total question bank is currently about 1400). Students may repeat the test over the semester but must have at least 2 days between test attempts. Students are required to show the test supervisor evidence (on a standard template sheet) that they have studied since the previous test. Students get 0% for less than 10 right, 40% for 10 right, 47% for 11 right, 60% for 12 right, 67% for 13 right and 100% for 14 or 15 right (at which point they stop taking the test).
The Key Skills mark contributes to the overall module mark (typically 15%)

Intended Outcomes:

- To force students to revise important material and not forget it at the end of the semester. We want *competency* not sufficiency.
- The marking scheme is there to encourage real competency
- The study evidence and delay between tests is there to stop students simply repeating tests in some hope that they will get lucky!
- Students will get better over the semester (short term improvement). Students will require less tests semester on semester to reach 100% (long term improvement).
- Take some pressure off lecturers teaching to large groups with a large lecturing load.

Actual Outcomes:

- Students will try and try and try to get 100%. Students understand the test purpose clearly.
- Students do get better in the short and long term.
- Groups which have the study evidence requirement rigidly enforced do better than those who don't.
- After several semesters, cheating becomes more of a problem. Students also want to practice exact question types rather than master the material, as such.

Advantages:

- Clearly understood purpose and students will work at it.
- Easy to manage for lots of students once set up

Disadvantages:

- Time consuming to set up initially (unless you use ours!)

Potential Research Collaboration:
Extend question banks. Verification of research findings at ITTallaght.

Names: Ciarán O'Sullivan, Noel Gorman, Susan Scully, Paul Robinson

Institute: Institute of Technology Tallaght

Title of Initiative: ***Maintaining and targeting mathematics support hours in the context of increased budget constraints***.

Description of Initiative:
In the light of budget and headcount controls in the academic year 2010-2011 there was a reduction in the amount of mathematics support provided to 3 hours in the winter semester and 4 hours in the spring semester with all the support being provided between the hours of 12.00 and 17.00. As evidenced by local data gathered as part of the national IMLSN survey of mathematics support services ,this was seen by students as inadequate in several ways. Firstly students felt there were too few hours. Secondly for some students the timing of the hours clashed with their timetabled lectures/labs . Thirdly even when the hours provided suited students the sessions were full and finally the scheduling of the hours between 9 and 17.00 was unsuitable for part-time students. In the light of these concerns, but faced with further constraints in terms of budget and headcount the institute has tried to respond a follows. This year with the advent of the Croke Park Agreement implementation academic staff could be timetabled for an additional 2 hours class contact. The mathematics group of lecturers sought in consultation with management that some of these additional hours were assigned to mathematics support. Also in consultation with department heads the time at which the support was to be timetabled was chosen to match the availability of the first year students on particular courses. Finally one of the support hours was timetabled at 8 am to facilitate part-time day release students.

Intended Outcomes:

- To maintain drop-in mathematics support hours in a time of increased constraints.
- To target these hours to ensure a spread of availability to students from different courses thus overcoming some overcrowding issues in previous years sessions.
- To make sure the hours were at times to match student availability.
- To make supports available to part-time students.

Actual Outcomes:

- Drop-in mathematics support hours actually increased to 7 hours per week from 3 hours per week in the same semester last year.
- By closer alignment of student support hours to their timetables there was no session this year which was overcrowded
- The support hours were used by more students as a result of matching support hours to student availability in particular courses.
- Supports available to part-time students and the 8 am slot has been a great success

Advantages:

- Support hours service has increased in hours available and student uptake has improved .
- A weekly support hour has been provided to part-time students for the first time

Disadvantages:

- Requires high-level of interaction in terms of timetabling at the beginning of a semester.
- Is highly dependent on the interpretation of the Croke Park Agreement implementation

Potential Research Collaboration:
Comparisons of how best to maintain mathematics support in the context of the fiscal constraints.

