EDUC258

Mathematics in Schools

S1 Day 2018

Department of Educational Studies

Contents

General Information

Unit convenor and teaching staff
Unit Convenor
Michael Cavanagh
michael.cavanagh@mq.edu.au
Contact via michael.cavanagh@mq.edu.au

Credit points
3

Prerequisites
((12cp at 100 level or above) including EDUC105 or EDUC106) or (admission to BEd(Prim) or BEd(Sec))

Corequisites

Co-badged status

Unit description
This unit is designed for intending primary teachers and intending secondary Mathematics teachers. It focuses on the factors affecting school students' learning of Mathematics. Three major themes are addressed: the meaning of selected basic concepts; how students learn these basic concepts; and how teaching can influence student learning. There is a common lecture strand which examines current research perspectives on learning and teaching Mathematics in schools, and separate tutorial classes for intending primary and secondary teachers. The Session 3 offering is only available to intending primary teachers.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

Demonstrate knowledge and understanding of research into how students learn certain fundamental mathematical ideas and the implications for teaching.
Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities
Demonstrate understanding of the concepts, substance and structure of the content and teaching strategies of mathematics

Know and understand numeracy teaching strategies and their application in teaching areas

Demonstrate understanding of the content covered in lectures and tutorials

Assessment Tasks

Name	Weighting	Hurdle	Due
Numeracy interview	50%	No	Week 9
Exam	50%	No	Exam period

Numeracy interview

Due: **Week 9**
Weighting: **50%**

Students view an interview of a child attempting some questions related to basic numeracy and write about the child's understanding.

Specific details about the numeracy interview task can be found in the EDUC258 Unit Outline.

Students submit the assignment electronically through the EDUC258 iLearn page so that it can be checked through Turnitin.

Information regarding penalties for late submission of the assignment can be found in the EDUC258 Unit Outline.

On successful completion you will be able to:

- Demonstrate knowledge and understanding of research into how students learn certain fundamental mathematical ideas and the implications for teaching.
- Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities
- Demonstrate understanding of the concepts, substance and structure of the content and teaching strategies of mathematics
- Know and understand numeracy teaching strategies and their application in teaching areas

Exam

Due: **Exam period**
Weighting: **50%**

A 1.5 hour closed-book examination covering the content of the unit.

Details of the date and time of the examination will be available via the University Examination

Timetable shortly after the mid-session break.

On successful completion you will be able to:

- Demonstrate knowledge and understanding of research into how students learn certain fundamental mathematical ideas and the implications for teaching.
- Demonstrate understanding of the concepts, substance and structure of the content and teaching strategies of mathematics
- Demonstrate understanding of the content covered in lectures and tutorials

Delivery and Resources

Each week, there are two lectures and a one-hour tutorial.

Note that tutorials and lectures commence in Week 1.

All students are required to access EDUC258 activity sheets and other learning resources from iLearn.

We will discuss the role of technology in mathematics education at various times during the unit. The only requirement for technology use by students is that you can access the unit materials from iLearn and prepare your assignment using a computer.

Unit Schedule

The schedule of activities can be found in the EDUC258 Unit Guide

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy *(**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

Undergraduate students seeking more policy resources can visit the Student Policy Gateway (https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the

key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/study/getting-started/student-conduct

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Demonstrate knowledge and understanding of research into how students learn certain fundamental mathematical ideas and the implications for teaching.
- Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities
- Demonstrate understanding of the concepts, substance and structure of the content and teaching strategies of mathematics
- Know and understand numeracy teaching strategies and their application in teaching areas
- Demonstrate understanding of the content covered in lectures and tutorials

Assessment task

- Exam

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcome

- Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities

Assessment task

- Numeracy interview

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcome

- Demonstrate knowledge and understanding of strategies for differentiating teaching to meet the specific learning needs of students across the full range of abilities

Assessment task

- Numeracy interview

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcome

- Demonstrate understanding of the content covered in lectures and tutorials

Assessment task

- Numeracy interview

Changes from Previous Offering

The assessment schedule has been changed