University College Dublin

Annual Report 2015/16

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September 9, 2016

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1 Executive Summary

The 2015/16 academic year saw the MSC receive 5,578 visits from 1,343 distinct students studying 245 distinct modules representing every college and stage in the university. We increased our opening hours to 33 hours per week to include lunch times and were open for drop in for a total of 28 weeks of the academic year.

Opening hours for both semesters:
- Monday and Wednesday 10am-5.30pm
- Tuesday and Thursday 10am-5pm
- Friday 10am-2pm

The total number of recorded visits is up 2% on the previous year's total number of visits. This was despite the implementation of a policy, from October 12th 2015, to offer maths support to students registered to level 0, 1 or 2 modules only. This decision by MSC management was evidenced based (see section 7 and Figures 6 and 7 below for the rationale behind this decision) and made in consultation with the MSC Director, the Registrar, the Head of the School of Mathematics and Statistics, the UCD Students' Union Education Officer and 23 MSC tutors.

In 2015 the MSC Oversight Committee was established. It is chaired by the MSC Director and comprises the Head of the School of Mathematics and Statistics and two other school representatives. The Oversight Committee met three times last academic year and have made two recommendations. Firstly they recommend that the MSC offers its service only during the teaching weeks of each term from now on. For the rationale behind this recommendation see section 9 below. Secondly they sanctioned the establishment of a MSC-Module Coordinator Partnership agreement. This agreement will allow for a closer dialogue between educators and MSC management so that the students' mathematical experience at UCD can be enriched. For more on this agreement see section 6 below.

In 2015 regular maths support was offered for the first time at the Smurfit School of Business in Blackrock. The successful negotiation to offer the CSTAR statistical consultancy service out of the MSC space in the James Joyce Library from September 2016 was also brokered.

Going forward two issues facing the UCD MSC are (i) the recruitment and retention of quality tutors by offering better contracts and (ii) the re-establishment of the MSC's own space and autonomy (see sections 13 and 16 below respectively). The successful implementation of the MSC-Module Coordinator Partnership is a key goal for 2016/17.

2 Introduction

The Maths Support Centre (MSC) at UCD is now in its 13th academic year of operation. Beginning in a small office in the Newman building with a capacity for four students offering just two hours of drop in support per day for four days a week, it is now an established university wide support offering 33 hours of support that is centrally located in the James Joyce Library. The first three years of the UCD MSC saw an average of 480 visits per year while the last three years have experienced an average of 5,590 visits per year. The MSC and its manager are now permanent features embedded within UCD's academic support structures. The following sections present a summary of the MSC's 2015/16 activities, as well as the rationale behind decisions made, and new initiatives for the future.

3 How Data is Recorded

From January 2015 the MSC implemented a new data management software system that links directly to the UCD central registry database so that an accurate record of each student's registration details can be captured. This means the data collected at the MSC is robust and accurate allowing for detailed analysis. The visiting student enters only his/her student number at a terminal upon log in and then he/she is given a place in the queue by the automated process. The feedback from each student visit is then anonymously recorded (with the consent of the visiting student) by the attending tutor and uploaded in real time to MSC database. Module Coordinators and lecturers have access to all the (anonymous) feedback for their respective module(s) and this has proven an effective source of feedback for both teaching staff and MSC management. See [1] for further details on the evolution of this system.

4 The Year in Numbers

The number of semester one visits was 3,237 up from 3,161 last year, while our semester two visits were up from 2,308 in 2014/15 to 2,341 this year (see figures 2 and 3 below). These visits equate to 1,343 distinct students receiving support – 1,050 students in semester one and 293 in semester two. In semester 1 we had a total of 1,050 distinct students, of these 1,050 students, 727 came to the MSC only during semester 1 and the rest (323) visited the MSC during both semester 1 and 2. During semester 2 a total of 616 distinct students visited the MSC. This number can

be broken down as 323 students that visited during both semester 1 and 2, and 293 new students that came to the MSC only during semester 2. The annual number of visits to the MSC for past eleven years and the breakdown for both semesters of this year are given below.

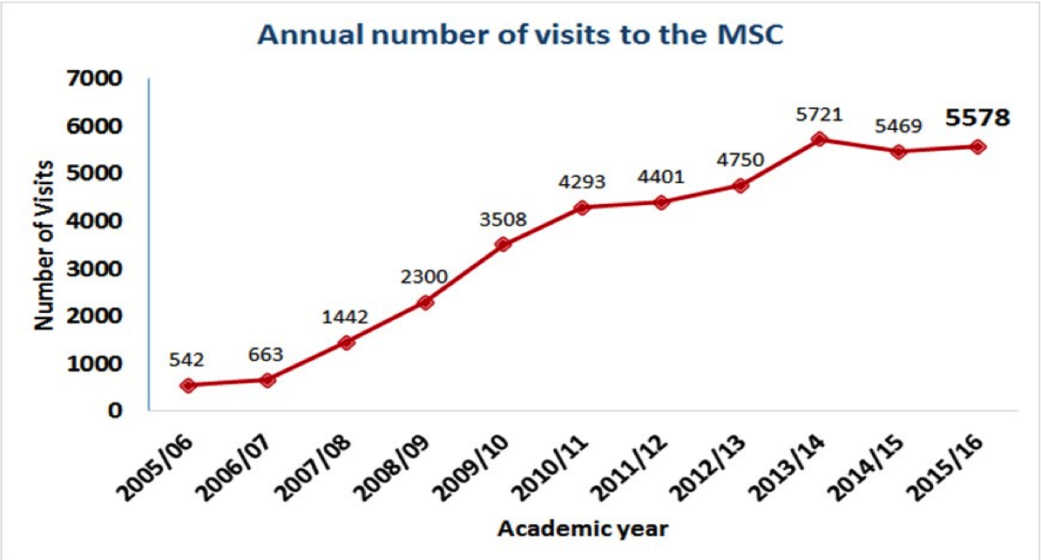


Figure 1: Annual number of visits to the MSC from 2005 to 2016

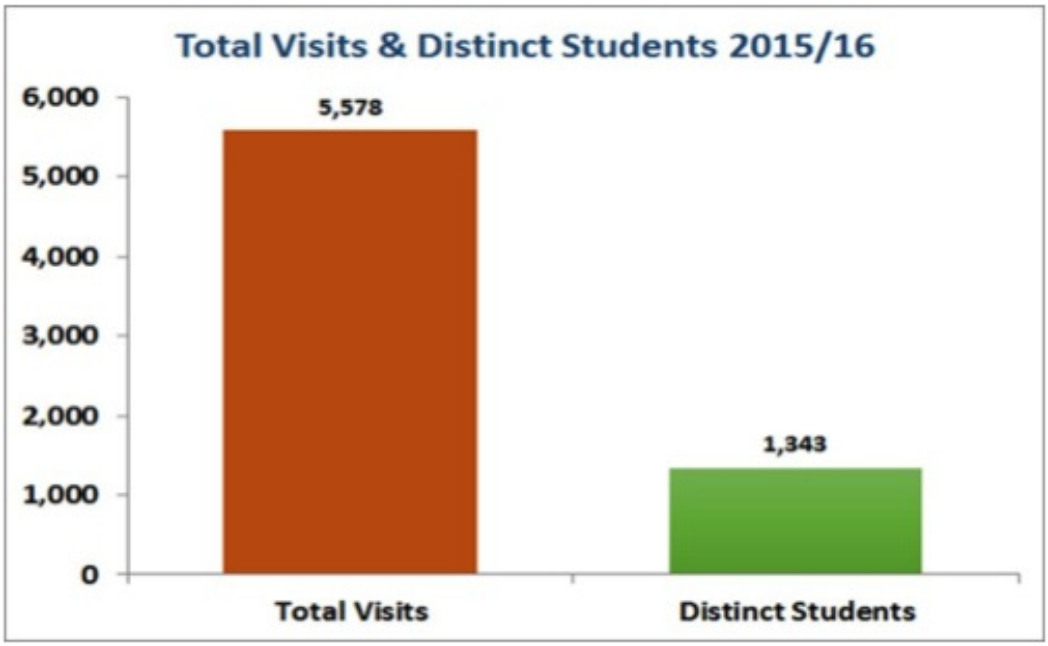


Figure 2: Total visits and distinct number of visitors to the MSC in 2015/16

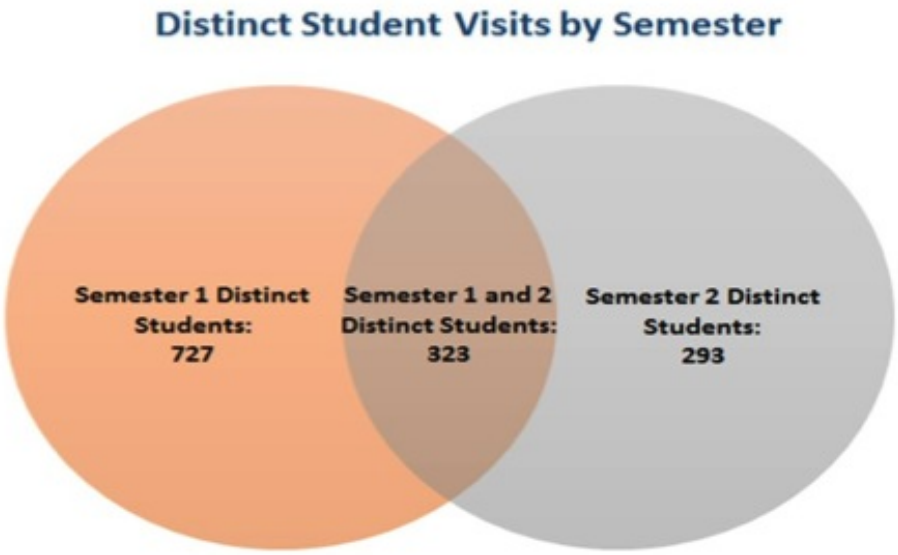


Figure 3: Distinct number of visitors to MSC in each semester of 2015/16

5 MSC Sessions by the Week

The number of visits by week is given in Figures 4 and 5 below. In 2015/16 the number of visits in the revision and exam weeks was 1,280 (710 in semester one and 570 in semester two), almost one quarter of all visits. Analysis of the feedback comments from these periods shows 86% of these were directly related to students asking for help with past exam questions. This number is more likely to be closer to 100% as consultation with the MSC tutors who worked during these periods stated that all queries during these times were (past) exam paper related.

