EDST4200

Using and Interpreting Educational Data

Session 2, Online-flexible 2024

Macquarie School of Education

Contents

General Information

Unit convenor and teaching staff
Convenor, lecturer, tutor
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Monday - Friday, 9am - 4 pm

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Credit points
10

Prerequisites
160cp at 1000 level or above

Corequisites

Co-badged status

Unit description
This unit focuses on the use of various forms of educational data to support learning. Students will examine the sources of data and develop an understanding of the types of data that can be used for different purposes. They will learn to analyse, interpret, apply and critically evaluate data from classroom assessments, state and national tests and large-scale standardised assessment programs. They will also develop reflexive skills as they draw upon a range of data to inform their practice.

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:

> **ULO1:** Identify various sources of educational data.
>
> **ULO2:** Apply data literacy skills to make inferences from qualitative and quantitative data sets.

ULO3: Examine techniques for analysing and interpreting qualitative and quantitative data.

ULO4: Critically evaluate qualitative and quantitative data collection instruments.

ULO5: Identify professional challenges presented in the data and reflect upon the implications for their own teaching practice. Examine the purposes and types of feedback to students and reportage to parents and other stakeholders.

General Assessment Information

Students should be aware of and apply the University policy on academic honesty (see: https://policies.mq.edu.au/document/view.php?id=3)

Unless a Special Consideration (see: https://students.mq.edu.au/study/assessment-exams/special-consideration) request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a mark of, 0 (zero) will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11:55pm. A 1-hour grace period is provided to students who experience a technical issue. This late penalty will apply to non-timed sensitive assessment (incl essays, reports, posters, portfolios, journals, recordings etc).

Late submission of time sensitive tasks (such as tests/exams, performance assessments/presentations, scheduled practical assessments/labs etc) will only be addressed by the unit convenor in a Special consideration application. Special Consideration outcome may result in a new question or topic.

Please format assessments using 12-point font and 1.5 spacing.

All assessments are submitted electronically. Turnitin plagiarism detection software is used to check all written assessments.

Students can use Turnitin's Originality Report as a learning tool to improve their academic writing if this option is made available in the unit.

Students should carefully check that they submit the correct file for an assessment as no re-submissions will be accepted after the due date and time, including instances where students upload an incorrect file in error.

Word limits are strictly applied. Work above the word limit will not be marked. ·

All assessments are marked using a clear marking scheme or a rubric. ·

Marking of all assessments is moderated by the Unit Convenor. ·

Applications for extensions must be made via AskMQ (https://ask.mq.edu.au/). It is not the responsibility of unit staff to contact students who have failed to submit assessments. If you have any missing items of assessment, it is your responsibility to make contact with the unit convenor.

Units with Quiz Assessments:

Quizzes are an individual assessment task and MUST BE COMPLETED by each student individually. Similarities in responses between students will be checked and investigated for possible collusion.

Units with Exams:

The exam timetable is not typically finalised until mid-semester. Once it is available, please take careful note of the date and time of the exam. No early examinations can be set for individuals. Do not plan leave until you have seen the exam timetable.

The exam is a zoom invigilated, online exam. Students are expected to be available at the date and time designated in the exam timetable. If you experience serious and unavoidable difficulties at exam time, you can consider applying for Special Consideration. For students who have experienced serious and unavoidable difficulties at exam time, a later supplementary exam will be held, and any such students must make themselves available for whenever that is scheduled.

University policy on grading Criteria for awarding grades for assessment tasks Assignments will be awarded grades ranging from HD to F according to guidelines set out in the University's Grading Policy. For Professional Experience (PEx) units the PE Report is marked as satisfactory or unsatisfactory and the Teaching Performance Assessment (in final PE units) is marked as not meets, meets or exceeds. Descriptive Criteria for awarding grades in the unit To meet the unit outcomes and successfully pass this unit, students should attempt all assessment tasks.