Name: Joseph English and Lucia Ramsey

Institute: Institute of Technology, Letterkenny

Title of Initiative: ***Rapid E-Learning using Articulate***

Description of Initiative:

This was an attempt to liven up PowerPoint resources prepared for our Maths Learning Support Centre and hosted on our Blackboard VLE. Our VLE got updated in June 2011 to Blackboard from WebCT and the interface was much easier to use for producing and uploading resources. However we felt our existing PowerPoint resources were dull and lacked interactivity. An opportunity arose to receive one day's training in Articulate and we both decided that this was an intuitive easy to use software package to help meet our goal.

Intended Outcomes:

Powerpoint resources for use by students with built in interactions to include audio voice-overs labelled graphics, tabs features, FAQ's, Guided Image and Glossary feature. Additional interactions to include use of Quiz feature with seamless integration with Powerpoint and the insertion of flash media, video files, jpeg pictures and other web objects and attachments.

Actual Outcomes:

We are currently only in the early stages of putting our training into practice but we are encouraged at the simplicity of the package and how quickly you can get lively and interactive results.

Advantages:

Much more interactivity in the PowerPoint resources. Quick and relatively easy to use. Supports seamless integration within PowerPoint. Allows a wide range of publishing options including (crucially for us) uploading to our new VLE Blackboard system but also to the Web, as a podcast, as a storybook in Word (great for reviews)

Disadvantages:

You still need to do the videos, prepare you narration scripts for voice-overs, prepare labelled diagrams etc and of course get used to the technology. Also concerns about privacy of storage of all uploaded files

Potential Research Collaboration:

More than happy to learn from others who have probably been there already – time is the problem we have!

Name: Olivia Gill, Tony Croft, Birgit Loch

Institute: University of Limerick, Swinburne University of Technology, Loughborough University

Title of Initiative: ***Extending Accessibility to Mathematics Support using MathsCasts***

Description of Initiative:

Due to cuts in funding and increasing numbers of students with increasingly diverse backgrounds, mathematics support practitioners at the above three universities started a collaborative project in 2011 to enhance support facilities already available in these centres and to increase accessibility of the support provided. It appeared to us a wasted opportunity not to exploit the range of laptops, smart phones and mp3 players now widely used by students. The main focus of the project thus far has been to use tablet technology to create a suite of MathsCasts tailored specifically to our students' needs, yet made readily available to anyone on a communal site.

Intended Outcomes:

- To use tablet technology to create a suite of MathsCasts tailored specifically to our students' needs
- To extend support facilities already offered at a lower cost
- To provide a support format that is close to the preferred one-to-one support readily offered in support centres

Actual Outcomes:

- A suite of screencasts have been created that have been tailored to our students.
- A communal website for hosting screencasts has been constructed and will be available for all other students to use.
- A rubric for creating and reviewing MathsCasts was designed for current and future recorders and reviewers and to create consistency between the recordings in the three universities.
- Preliminary evaluations carried out have indicated that these resources have been warmly welcomed by our students.

Advantages:

- Students place great value on this facility.
- Students believe these MathsCasts enable conceptual understanding of key concepts.

Disadvantages:

- Student lack of engagement with the service.
- Tutor workloads mean we are unable to produce MathsCasts at a desirable rate.
- Quality control issues
- Difference between content at different institutions.

Potential Research Collaboration:

Currently an international research collaboration between mathematics support centres in Melbourne (Australia), Limerick (Ireland) and Loughborough (UK). Interested to hear from others who have worked on a similar project.

Name: Bláthnaid Sheridan

Institute: Dublin Institute of Technology

Title of Initiative: ***Room to Improve? Will dedicated online resources improve maths levels in Year 1.***

Description of Initiative:

In order to take into account the different levels of mathematical ability within a group of first year science students, an additional student-centred approach to learning maths was introduced. This additional approach sought to capitalise on virtual learning environments using Web-CT . 'Maths Room' is an area where students can find additional notes on basic areas of mathematics, self-study quizzes with detailed answers and feedback, video upload and a chatroom facility.

Intended Outcomes:

1. To help weaker students improve their understanding of basic mathematical skills. This should also help to keep attrition rates as low as possible.
2. To ensure that more able students are kept intellectually challenged and participating fully in the module.