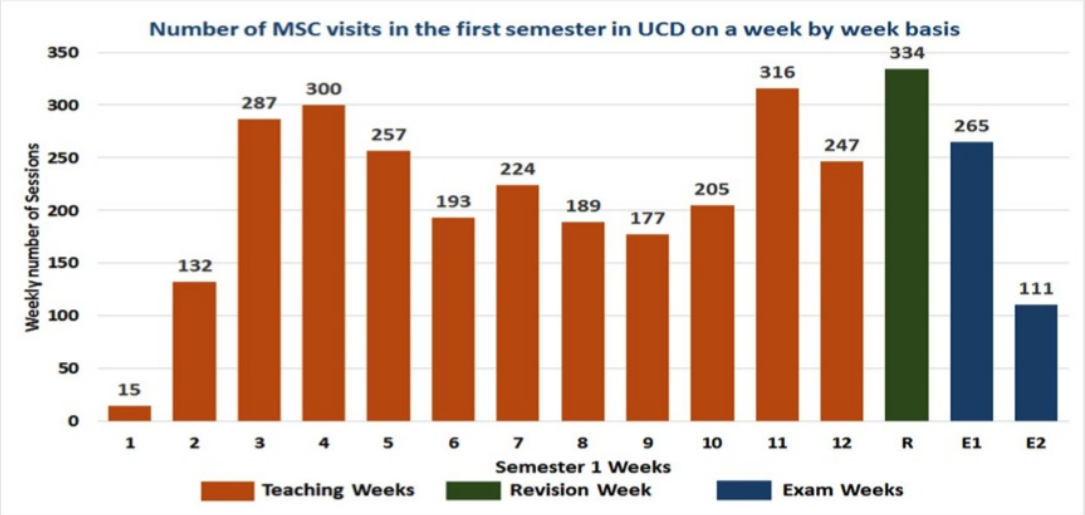


Figure 4: Number of visits per week to MSC for semester one of 2015/16

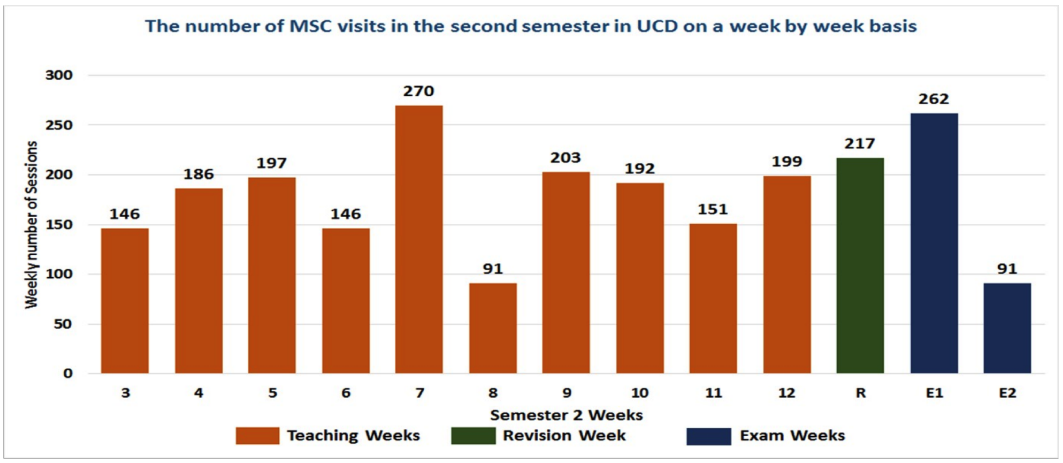


Figure 5: Number of visits per week to MSC for semester two of 2015/16

6 MSC-Module Coordinator Partnerships

Module Coordinators have online access to the MSC (anonymous) feedback in real time that relates to their module(s). In the past this has been discussed both during terms and in preparation of a new term with a few Module Coordinators. As part of the Module Coordinator-Maths Support Centre Partnership the MSC feedback from each individual visit will be discussed with a selection of approximately fifteen lecturers of large ($\geq$70 students) first and second year modules both prior to the start of a new academic year and during each semester (see section 17 below for

more). These discussions will help both parties to provide the best mathematical educational experience for the university's undergraduate students.

7 Student Session Lengths

From October 12th 2015 the UCD MSC took the decision to provide the MSC service to students registered to level 0, 1 or 2 modules only, due to the unprecedented demand on the Maths Support Centre service in the first five weeks of term. The fist five weeks of the 2015/16 semester one term saw 1,107 visits at the MSC, and increase of 28% on the same period last year. A total of 24% of these visits were from students registered to level 3 or level 4 modules or postgraduate students. This decision was taken in consultation with the UCD Students' Union education officer Dannii Curtis, the Registrar, the Head of the School of Mathematics and Statistics and the MSC Director as well as the 23 MSC tutors. A thorough investigation of both the "waiting times of visitors" and the "time spent with a tutor" statistics were thoroughly analysed. This revealed that just 36% of a first year student's time in the MSC is spent with a tutor and a large cohort (41%) of these students were waiting over 30 minutes to be seen by a tutor.

By removing approximately 25% of all MSC visits ie the visits from level 3, level 4 and postgraduate students which were accounting for a disproportionate amount of tutor time, the MSC has reduced its waiting time for its visitors by one third (a ten minute reduction in waiting time, see Figure 6) and increased the time spent with a tutor from 16 minutes to 21 minutes (see Figure 7).

Figure 6: Average wait time to see MSC tutor pre/post week 5 of sem. one

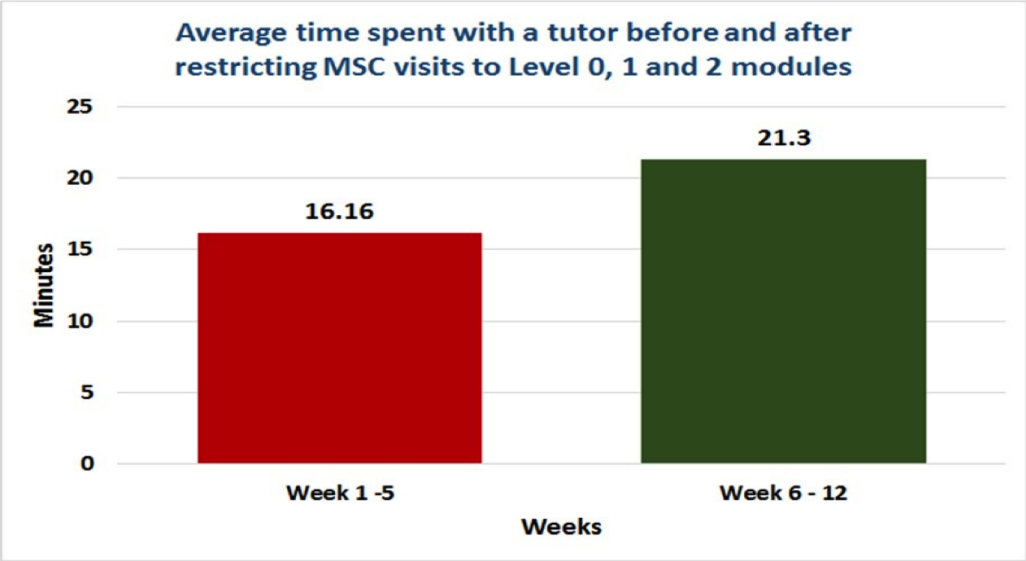


Figure 7: Average time spent with an MSC tutor pre/post week 5 of sem. one

8 Student Return Rate

Almost 5,000 of the MSC visits were return visits with the median number of visits per student being two. The number of MSC visits per student is given below in

Figure 8.

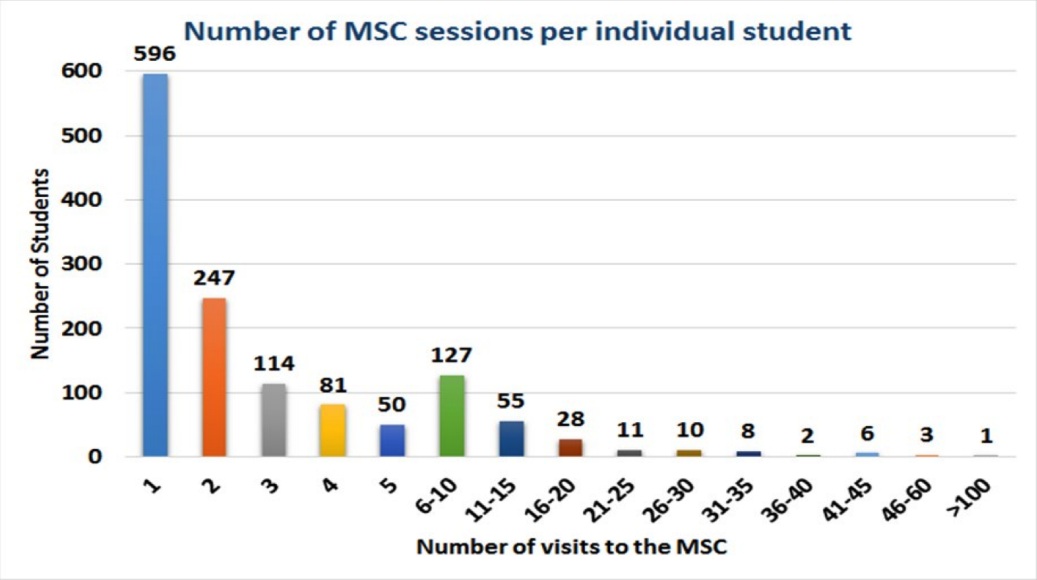


Figure 8: Number of MSC visits per student

9 First Time Student Visit Rate and Cramming

The number of first time visitors attending the MSC when teaching term has finished has always been a concern and the MSC Oversight Committee has discussed this issue. From Figures 9 and 10 below we can see that the number of first time visitors to the MSC in the revision and exam weeks of semester one and two was 212 and 90 respectively. This represents 20% and 15% of all visitors to the MSC for these semesters respectively.