rade	Descriptor
HD (High Distinction)	Provides consistent evidence of deep and critical understanding in relation to the learning outcomes. There is substantial originality and insight in identifying, generating and communicating competing arguments, perspectives or problem-solving approaches; critical evaluation of problems, their solutions and their implications; creativity in application as appropriate to the discipline. Does not report content or ideas generated by third parties or AI sources.
D (Distinction)	Provides evidence of integration and evaluation of critical ideas, principles and theories, distinctive insight and ability in applying relevant skills and concepts in relation to learning outcomes. There is demonstration of frequent originality in defining and analysing issues or problems and providing solutions; and the use of means of communication appropriate to the discipline and the audience. Does not report content or ideas generated by third parties or AI sources.
Cr (Credit)	Provides evidence of learning that goes beyond replication of content knowledge or skills relevant to the learning outcomes. There is demonstration of substantial understanding of fundamental concepts in the field of study and the ability to apply these concepts in a variety of contexts; convincing argumentation with appropriate coherent justification; communication of ideas fluently and clearly in terms of the conventions of the discipline. Does not report content or ideas generated by third parties or AI sources.
P (Pass)	Provides sufficient evidence of the achievement of learning outcomes. There is demonstration of understanding and application of fundamental concepts of the field of study; routine argumentation with acceptable justification; communication of information and ideas adequately in terms of the conventions of the discipline. The learning attainment is considered satisfactory or adequate or competent or capable in relation to the specified outcomes. Does not report content or ideas generated by third parties or AI sources.
F (Fail)	Does not provide evidence of attainment of learning outcomes. There is missing or partial or superficial or faulty understanding and application of the fundamental concepts in the field of study; missing, undeveloped, inappropriate or confusing argumentation; incomplete, confusing or lacking communication of ideas in ways that give little attention to the conventions of the discipline. Reports content or ideas generated by third parties or AI sources.

Note: If you fail a unit with a professional experience component, the fail grade will be on your transcript irrespective of the timing of the placement.

Withdrawing from this unit If you are considering withdrawing from this unit, please seek academic advice via https://ask.mq.edu.au before doing so as this unit may be a co-requisite or prerequisite for units in the following sessions and may impact your course progression. 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 https://ask.mq.edu.au

Assessment Tasks

Name	Weighting	Hurdle	Due
Examination	30%	No	Exam period
Weekly online quizzes	15%	No	23:55 9/8/24;16/8/24; 11/10/24; 18/10/24; 25/10/24;
Analysis and report on NAPLAN data set	50%	No	23:55 4/10/24;
ASSET Survey	5%	No	23:55 4/10/24

Examination

Assessment Type [1]: Examination
Indicative Time on Task [2]: 35 hours
Due: **Exam period**
Weighting: **30%**

The final examination will consist of short answer and extended response questions which will address all learning outcomes and content from the unit.

On successful completion you will be able to:
- Identify various sources of educational data.
- Apply data literacy skills to make inferences from qualitative and quantitative data sets.
- Examine techniques for analysing and interpreting qualitative and quantitative data.

Weekly online quizzes

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 15 hours

Due: **23:55 9/8/24;16/8/24; 11/10/24; 18/10/24; 25/10/24;**
Weighting: **15%**

From week three there will be 7 short online quizzes spread across the subject. These quizzes, while summative, will also have a formative assessment purpose (i.e., to consolidate content and skills taught each week).

On successful completion you will be able to:

- Identify various sources of educational data.
- Apply data literacy skills to make inferences from qualitative and quantitative data sets.
- Examine techniques for analysing and interpreting qualitative and quantitative data.
- Critically evaluate qualitative and quantitative data collection instruments.
- Identify professional challenges presented in the data and reflect upon the implications for their own teaching practice. Examine the purposes and types of feedback to students and reportage to parents and other stakeholders.

Analysis and report on NAPLAN data set

Assessment Type [1]: Report
Indicative Time on Task [2]: 35 hours
Due: **23:55 4/10/24;**
Weighting: **50%**

Students are to write *a report* on a fictional school using a simulated NAPLAN data set which will require the interpretation, analysis and comparison of the data set with normative NAPLAN data. From the analysis, students will determine a specific issue which is identifiable in the data (e.g., poor attendance of students, boys not making benchmarks in reading etc.). Students will then review current empirical research on the factors relating to the chosen issue. Finally, students will outline a proposal (a list of recommendations) which are aimed at resolving the chosen issue and improving the outcomes of the fictional student cohort.

On successful completion you will be able to:

- Identify various sources of educational data.
- Apply data literacy skills to make inferences from qualitative and quantitative data sets.
- Examine techniques for analysing and interpreting qualitative and quantitative data.
- Critically evaluate qualitative and quantitative data collection instruments.
- Identify professional challenges presented in the data and reflect upon the implications

for their own teaching practice. Examine the purposes and types of feedback to students and reportage to parents and other stakeholders.

ASSET Survey

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 3 hours
Due: **23:55 4/10/24**
Weighting: **5%**

The Survey is in 5 parts and students receive 1% for each part submitted.

On successful completion you will be able to:

- Identify professional challenges presented in the data and reflect upon the implications for their own teaching practice. Examine the purposes and types of feedback to students and reportage to parents and other stakeholders.