Actual Outcomes:

1. High level of interest particularly among mature students within the group.

2. Participants intimated that they found the Notes section of 'Maths Room' helpful with regard to basic mathematical techniques and worked examples. They also made great use of the video link section where video-clips of topics which were being covered during lectures could be viewed and/or downloaded to iPod and MP3 player.

3. It was exclusively mature students who participated in the Maths Room chat room sessions (which were conducted over weekends or some mid-week evenings).

Advantages:

1. Interest in mathematics was higher than in previous years (survey of student perceptions).
2. Improvement in the level of understanding of basic mathematical skills.

Disadvantages:

1. Non-compulsory element so some weak students did not use the resource.
2. Huge timeload involved in preparing 'applied' questions for use in quizzes, which is what students made most use of.

Potential Research Collaboration:

Collaboration between institutions will enable us to gather a larger 'bank' of relevant applied questions for use on the quizzes i.e. Physics related questions, computer science related questions etc…

Name: Gráinne Burke, Ciarán Mac an Bhaird, Ann O'Shea

Institute: National University of Ireland Maynooth

Title of Initiative: ***Monitoring Engagement with an Online Mathematics Proficiency Course***

Description of Initiative:

A diagnostic test is administered in the first week of the academic year to all first-year students taking a mathematics module in NUIM. Students who fail this test are categorised at-risk of failing their modules and are automatically enrolled for an online Mathematics Proficiency Course (MPC). The course runs on Moodle, (the VLE used at NUIM), and consists of 18 segments. Each segment contains links to video tutorials and notes (www.mathtutor.ac.uk), along with a quiz which gives students an opportunity to test if they have mastered the material. The course covers topics in basic algebra, trigonometry, and functions. In 2009-10 224 students failed the proficiency test and were enrolled on the course, however participation levels were quite low and the course had only 3513 hits in total. In 2010-11 it was decided to introduce a monitoring system; whereby participation was tracked and contact was made with students who were not engaging with the course. Students were advised that they should complete at least one segment of the course each week. The monitor checked on student activity at the end of October, four weeks after the course went live, and sent an email to students who had completed two segments or less. The email reminded the students about the course and pointed out the benefits of participating in it. Usage statistics were checked again four weeks later, and a similar email sent to students who had not completed any segments in the month of November. Students who were being contacted for a second time were asked to meet with their mathematics course co-ordinator to discuss their reasons for not participating in the course.

Intended Outcomes: To increase engagement levels with the MPC.

Actual Outcomes: 200 students who failed the proficiency test were enrolled in the MPC in 2010-11, and 224 in 2009-10. The number of student hits for the course increased from 3513 in 2009-10 to 23987 hits in 2010-11. In 2009-10 89% of students who had completed 2 segments of the course or less at the end of October did not take any further quizzes, however this percentage went down to 47% in 2010-11. All students who were not active in the month of November in 2009-10, remained inactive for the remainder of the year, whereas 40% of students who received an email in November 2010 went on to complete at least one more quiz. Firstly we have seen that the overall number of hits by students on the online course has grown dramatically; secondly we have seen that both the total number of quizzes completed and the total number of resources viewed have significantly increased on 2009-10 levels. Furthermore, the impact of the emails sent by the monitor is evident when we consider the higher levels of activity of students contacted in 2010-11 compared to their counterparts in the previous year. In addition, by using linear regression we have found that regular participation in the MPC can have a positive effect on students' grades in their mathematics modules. In addition, we were able to inform incoming first years in 2011-12 of the significance of these results.

Advantages:
Relatively easy to maintain the MPC after the initial set up, and also monitoring engagement using the VLE (Moodle) was not difficult.

Disadvantages:
It is difficult to find the time to properly analyse the various data and it is important to get some small amount of funding to employ an experienced person to do this properly. It is also important to have a monitor who can give you regular updates on progress during the year.

Potential Research Collaboration:

We think the monitoring has been very successful and we would be happy to advise and work with any other institution on the setting up of the MPC, the monitoring, and how to maintain and analyse records. A comparison of similar projects over several institutions would be very worthwhile.