Part of the MSC mission is to promote students to engage in deep, and self-directed learning. In 2015/16 the number of visits in the revision and exam weeks was 1,280, (710 in semester one and 570 in semester two), representing 23% of all MSC visits (see Figures 4 and 5 above). An analysis of the MSC tutors' feedback comments from these periods show that 86% of the comments are directly related to students asking for help with exam questions.

Reaching the students who require maths support most is crucial and research conducted by the Irish Maths Learning Support Network (IMLSN) in 2014 has shown that in order not to promote a last minute approach to learning these students need to engage earlier with the maths support available in their institution in order to maximise their mathematical learning and exam performance ([4]). Large

mathematics learning support centres such as in DCU, NUI Galway, and Maynooth University all close for the examination periods of Christmas and summer with University of Limerick offering only a very restricted service during revision week only. We propose to cease offering the MSC service during the revision and exam weeks from next academic year. The significant savings made on tutor expenditure will allow us to offer a more bespoke and dedicated service for those most in need of mathematics support in weeks 1-12 of both teaching semesters only. For example we will increase the opening hours to 7pm Monday through Thursday to further support Science and Engineering students with a full timetable. Also this year we propose to deliver online diagnostic testing for those most 'at risk' students, ie those who do poorly on this numeracy test, in a select number of large service-teaching mathematics modules in the first week (or week zero) of term so that we can then target these students to engage with maths support from the very beginning of term. The consequences of not opening during these periods will only affect the university's current second year students (as incoming first year students have no experience of the MSC yet) and the new policy will be well advertised on the MSC website, MSC social media accounts and via the MSC management and tutors in the MSC itself.

Figure 9: Number of first time MSC visitors per week for semester one

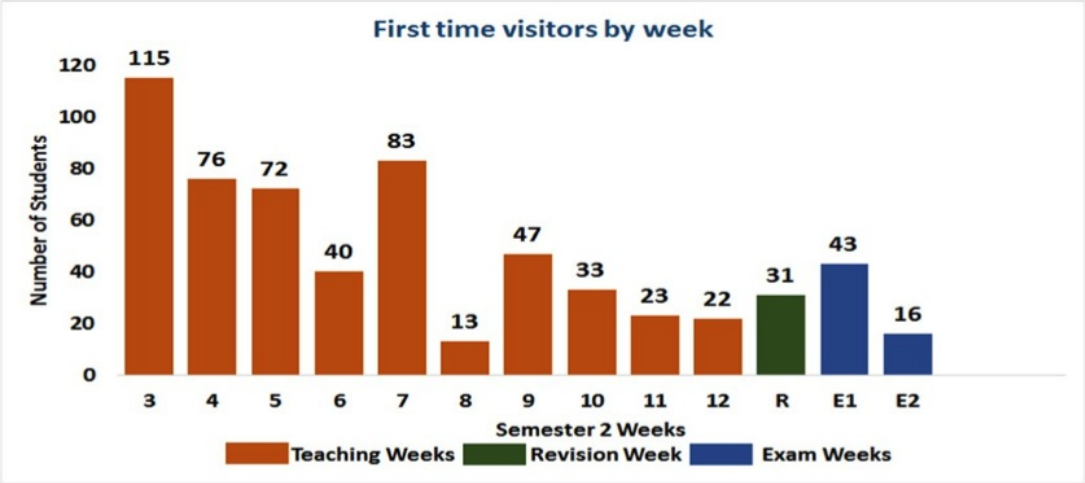


Figure 10: Number of first time MSC visitors per week for semester two

10 Programme Levels and Colleges in the MSC

The MSC received visits from 68 different programmes at UCD in 2015/16 which included all six of the university's colleges, with Science (25%), Health and Agricultural Sciences (23%), Engineering and Architecture (17%) and Arts and Humanities (15%) accounting for the largest proportions of visits respectively.

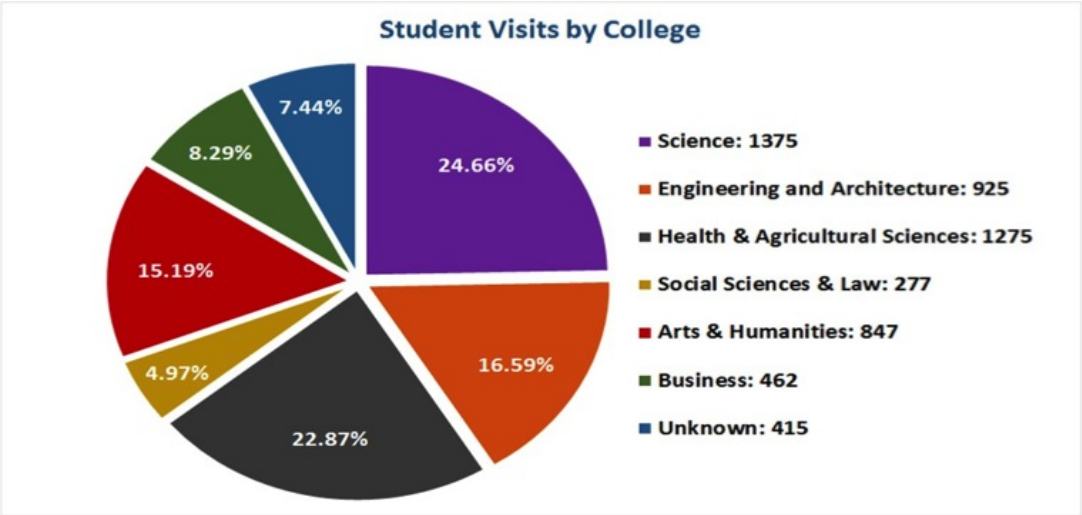


Figure 11: MSC student visits by college

The percentage of each student level visiting the MSC is given in the Figure 12 below. In the previous three years visits from level 3, level 4 and postgraduate

students accounted for 24% of all MSC visits. The lower percentages for these levels in 2015/16 is due to new initiative of offering maths support to level 0, 1 and 2 students only.

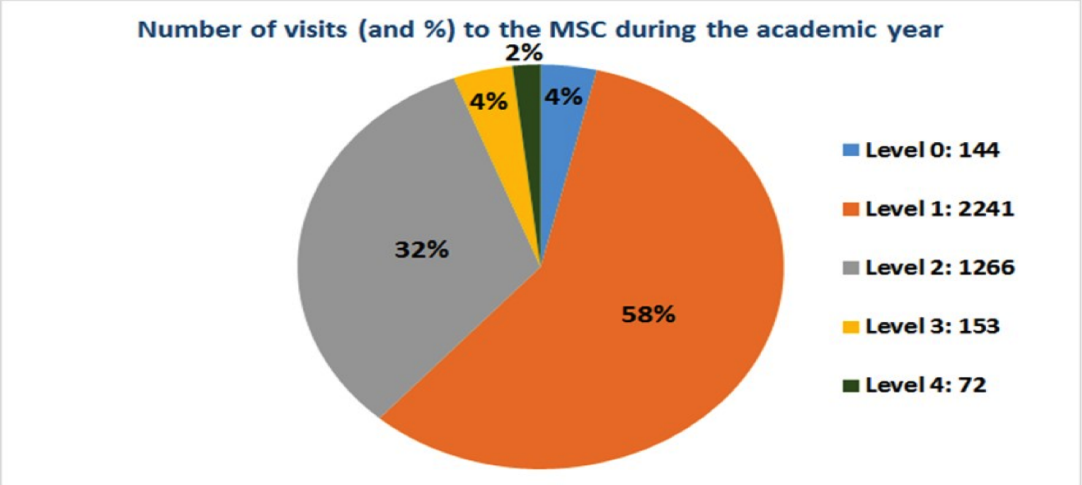


Figure 12: MSC student visits by level

11 Modules in the MSC

Students from 144 distinct modules attended the MSC during semester one, traditionally the busier semester for the MSC, while 101 modules were represented during semester two. The MSC received visits from 65 modules taught by the School of Mathematics and Statistics (SMS) in semester one, equating to 2,625 of the total visits, and 46 in semester two, corresponding to 1,999 visits. There were 53 modules in semester one for which there was just one visit. This one visit ranged from a one-on-one visit (50 times) to a group visit of two students (once), three students (once) and four students (once). There were 32 modules in semester two for which there was just one visit. This one visited ranged from a one-on-one visit (28 times) to a group visit of two students (3 times), and three students (once).

There were 109 modules in semester one for which there was ten or less visits. There were 76 modules in semester two for which there was ten or less visits. In total 83% of all visits emanate from students registered to SMS modules and 17% from outside of this school. The breakdown for these visits can be seen in Figure 13 below.