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[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

This unit has a full web presence through iLearn. There is no set text for this unit, all readings will be available through the LEGANTO system. Students will need regular access to a computer and the Internet to complete this unit. Weekly access to iLearn is compulsory for all students. Important assessment information will be posted here, as will other relevant unit notices and materials, including a reading template and guide to lecture note taking to assist your studies. Various activities and materials for discussion and critical reflection are included and students enrolled in INFQ or online mode are especially encouraged to use this web component. Electronic links and suggested references will be included in the Resources section. Please check the iLearn unit regularly. Weekly lectures are available on the web through the ECHO360 lecture component. You must listen to all lectures. PowerPoint slides are available in iLearn in advance of the weekly lecture and/or are available in the Active Learning Tool.

Access and technical assistance Information for students about access to the online component of this unit is available at https://ilearn.mq.edu.au/login/index.php. You will need to enter your

student username and password. Please do NOT contact the Unit Convenor regarding iLearn technical help. Assistance is available from IT Helpdesk Ph: 9850 4357 or 1800 67 4357 Log a request: help.mq.edu.au. On Campus: Ground floor at 18 Wally's Walk Other useful information about how the teaching is structured. Suggested wording below. Please amend for your unit. Structure

The unit structure can be found in the university timetable Creating your timetable - Enrolling | Macquarie University, Sydney (mq.edu.au) In the tutorial students will discuss issues and questions arising from the lectures and prescribed readings. They are expected to base their arguments/discussions on evidence from published research and other relevant material. There will be a supporting iLearn site for the unit providing additional readings, links and materials. The weekly program for the course with the accompanying readings/ preparation is available on the following pages or on the unit iLearn site.

Unit Schedule

Wk	Week Start	Lecture	Tutorial Topic	Reading
1	22nd July	Introduction	Types of assessment	The Unit Guide Bruniges, M. (2005). *An evidence-based approach to teaching and learning.* http://research.acer.edu.au/research_conference_2005/15 Killen, R. (2005). *Programming and Assessment for Quality Teaching and Learning.* Cengage. (pp. 128 - 135) only
2	29th July	Quantitative and qualitative data	Analyzing educational data	Matters, G. (2006). *Using data to support learning in schools: Students, teachers, systems.* Australian Council for Educational Research (pages 1 - 14 only). Shaddock, A. (2014). *Using data to improve learning.* ACER Press. Chapter 3, 8, 9, & 10
3	5th August **QUIZ 1** **9th August**	Principles of measurement	Basic mathematics of measurement	Reynolds, C. R., Livingston, R. B., & Willson, V. (2009). *Measurement and assessment in education.* Pearson. Chapter 2 (pages 33 - 51).
4	12th August **QUIZ 2** **16th August**	Standardized Testing & NAPLAN	Understanding standardized testing & NAPLAN	Reynolds, C. R., Livingston, R. B., & Willson, V. (2009). *Measurement and assessment in education*. Pearson. Chapters 3. Pages 61 – 85.

5	19th August			
6	26th August			
7	2nd September			
8	9th September			
	16th September			Recess
	23rd September			Recess
9	30th September **Major Assignment** **4th October** **ASSET surveys**			
10	7th October **Quiz 3** **11th October**	Quality of educational data/ assessments	Reliability	Reynolds, C. R., Livingston, R. B., & Willson, V. (2009). *Measurement and assessment in education*. Pearson. pages 91 - 112. Killen, R. (2005). *Programming and Assessment for Quality Teaching and Learning*. Cengage Press. Chapter 4, pages 103 - 107. Marloes M. L. Muijselaar, Panayiota Kendeou, Peter F. de Jong & Paul W. van den Broek (2017). What Does the CBM-Maze Test Measure? *Scientific Studies of Reading, 21:2*, 120-132, DOI: 10.1080/ 10888438.2016.1263994
11	14th October **Quiz 4** **18th October**	Quality of educational data/ assessments	Validity	Reynolds, C. R., Livingston, R. B., & Willson, V. (2009). *Measurement and assessment in education*. Pearson. Pages 123 -146. Killen, R. (2005). *Programming and Assessment for Quality Teaching and Learning*. Cengage Press. Chapter 4, pages 107 -122. Perso, T. (2009). Cracking the NAPLAN code: Numeracy and literacy demands. *Australian Primary Mathematics Classroom*, *14* (3) online. Woodcock, S., Howard, S. J., & Ehrich, J. (2020). A Within-Subject Experiment of Item Format Effects on Early Primary Students' Language, Reading, and Numeracy Assessment Results. *School Psychology*, *35*(1), 80–87. http://dx.doi.org/10.1037/spq0000340

12	21st October **Quiz 5** **25th October**	Grading & reporting	Marking, grading & reporting	Reynolds, C. R., Livingston, R. B., & Willson, V. (2009). *Measurement and assessment in education.* Pearson. Chapter 11, pages 277 – 295. Killen, R. (2005). *Programming and Assessment for Quality Teaching and Learning.* Cengage. Pages (204 - 242, chapters 9 & 10).
13	**28th October**			
	November			

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). 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
- Assessment Procedure
- Complaints Resolution Procedure for Students and Members of the Public
- Special Consideration Policy

Students seeking more policy resources can visit Student Policies (https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

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

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) 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 connect.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing an d maths support, academic skills development and wellbeing consultations.