Name: David Doyle

Institute: Dept of Science, IT Sligo,

Title of Initiative: ***Maths support initiatives.***

Description of Initiative:

We've been trying various approaches in the Dept of Science IT Sligo over the last 10 years. Over time we've found that an approach which involves a combination of removing the calculator for Semester 1 coupled with supervised Maths "practicals" (- where the students are presented with problem sheets based on the lecture and can avail of help from 2-3 wandering tutors) has proven to be the most successful.

So, calculators are fully removed for all parts of Maths in Sem 1. The course covers all the fundamentals - addition, multiplication with lots of emphasis on estimation, fractions decimals , scientific notation, units, pharmaceutical calculations, logs, 12 topics in total. We treat graphing and formula manipulation as topics in themselves and devote considerable time to them.

All this work is supported by our online VLE platform - Moodle when the students can access videos, quizzes (part of their CA) and notes relating to each topic. Generally, they engage fully with Maths - and the quizzes and videos are very popular.

Advantages:

One of the main advantages is that mature students have no disadvantage to the average Leaving Cert student as the material is fairly new to them all. (Most leaving cert students in my 16 year experience have no idea of BODMAS or cannot divide two fractions.)

In semester 2 - the first topic is "How to use your calculator properly" and from there they are allowed to use them again.

Name: Joan Cleary

Institute: IT Tralee

Title of Initiative: ***Restructuring of First Year Engineering Maths***

Description of Initiative:

It was recognised that nearly all of the first year engineering students need extra support in the basic mathematical skills, and that it was impossible to begin instruction in the usual first year maths curriculum. It was decided to use the first semester classes to review the basic material.
Students must gain 80% in this module to pass.
An exam is held at the beginning of the semester, and anyone who reaches 80% is exempt from maths for Semester 1.

Intended Outcomes:

All students would have the basic skills that are essential for success in maths as well as other engineering modules.

Actual Outcomes:

Mature students benefit greatly from this initiative.

But many students tend to think of the material as something that is finished with, and still find it difficult to apply in context.

Advantages:

Lecturers are not trying to teach higher level, more complex mathematics to students who are trying to cover this material outside of the module.

Engineering lecturers know that all the students **should** know the basics.

Disadvantages:

Students (mainly non-mature) find it almost impossible to let go of old, often incorrect methods relearn material correctly.
Very high failure rate as a consequence

Potential Research Collaboration:

I am not sure if any other institution has restructured mainstream courses to accommodate the learning support required, but I would be very interested in working with others investigating this.

Name: Tim Crawford

Institute: Queen's University Belfast

Title of Initiative: **"Maths Clinic"**

Description of Initiative:

Drop-in facility established specifically for Nursing & Midwifery students.
Held on Mondays 4-6pm (most convenient time for targeted group)
Located in group study room within the Medical Biology Centre library (where students are based)
Tutor available to work through drug calculation problems and to share resources (practice papers etc.)

Intended Outcomes:

To establish a convenient, accessible venue for students to access maths support.
To offer an alternative to pre-booked one-to-one appointments.
To provide an engaging environment where students can receive support for maths problems, no matter how small.

Actual Outcomes:

Positive response from students availing of the drop-in facility.

Advantages:

Feedback suggests that providing tailored support in a familiar study environment was more appealing to the students than the generic appointments offered through the Student Guidance Centre.

Created the opportunity for peer-assisted learning, as students attending the drop-in sessions were experiencing similar difficulties.

Helped reduce the stigma attached to asking for maths support – easier to come along to drop-in than request a one-to-one appointment.

Disadvantages:

Limited service provision (currently 2hrs per week); not all nursing students are available at these times.

Targeting a specific discipline area excludes students from other subject availing of the service.

Name: Diarmuid O'Driscoll

Institute: Mary Immaculate College

Title of Initiative: ***Reflections on student engagement with mathematics support.***

Why is it so difficult to get students to engage with us in class?