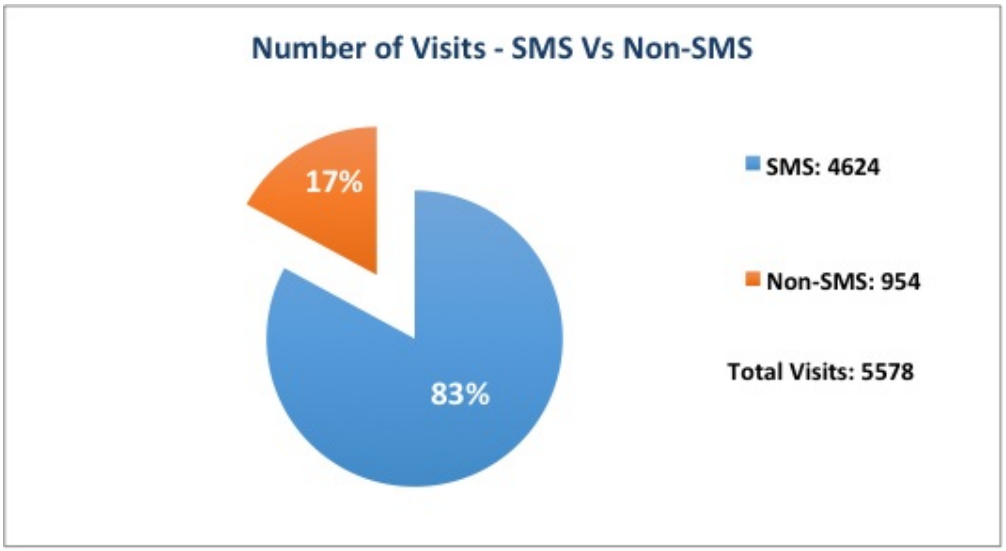


Figure 13: MSC student visits by SMS and Non-SMS 2015/16

Figure 14: MSC student visits by SMS and Non-SMS in Sem. 1

Figure 15: MSC student visits by SMS and Non-SMS in Sem. 2

12 Hot Topics in the MSC

Hot Topics are specialist topic workshops designed for a significant minority of students within a module whose learning may be held back due to some missing background or module prerequisite. These sessions are always organised with the module coordinator's consent and can be requested by the lecturer, the students, the MSC or a combination of any of these cohorts. In 2015/16 the MSC ran 26 Hot Topics - 13 in semester one (305 visits) and 13 in semester two (197 visits) with an average of 19 students attending per hot topic. Hot topics were held in topic areas such as: Indices, Vectors, Lines & Quadratics, The Basics of Differentiation, Integration Techniques, Scientific Notation, Units, Limits, The Geometry of Lines & Planes and Continuous Random Variables. In total there were 502 visits (or 9% of all MSC visits) attributable to these hot topic sessions.

13 MSC tutors

As always the success of the MSC is down to its committed staff. This year the MSC hired 23 tutors in semester one and 19 tutors in semester two (providing 33 hours

of support per week). Three of these tutors have doctorates in Mathematics. Six tutors are in the final stages of their PhD studies in the School of Mathematics and Statistics and four are in the first three years of their PhD. Four of our tutors were undergraduate students with a strong academic record in mathematics/statistics who came through our tutor training programme in September 2015 ([2]). At the time of writing this report three of these tutors have started PhD programmes in Imperial College London and UCD. The remaining tutors were sourced from outside UCD and included a mathematics lecturer from the University of Washington, Seattle, a mathematics lecturer from DIT and Maynooth University and a computer science lecturer from Griffith College Dublin. All MSC tutors undergo vetting, interview and extensive training throughout their time at the MSC. Sourcing and retaining high quality tutors remains the number one challenge for the UCD MSC.

14 Events MSC Presented at in 2015/16

On May 29th 2015 the MSC hosted the 9th Annual Irish Maths Learning Support Network conference in the impressive surrounds of the UCD O'Brien Science Centre. There were over 40 delegates in attendance from 23 different institutions, including international visitors from the United States (Stanford University), Canada (University of British Columbia), Norway (University of Agder), as well as the keynote speaker Professor Chris Sangwin from the University of Edinburgh, where he is the Chair of Technology Enhanced Science Education, and invited speakers from the UK (Loughborough University, University of Glasgow, Ulster University and the Open University). There were 12 Irish Higher Education Institutions represented at the workshop encompassing five universities (DCU, MU, NUIG, UCD and UL) and seven Institutes of Technology, (Dublin IT, Dundalk IT, IT Tallaght, Limerick IT, IT Carlow, IADT and Cork IT). Companies such as Google, Folens, KPMG and Infonalis were also represented. This workshop was opened by UCD's Registrar Professor Mark Rogers and was funded by the National Forum's Seminar Series, the UCD School of Mathematics and Statistics and the Irish Mathematical Society. All abstracts, slides and videos from each presentation can be found here: http://supportcentre.maths.nuim.ie/mathsnetwork/ucd2015

Other events the MSC management presented at include:

May 2015 - Challenging Assumptions: Transition and Widening Participation - UCD
June 2015 - European Conference on the Scholarship of Teaching & Learning - UCC
July 2015 - Adults Learning Mathematics - Washington DC, USA
September 2015 - CETL-MSOR - Greenwich University London, UK
September 2015 - PRISM - University of Leeds, UK

June 2016 - SMEC - DCU
July 2016 - ICME-13 - Hamburg University, Germany
July 2016 - Adults Learning Mathematics - Maynooth University
September 2016 - CETL-MSOR - Loughborough University, UK.

15 Summer Courses at the MSC

In May and June 2016 the MSC gave maths support sessions to 27 Leaving Certificate students from DEIS schools (Delivering Equality of Education in Schools) in preparation for their exams in June. In August 2015 the MSC designed and delivered four 3-hour workshops for the 34 students registered to the Access to Science, Engineering and Agriculture programme. Four 2-hour workshops were also given to 31 students registered through the Mature Students office. Five 2-hour sessions were delivered to students coming to UCD through the HEAR (Higher Education Access Route) programme and one session for the DARE (Disability Access Route to Education) students. The MSC also attends and presents at all the orientation events in the preceding weeks of term. All these sessions are set to continue and grow in 2016/17.

16 Future Developments and Recommendations

From September 2016, CSTAR, under the auspices Dr Mary Codd, will offer its statistical consultancy service out of the MSC space on Friday afternoons from 2-6pm when the MSC is closed. The first session is free for all UCD students and staff. This will take considerable pressure off the MSC as it receives numerous queries on statistical models, tests, reports and analyses every week which are beyond the remit of the MSC.

In 2015/16 the MSC set up the first maths support sessions outside on Belfield. In particular, the MSC ran weekly drop-in sessions for students in the Smurfit Business School in the Blackrock campus. These sessions are set to continue in 2016/17. Both of these developments arose as a result of protracted negotiations between MSC management, CSTAR senior management and Smurfit Business School leaders.

Christmas 2015 saw the establishment of an MSC Oversight Committee to provide greater accountability and transparency to running of the MSC. This committee has met three times since February 2016. This committee is comprised of the Director of the MSC (chairperson), the Head of School for Mathematics and Statistics, and

two other subject representatives (Statistics and Applied & Computational Maths) from within that school. With regard to the successful and continued functioning of the MSC service the following decisions have all been agreed upon by the MSC Oversight Committee.

1. Continue to offer the service to students registered to level 0, 1 or 2 modules only;

2. Close the MSC service during the revision week and two exam weeks of each semester;

3. Establish an MSC-Module Coordinator partnership policy from August 2016.

The first decision was introduced on October 12th of 2015 and has resulted in a reduction in waiting times of one third and an increase in the time spent with a MSC tutor by one third. The second decision was reached upon thorough analysis of the MSC feedback for these six weeks (three in each semester) over the last two years where we can see that the nature of the feedback is exclusively exam questions. We want to challenge the misconception that the MSC promotes last minute cramming for exams and move more in line with other Irish and UK maths learning support best practice policies with regard to this issue. The third decision has been in existence with a small number of Module Coordinators for years but with the consultation and agreement of the MSC Oversight Committee we will introduce a more formal and standardised approach with more Module Coordinators from August 2016.

Paramount to the decision-making process above is the quality of tutoring offered at the MSC. Procuring and retaining quality tutoring staff remains the number one issue for the successful discharge of MSC responsibilities ([2],[3]). Longer term contracts for MSC tutor staff such as those developed by Maynooth University recently would go some way to improving this situation.

The second most pressing issue is the location and autonomy of the UCD MSC. While the MSC is very grateful to the James Joyce Library staff for accommodating the MSC service to run in the Library Link space since March 2013, it is strongly recommended that the MSC have its own dedicated space with a return to total autonomy. The MSC needs a larger space to cater for Hot Topics, HEAR, DARE, disability and Access sessions and also to offer concurrent support for various modules. In 2015/16 the UCD MSC had to book and use rooms outside of the MSC space in the Library Link on 34 occasions, including the Science Centre, the Engineering, Agricultural, Health Sciences and Quinn School Buildings. This situation

is far from ideal especially in week one of term when the MSC makes way for Library orientation events and so potentially misses out on engaging with the new first year students who may need to avail of the MSC service in their opening weeks and months of university life.

17 Feedback Survey

In May 2016 the MSC conducted an online survey of all users of the MSC for that academic year ($n = 1,343$) as well as almost 6,000 non-users from first and second year programmes. The survey response rate was 15.3% for users ($n = 206$) and 16% ($n = 944$) for non-users. Figures 16-18 are some descriptive statistics on the gender, leaving certificate level and grades of the survey's MSC user respondents.