School of Education Procedures

In addition, the following policies and procedures of the School of Education are applicable in this unit.

Attendance for undergraduate units:

See the university timetable for information about when classes begin in this unit. Creating your timetable - Enrolling | Macquarie University, Sydney (mq.edu.au) Activities completed during weekly tutorials (DAY or ONLINE DAY mode) or on campus days (INFQ mode) are essential for building the core knowledge and/or skills required to demonstrate the learning outcomes of this unit [and to meet the AITSL Graduate Teacher Standards and/or ACECQA requirements]. Attendance at all tutorials or on campus days is expected and the roll will be taken. Make up tasks may be given if attendance is missed to ensure all content is covered to meet accreditation requirements. Students are required to attend the tutorial in which they are enrolled. Any changes to tutorial enrolments must be completed officially through e-student. Please do not contact the unit convenor requesting a change.

Electronic Communication

Communication may occur via:

● Official MQ Student Email Address

● The Dialogue function on iLearn

● Other iLearn communication functions Infrequent Attendance Students Information about the dates of the on-campus sessions can be found in the university timetable. Creating your timetable - Enrolling | Macquarie University, Sydney (mq.edu.au)

● The on-campus sessions are essential to student engagement and learning and attendance is expected. Failure to attend or to have an approved Special Consideration may result in a Fail grade for the unit.

● Prior to the on-campus sessions, you should have read the prescribed readings and listened to the lectures. Summarise the main points and make a note of the key terms and definitions. Prepare any discussion questions of your own that you wish to share.

● Please make effective use of the online component of the unit and access iLearn regularly. Keep up to date with listening to the lectures on a weekly basis.

● Further specific details and any updates about times and locations will be posted on iLearn as an Announcement during first half of the semester.

Fail Rule:

This unit is a part of a professional course listed on Schedules 2 and 3 of the Academic Progression Policy. This course has additional requirements that are applicable for the full duration of the course, including course-specific inherent requirements, Fitness to Practice requirements and other compulsory course requirements. It also has rigorous academic progression standards. Inability to meet these requirements may result in a withdrawal of offer of admission and/or permanent exclusion from the course in accordance with the General Coursework Rules.

Student Support

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

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault
- Social support including information about finances, tenancy and legal issues

   • Student Advocacy provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via the Service Connect Portal, or contact Service Connect.

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.

The 5Rs Framework

The 5Rs Framework, developed by the School of Education at Macquarie University, is embedded throughout your teacher education course.

Your use of the 5Rs Framework will help you develop the capabilities that will make your teaching career sustainable and fulfilling.

In this unit, you will learn using the 5Rs framework in the following important ways:

 Resilience practised inside and outside of the classroom.

In order to be more resilient to the stresses of the teaching environment, teachers need to be aware of, and maintain, their holistic health and sense of coherence. They need the confidence and clarity of mind to manage uncertain and complex issues and unexpected events whenever they arise in their career.

Reflexive in their teaching practice.

Teaching is about understanding multiple and changing ecologies of learning. This encompasses individual students' needs, the affordances of classroom spaces, student and teacher relationships, curriculums, school culture, parental expectations, community demographics and needs and expectations of the profession, and the effects of government policy.

Responsive to students, colleagues, parents and professional communities.

Teaching is a relational profession. The best teachers make deep connections with their students, parents and communities. Most of us remember a great teacher, not because of what they taught, but because they were *inspiring*. They engaged us through the personal connections they made with us, and their recognisable care for our wellbeing and success.

Ready to learn.

When teachers graduate from university, they are far from the end of their learning journey, but rather just at the beginning. The ongoing pursuit of learning is a mark of a quality teacher. There are always new methods and ideas to try. But in practice, learning needs are not a one-size-fits-all affair. Teachers need to identify their individual learning needs within the context of their

career. Then, they can pursue that learning to the benefit of both themselves and their students.

Research engaged throughout their career.

Effective teaching practice is based on evidence. This evidence can come from their own research in the classroom and the latest academic research in learning, teaching, motivation, cognition, curriculum, technologies and spaces, to name a few. A critical understanding of data is essential, allowing it to be analysed and woven back into practice.

Unit information based on version 2024.01 of the Handbook