The Math Support Unit was established in Mary Immaculate College in an effort to help students who were struggling with the discipline but who at the same time had a strong interest in pursuing mathematics to degree level. Our support unit is quite different to established centres in other institutions, mainly due to the lack of a dedicated room for the unit. As a result, we do not have a 'drop in' centre and have to organise our service with very limited resources [in fact zero funding last year]. To optimise the use of available staff, we offer three nights of support for two hours each night, one night being assigned to each of the years of the programme. The attendance levels were relatively small initially but grew substantially over the years and became unmanageable for us close to exam time. As a consequence of this, I began to monitor more closely students' attitudes in class, especially close to exam time, and was quite sure that students who appeared for exam purposes alone were not going to actively engage in class. In fact these very students showed signs of disinterest in the subject except alone for achieving a particular grade on their exam.

Are we doing too much for students?

In 2009, I decided to change our methodologies. We no longer were simply going to complete problems that students presented but would ask students for a range of problems that they had encountered during the week. We then make a list of these problems and identify the different types that need to be addressed. [This is class specific and can be done in a timely manner]. The tutor would then do a problem on the board and assign three equivalent problems to the class who would be in groups of four, depending on class size. This had the desired effect of achieving two objectives. The interested students became accustomed to the class structure as the term progressed and those that 'appeared' close to exam time 'quickly' left the class. A logged example of data on this type of behaviour is as follows:

2008 - 2009 First Year Real Analysis:
Steady attendance of 15 to 20 throughout term. Two spiked attendances of 100+ on dates immediately prior to mid term and final.

2009 – 2010 First Year Real Analysis:
Steady attendance of 15 to 20 throughout terms. Two spiked attendances of 100+ on dates immediately prior to mid term and final. However, on this occasion once it was clear to the 'new' cohort that this was a 'hands-on' class, the 'spike' quickly dropped back to 30 and the tutor was able to proceed as usual. The students simply did not like the format and were unwilling to participate in the class and hence exited.

What was the attitude of students to this structure?

Fear Factor:
Students said that the atmosphere created was totally more relaxed than lectures and tutorials. They felt at ease working in groups and found it much more beneficial to attempt questions and then have the tutor correct them or help them to proceed further in their answers. Mature students tended to work in groups together.

The success of MSU in overcoming a lack of engagement by the students is still not reflected in lecture situations and there lies a real concern.

Name: Nuala Curley and Maria Meehan

Institute: University College Dublin

Title of Initiative: ***Paperless MSC : all data entered directly to database***

Description of Initiative:

A database was set up in September 2010, with the help of a lecturer in the School of Mathematical Sciences, to hold all attendance records. Students sign in and out electronically when they arrive and just before they leave, respectively. Thus the time each student spends in the MSC is recorded. The first time that a student registers, data including student name, programme, module, nationality etc is entered electronically by the student. For subsequent visits the student only enters his or her student number and the module for which help is being sought - everything else is automatically filled in from data previously recorded. When this database was set up initially, the only information not recorded electronically was the topic covered in each session. The topic covered was handwritten by the tutor on sheets with the date, student number and particulars of the area covered in the session and uploaded when there was time. It soon became apparent that the method we were using of downloading the information from the data base and adding the topic information was far too time consuming. It was then decided that if we purchased a number of notebooks, the tutors would be able to update the topic while the student was working on a question or immediately afterwards. A further important aspect to the simultaneous recording of this information is that a lecturer can now click on their module on the School of Mathematical Sciences website and see how many of his or her students attended the MSC on a particular day, and also view the topics that his or her students requested help with. The student identities however remain confidential. A number of lecturers are now involved in an investigation of the usefulness or otherwise of this feedback.

Intended Outcomes:

- More accurate recording of student attendance useful for Annual Reports and seeking funding and improved accommodation.
- Annual Records maintained and easily accessible by Mysql.
- Daily feedback to lecturers.

Actual Outcomes:

- Annual grant maintained and accommodation doubled in size in 2011.
- Daily feedback available to lecturers.

Advantages:

- Reduced workload and more accurate recording of data.
- Transparency between MSC and lecturers.

Disadvantages:

Students attending the MSC for the first time may not know their programme or module code and need assistance to find the correct items on the drop-down lists.

Potential Research Collaboration:

When data is maintained accurately over a number of years it opens up many possible areas of research.