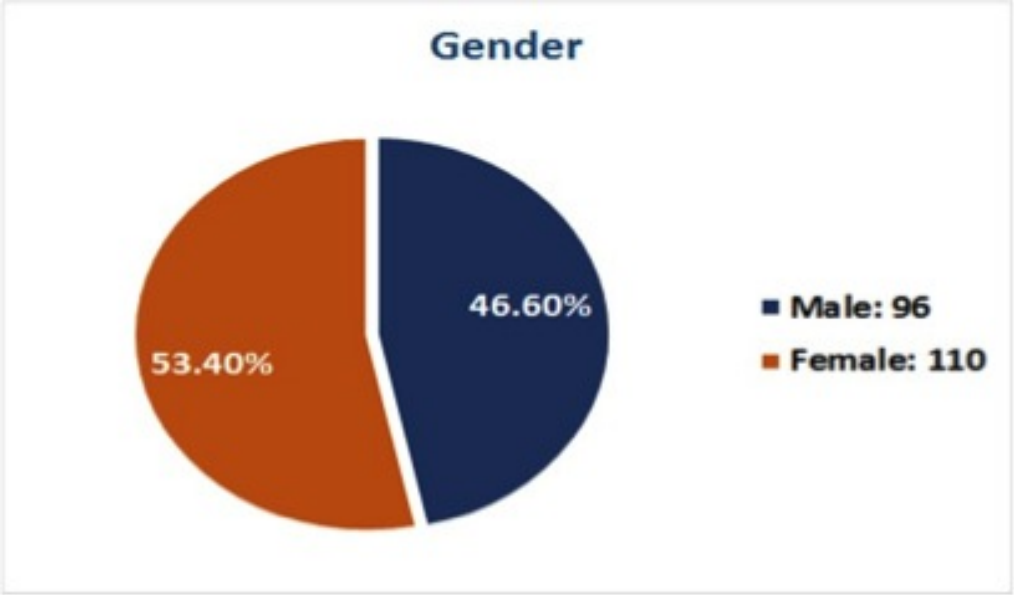


Figure 16: MSC survey student visits by gender, $n = 206$

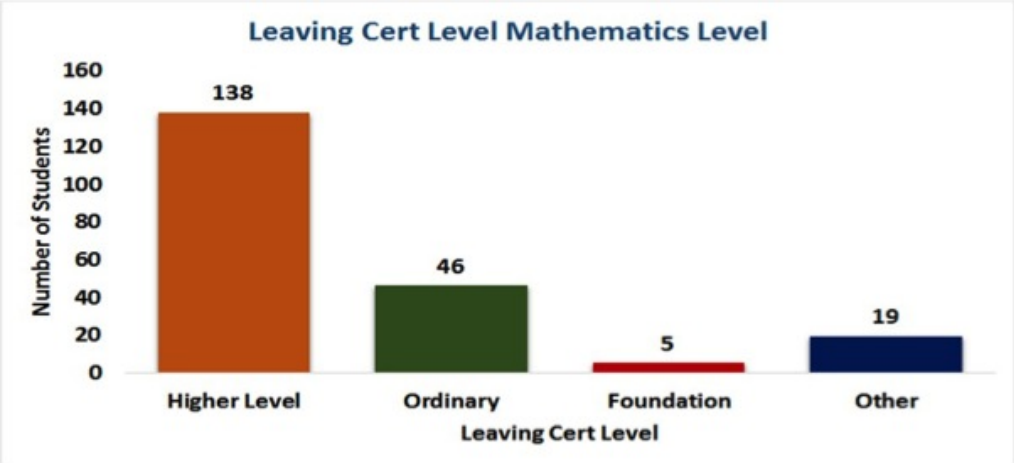


Figure 17: MSC survey student Leaving Cert. Maths level, $n = 208$

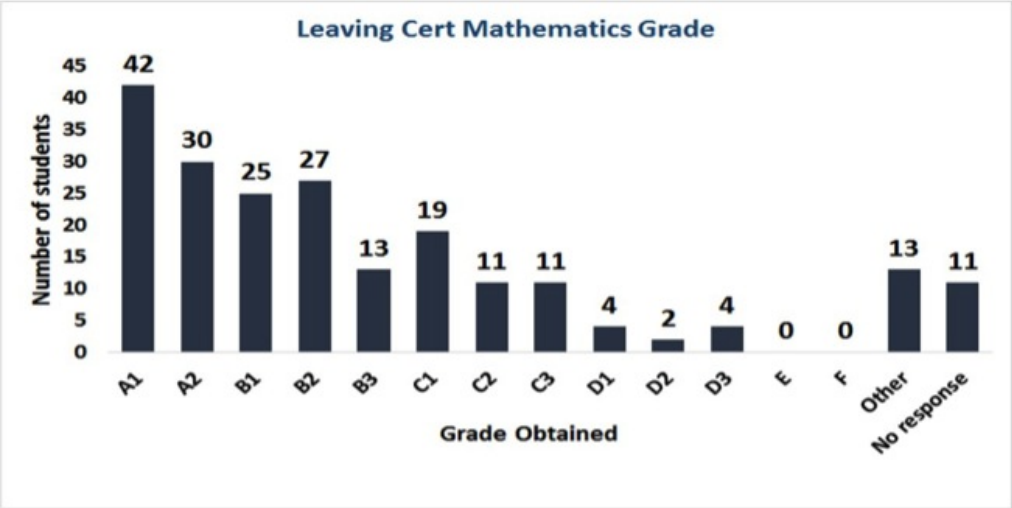


Figure 18: MSC survey student Leaving Cert. grade, $n = 212$

Figures 19-21 show the mature status, programme level and degree course of the 206 MSC user respondents.

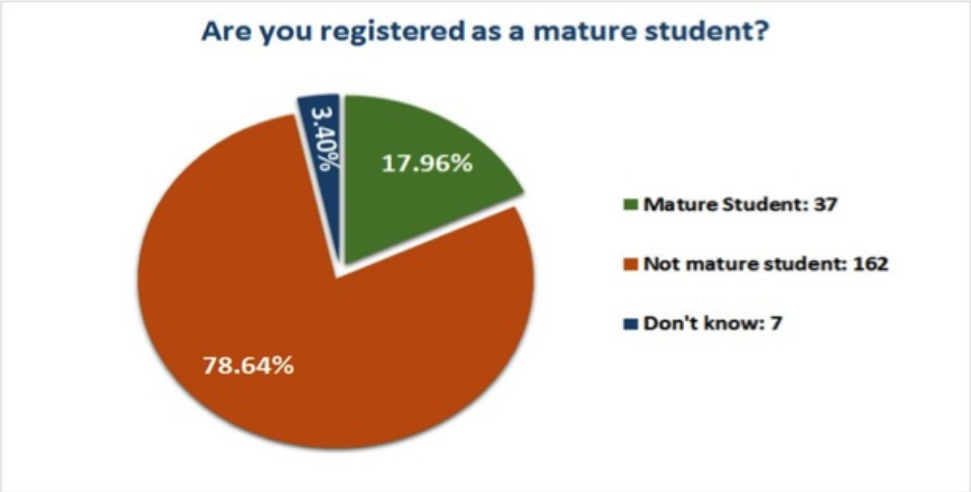


Figure 19: MSC survey student mature status, $n = 206$

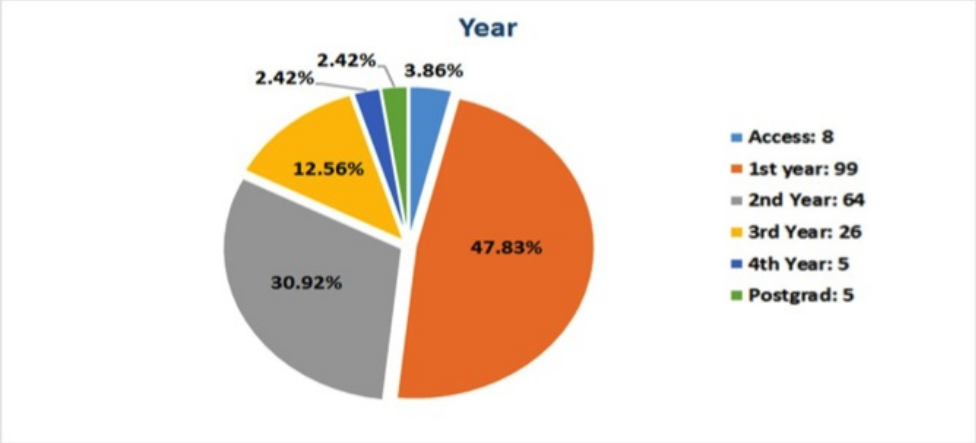


Figure 20: MSC survey student level status, $n = 207$

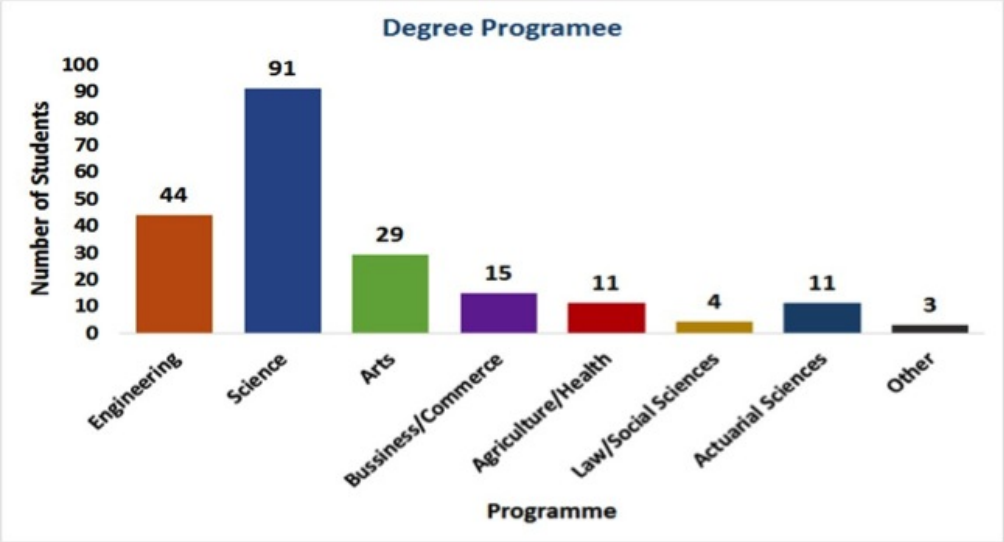


Figure 21: MSC survey student degree status, $n = 208$

Figures 22 and 23 describe the usefulness of the MSC drop-in centre and the MSC hot topic sessions.

