

In what ways do lecturers receive and use feedback from large first year mathematics classes?

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Introduction

We discuss the ways in which lecturers of large (66-550 students) university mathematics classes receive and use feedback from their students and examine where the feedback received by a Mathematics Support Centre (MSC) sits in the general context of this feedback.

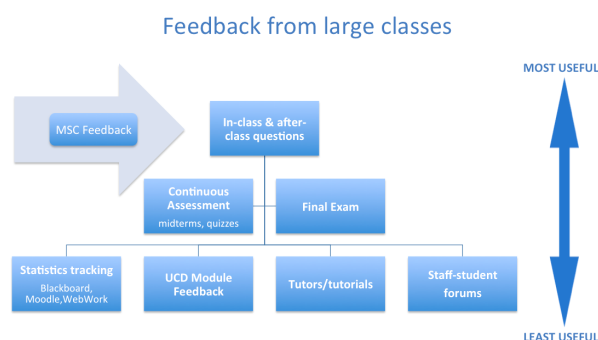
Study Characteristics	n
Participants	13
Interviews	37
Lecturing experience	2-20 years
Gender	8 male
Modules	12
Module size	66-550

Research Questions

1. How do lecturers receive and use feedback from large first year mathematics classes?
2. In what ways, if any, do lecturers find this feedback and feedback provided by the MSC on students' visits, useful, and how do they use it?

Ways in which lecturers receive feedback

Lecturers reported eight ways in which they receive feedback from large classes. A hierarchical ranking of the value of each feedback form as reported by the lecturers is represented below.



How is this feedback used?

In-class & after-class questions

- Incorporated into content & engage students
- To direct students to MSC or to lecturers office
- Confirms trouble areas and more fundamental difficulties for students
- To revise concepts students struggle with

Quotes

- "a good way to get into a bit more depth ... I suppose it enables the more shy students"
- "Students do approach me after almost every lecture to ask questions. They are aware of the fact that there is a short amount of time so it is usually just pointing them in the right direction or else ... tell them to make an appointment to come and see me"
- "I guess after a lecture people are generally asking a specific question ... maybe in the maths support centre they are looking for more general overhaul somehow on a topic"

Continuous Assessment and Final Exam

- To see who hasn't attended lectures
- To quantitatively evaluate where the class are at on aggregate
- To check low scoring grades.

A focus on MSC feedback

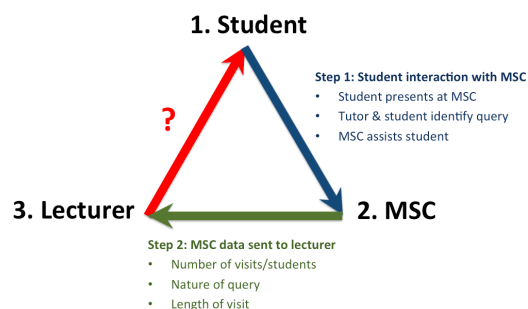
Lecturers identify MSC feedback as one of the most valuable forms of feedback in a large mathematics class. In particular it is specific, detailed, accurate and lecturers reported that it aligns closest to in-class questions as it is content based, formative and in real time. It is useful...

- As formative feedback to be used in real time to clear up student issues
- To adjust the module content as the module progresses
- To revise and/or omit lecture content
- To write midterms and revision classes
- To delay or bring forward continuous assessment components
- To identify the most problematic areas.

Quotes

- "it is much more detailed. It fills in... I mean it is very hard to get feedback in the lectures because the students are a bit reticent. So it really fills the gap..."
- "It is more specific... you know what kind of exact type of question is being asked... So I mean it is the kind of feedback that would make me say "You know what, I will do that section in more depth" or "I will omit that"... it is not even just a topic but the part of a topic... whereas on the other kind of feedback you tend to get more generic style statements."
- "it is very detailed. It is probably more detailed than the other kinds of feedback; especially because the tutors em... are very specific about the problems that the student had. In fact maybe they are even more specific than the students themselves could be"

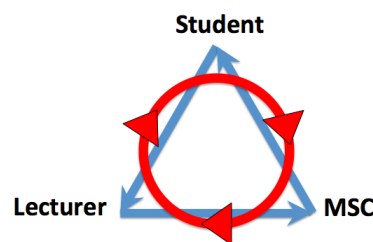
MSC Feedback Process



Next steps

Implement a pre-semester MSC-Module Coordinator partnership agreement that ensures the student mathematical experience in the MSC is optimised.

Closing the feedback loop



References

- [1] A. Cronin and M. Meehan. The development and evolution of an advanced data management system in a mathematics support centre. *Proceedings of the CETL-MSOR Conference 2015: Sustaining Excellence, Greenwich London*, pages 21-27, 2016.
- [2] N. Curley and M. Meehan. Most commonly occurring mathematical difficulties - eight weeks in the life of a maths support centre. *Proceedings of the CETL-MSOR Conference 2016: Brave New World, Loughborough*, pages 29-34, 2016.