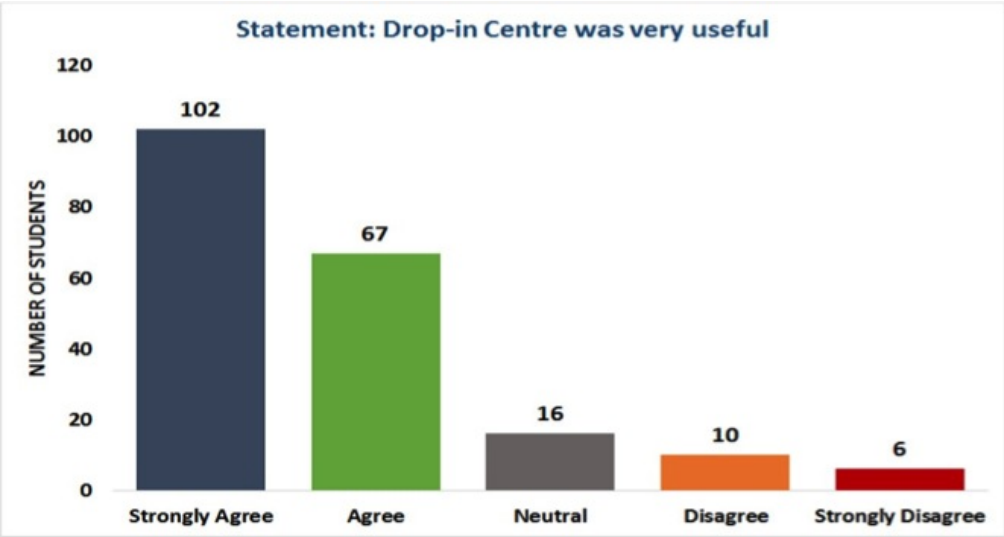


Figure 22: Usefulness of drop-in centre, $n = 201$

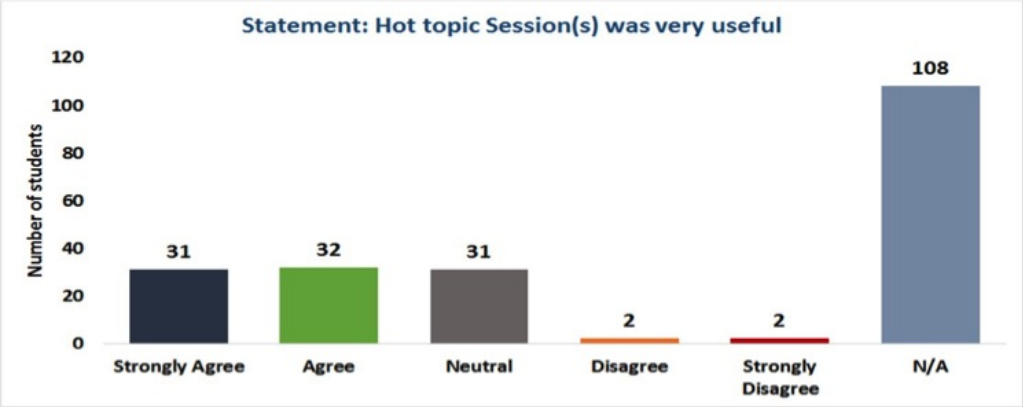


Figure 23: Usefulness of hot topics, $n = 206$

We asked visitors if they ever considered dropping out of their degree programme because of the mathematical demands of their course and if so did the MSC make a difference in this decision. While more respondents answered yes to the second question than answered yes to the first we take this as a positive endorsement of the MSC service.

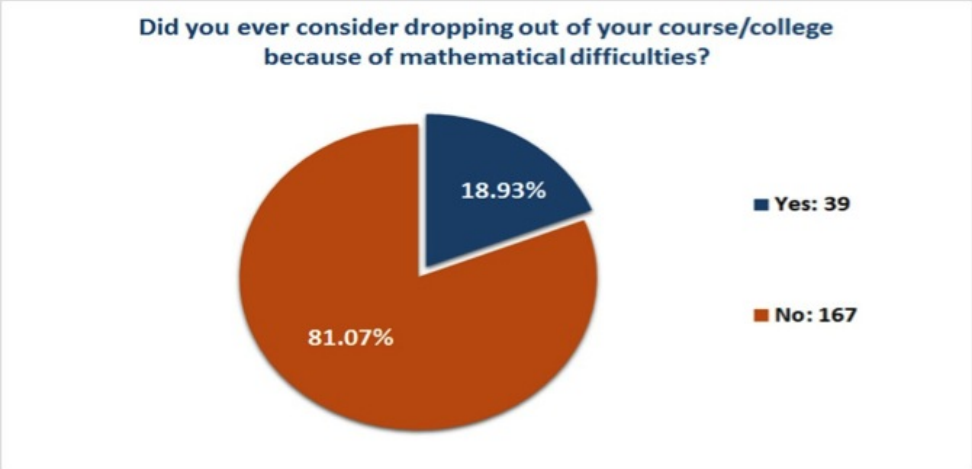


Figure 23: Usefulness of hot topics, $n = 206$

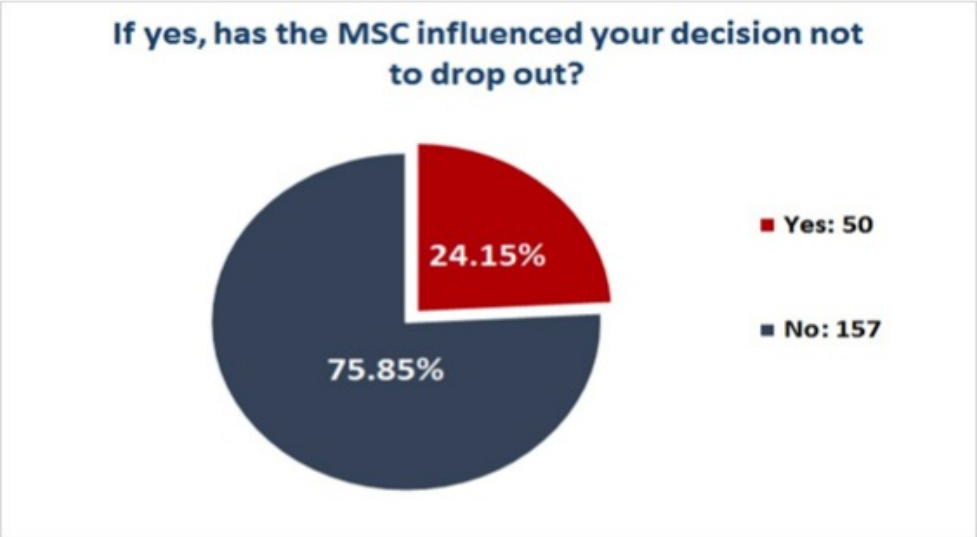
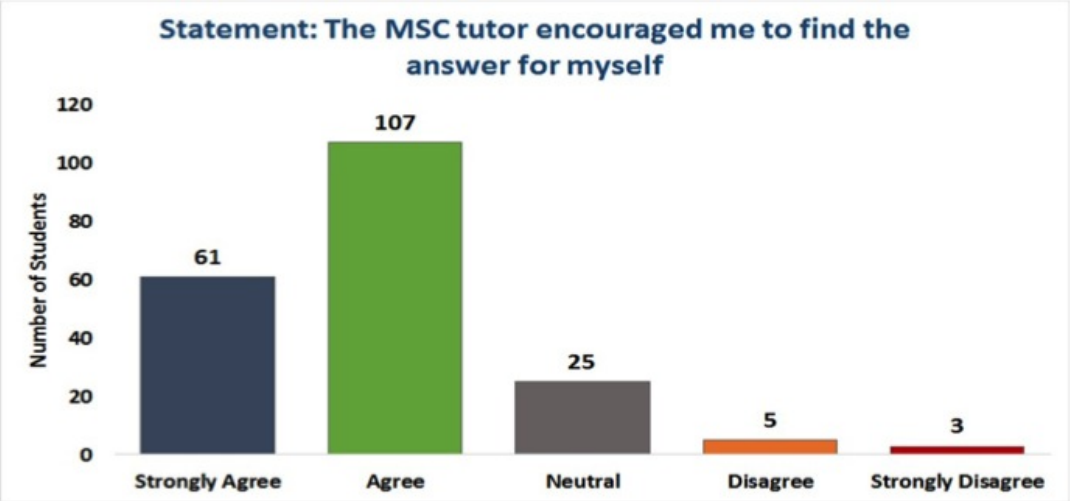
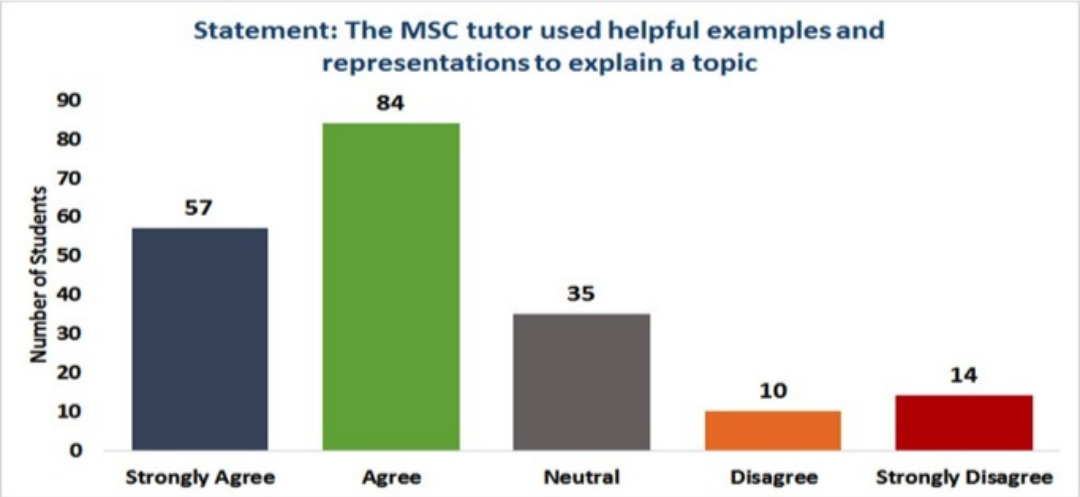
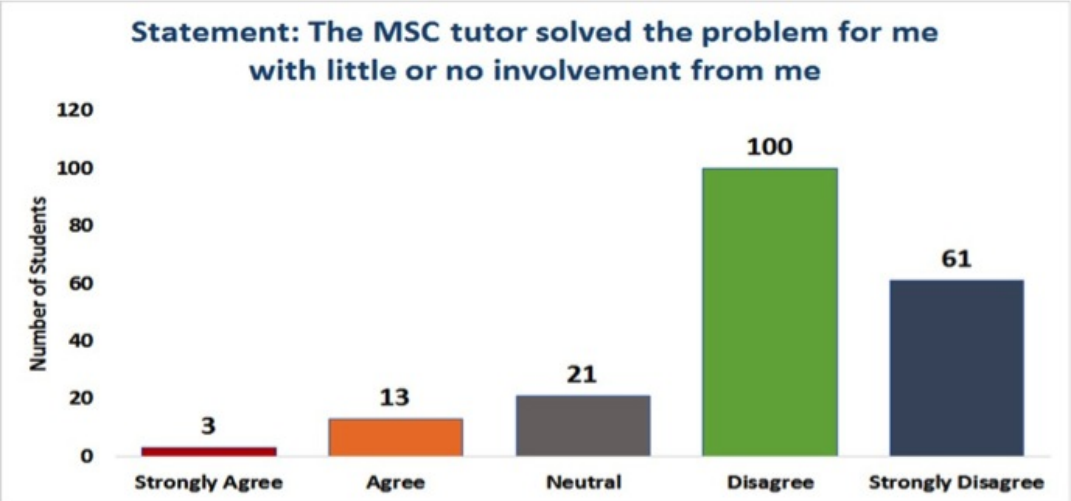


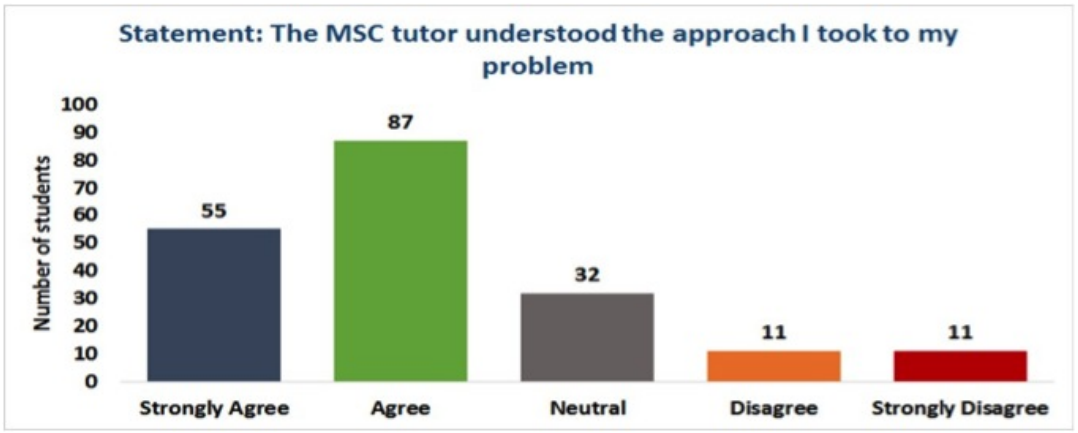
Figure 24: MSC influenced decision not to drop out, $n = 207$

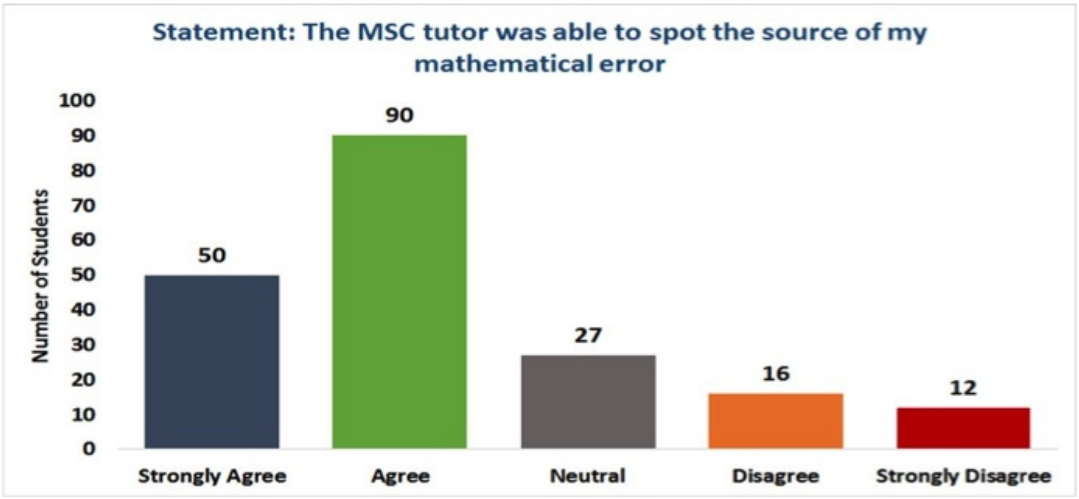
The next set of questions involved the MSC tutor qualities and the results bode well for the encouragement and confidence building supports that the MSC tutors strive to build in its visitors.



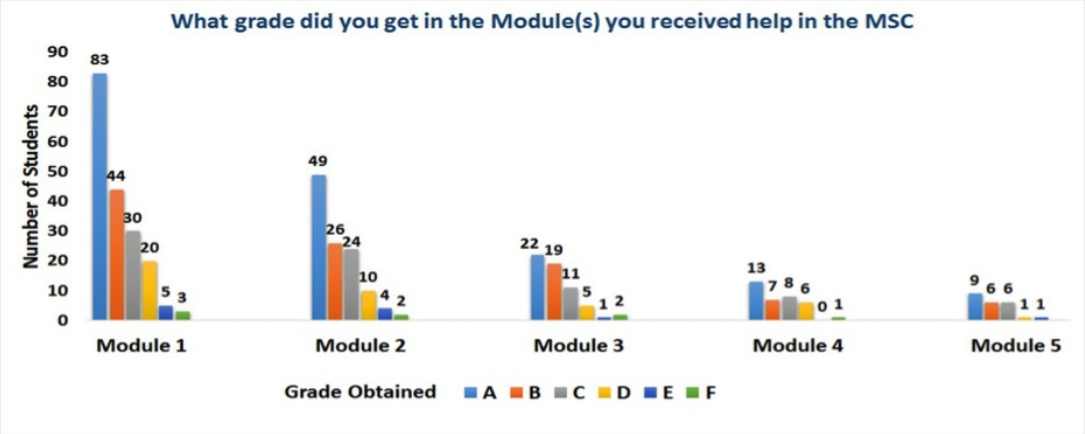

Statement: The MSC tutor used helpful examples and representations to explain a topic
Number of Students
90
80
70
60
50
40
30
20
10
0
57
84
35
10
14
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree


Statement: The MSC tutor solved the problem for me with little or no involvement from me
Number of Students
120
100
80
60
40
20
0
3
13
21
100
61
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

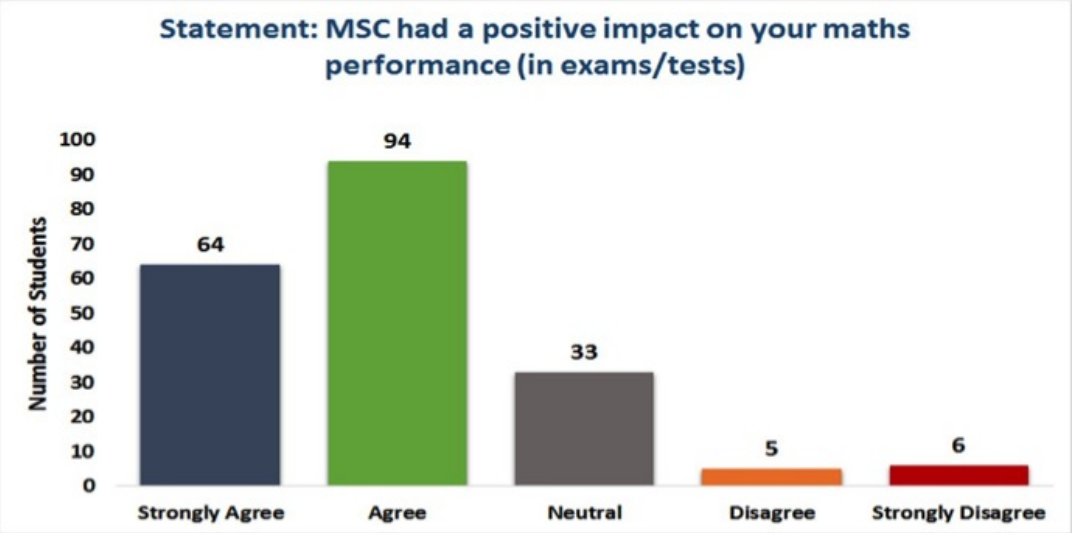


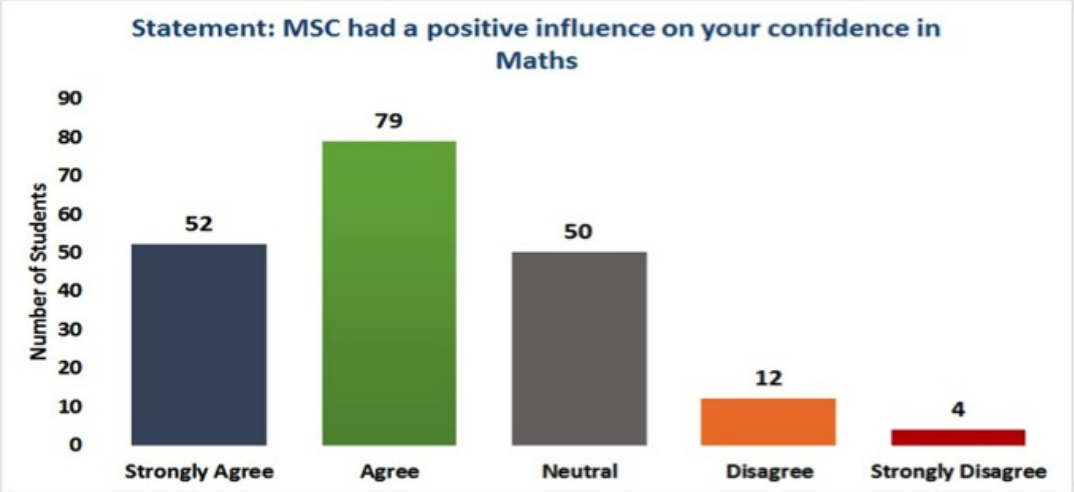


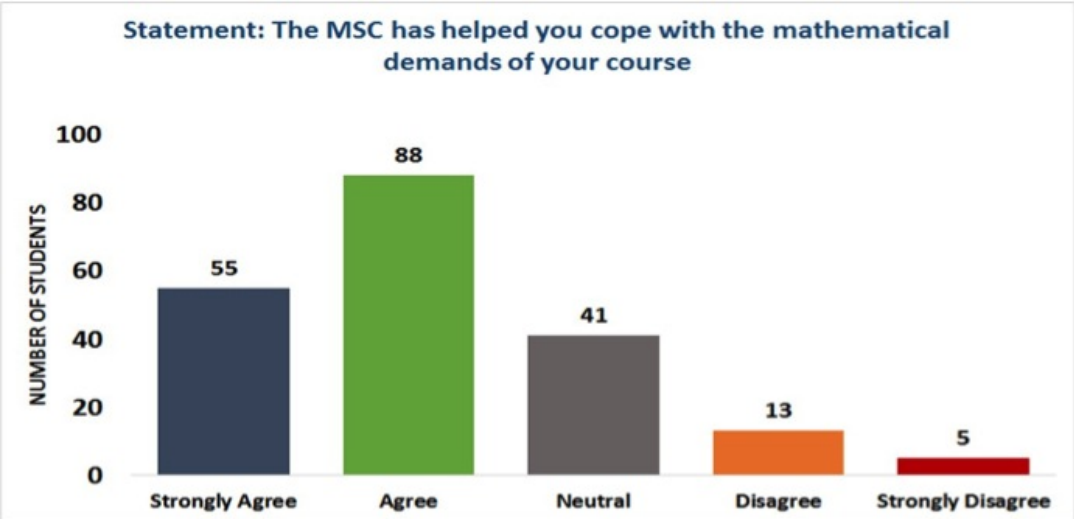
Respondents were asked what grade they received in the module(s) for which they presented at the MSC. Some MSC visitors got support with as many as five modules throughout 2015/16.



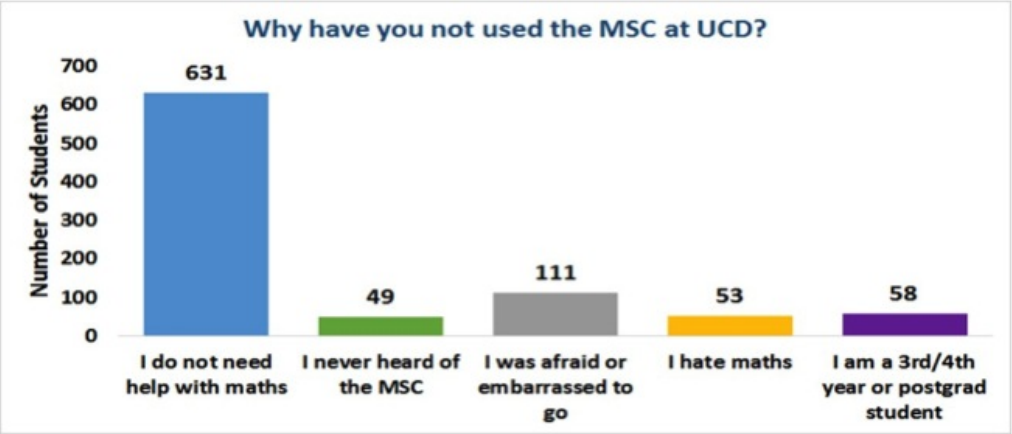
The next three statements asked about the impact the MSC had on: students' examinations, the mathematical demands of their programme, and their mathematical confidence.







The final question asked those non-MSC users ($n = 944$ respondents) why they hadn't used the MSC in their UCD careers so far. These results are in line with the IMLSN large scale survey of 1,633 first year students across nine Irish Higher Education Institutions in 2014 ([4]). Clearly more work needs to be done to reach those 160 students who either never heard of the MSC or were too afraid or embarrassed to attend.



18 Acknowledgements

Many thanks to Cesar Hernandez Scrochi for producing the charts, and the MSC Oversight Committee for helping proof read ths report.

19 References

[1]. Cronin, A., Meehan, M (2016). The development and evolution of an advanced data-management system in a Mathematics Support Centre. In: David Green ed. 2015 CETL-MSOR Conference - Sustaining Excellence UK, pp.21-27.

[2]. Cronin, A., Fitzmaurice, O., Ni Fhloinn, E., O'Sullivan, C., Walsh, R. (2016). Preparing Tutors for Mathematics Learning Support. MSOR Connections, 14 (No. 3):14-21.

[3]. Cronin, A., Clancy, M., Breen, C., O'Se, D., Cole, J. (2016). Mathematics Learning Support in Ireland in 2015 . In: David Green eds. 2015 CETL-MSOR Conference - Sustaining Excellence UK, pp.14-20.

[4] O'Sullivan, C., Mac an Bhaird, C., Fitzmaurice O., and Ni Fhloinn, E. (2014). An Irish Mathematics Learning Support Network Report on Student Evaluation of Mathematics Learning Support: Insights from a large scale multi-institutional survey. http://eprints.maynoothuniversity.ie/6890/.

20 Appendix

The following comments are from MSC users in 2015/16 when asked "Do you have any other comments or suggestions about the MSC Services?" as elicited from the online survey of May 2016.

The MSC has been an incredible support for me as an engineering student. It is an invaluable service and the tutors are a fantastic help! Huge gratitude to MSC for the hard work all year and I look forward to attending again in second year!

The MSC was very useful and allows students to improve their mathematical and problem solving ability in a friendly environment where someone is always willing to help. I really like the way that the tutors don't just tell you the answer, they make sure that you understand the approach. The MSC shouldn't be seen as just a service for students who are weak at maths. I was always pretty confident in my mathematical ability, I just needed a helping hand sometimes.

More! Pump resources into this invaluable support!

Any help I received was very helpful, everything was very well and efficiently explained by well prepared tutors, sometimes waiting times were a bit long!

I got a D due to low CA marks, the MSC actually made me pass in spite of it. Thanks again.

I cannot express how much the MSC has guided and supported my learning. I had very little mathematical skills upon starting my course as it is a long time since leaving school. I think the MSC is an invaluable resource at UCD and should only be expanded and developed for betterment of all relevant students. Without the help of the MSC I do not think I would have achieved the grades I did. I cannot sing its praises enough!

Brilliant and needed service. Helped me through tough modules in 1st year and allowed me to remember basic knowledge that meant I could do everything myself in 2nd year.

Before christmas I failed 3 of my 6 modules. I found it very difficult and then i discovered the maths support centre. All the tutors where extremely helpful and gave me a huge boost of confidence going into my final exams. I learnt 10 times as much in that centre as I did in lectures. ITS PERFECT !!!!!!!!!!!!!!!!!!!

I think the maths support centre is an incredible resource and I valued it highly. I am very glad to have been introduced to it during the access course as I would most likely have been too intimidated to use it otherwise.

Really helped me with the aspect of the course I was struggling with, I would have definitely failed had I not gone to the centre.

The tutors are very approachable and very patient. They are a very important part of any module involving numerical or abstract reasoning and am very greatful of their time, skill and effort.

It is a really good service to have in college. It gives me confidence to know I can go there for assistance through my degree. The experience as a mature student with the approach taken to teaching maths at the centre is quite different from my school days where I was left feeling stupid. In second year we will be using maths a lot more in relation to Auto Cad and technical drawing/measurements for landscape plans etc so I hope to learn with the help of the Maths Support Centre.

Absolutely fantastic to have the MSC, I really think it is brilliant resource with excellent people involved

The MSC is an invaluable service that UCD provides, and I can say with confidence that this year would have been much more difficult without it! Overall, I was happy with the standard of the MSC and it's tutors, and I really cannot thank you all enough for the help and support you offered over the last year.

I am very grateful for the help the people give there and their dedication to show me where I went wrong. I also found working with other students in my class or even who were struggling with the similar issues who came there very good as we were working from the same level. Encouraging this class mate to class mate learning seems a good idea to me and it would also reduce the work of supervisors.

I used it a lot more in first year before I became close with others on the course. It was great to have something to rely on if I was stuck.

The MSC is an amazing service. I would never have passed my modules without it. It may need more input from Vet Sciences as the calculations are very different to the science subjects but I know a lot of my fellow vet med students struggle with the maths on certain modules. Maybe consider some group sessions for first years struggling with vet epidemiology that run concurrently with the module? Perhaps also consider doing the same for students struggling with the maths in second year vet nutrition? (diary and sheep nutrition calculations)?

I think it is a fantastic service and feel it should be implemented in more universities given that so many students feel discouraged by maths based modules.

The MSC is very good I wish I had of gone a bit more.

MSC is a great support, I honestly do not think I would have passed either of the

two maths modules I had to take without the help provided and I ended up doing quite well in the modules as a result. Some tutors adopted an approach where they would help each student for five minutes or less at a time, which meant they could float about and help everyone, reaching the first people again very quickly. This was a much better approach than helping someone for fifteen or twenty minutes, as the queues built up and people are more inclined to leave rather than wait to receive help.

Great support for mature students. Anthony and Catherine gave fantastic support throughout the year to our access class. It is a great service for students struggling with maths.

The MSC was most useful for my studies and it was recommended to me by other mature students.

Earlier opening hours would have been great (before 10 am). Otherwise lifesaving support, for junior freshmen. Grateful customer!

I would consider the MSC to be a vital resource for anyone studying health, science or engineering.