



NCSEHE

National Centre for Student
Equity in Higher Education



Curtin University

A GUIDE FOR EDUCATORS IN HIGHER EDUCATION

Responding to diversity for positive academic outcomes

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Make tomorrow better.

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INTRODUCTION

Although many students will make the transition to university successfully, transition can be problematic for others.

Recent government objectives aimed at increasing student enrolment from non-traditional backgrounds has led to a broadening of the university student enrolment base. The profile of the university student population has diversified, and diversification is likely to continue.

Diverse student groups may include, but are not limited to:

- Students from low socio-economic status (LSES) backgrounds
- Students from rural, regional and remote areas
- Mature age students
- Indigenous students
- Students from culturally and linguistically diverse backgrounds
- Students with disability, and
- Students who are the first in their family (first-generation) to attend university.

For many of these students, previous educational and life experiences have not prepared them for the potential challenges of university study. Even between students, there can be vast differences in levels of preparedness (McInnis et al, 1995). Although many students will make the transition to university successfully, transition can be problematic for others.

Teaching and assessment practices in many high schools can inhibit student's development of the self-regulated learning style that is expected at university. This, in addition to the demands of university teaching strategies, formal lectures, time management, note taking, study skills, and new technologies, can leave up to 20-30 per cent of students, both young and old, experiencing difficulties in their personal, social, cultural, and academic lives (Lowe & Cook, 2003; Cantwell, Scevak & Spray, 2014).

Transitional problems have, to some degree, been addressed through the introduction of an array of support programmes. Nonetheless, it remains apparent that there are aspects of adjustment to university life that remain problematic for many students.

The aim of this guide is to address the changing needs of undergraduate students, provide perspectives on pedagogy, and suggest a number of teaching strategies.



ACADEMIC EXPECTATIONS OF STUDENTS

It is expected that university graduates will have an integrated understanding of their disciplines, the knowledge and ability to critically evaluate, and be able to solve complex problems.

It is acknowledged that the expectations and demands of university study are very different from high school or TAFE. However, many beginning students bring with them conceptions of learning and study strategies that were designed to aid recall of information about a topic in order to succeed in exams. These skills do not serve them well in the university context. It is expected that university graduates will have an integrated understanding of their disciplines, the knowledge and ability to critically evaluate, and be able to solve complex problems.

In addition, students from LSES backgrounds face particular challenges in undertaking university study. Many of these students are the first in their family (referred to as First in Family (FiF) or First Generation (FG) students) to attend university. With no family members having an academic background, there is no one to provide academic support at home. The result is that FiF students are much more reliant on their lecturers and tutors, and need more detailed information, particularly regarding assignments, than do other more traditional students.

Academic Support for Diverse Student Cohorts

The increase in non-traditional student numbers has meant that traditional ways of teaching are not as effective. These students have very different and varied learning needs to those of traditional students.

It is therefore important to:

- Recognise, acknowledge and engage with diversity
- Know the students and their needs
- Develop targeted resources
- Use a variety of resources in course delivery, and
- Not make assumptions about preparedness.

Areas in which students may require support include:

- Learning support, particularly academic literacy
- Digital competencies, and
- Enhancing resilience and achievement.

Mismatch Between Student Expectations and University Expectations of Learning

University study requires students to engage in more complex and abstract thinking than was expected in other educational settings. In order to do this, students need self-regulatory skills. Many students either do not possess these skills, or the way in which they use them is influenced by their underlying beliefs about learning. These beliefs have been formed from their personal experience of learning. For example, when students are asked the question "What is learning?" their answers tend

to fall into two categories. One answer is based on the idea that learning is about increasing one's knowledge by adding bits of information, facts and procedures. This knowledge is absorbed and stored by rote learning and memorisation. This represents a quantitative view of learning, often described, as "learning is how much you know." This view of learning also implies that learning is a passive process and that all you need to do is "get the stuff in there."

Alternatively, an answer to this same question may elicit a response that learning is about ideas, and being able to understand those ideas. This view of learning represents a qualitative view of learning. Learning is "how well you know." This view suggests we relate or link new learning to previous knowledge and allows us to conceptualise a new understanding.

Quantitative and qualitative views about learning lead to very different learning goals and behaviours. Depending on which view a student possesses, they can arrive at university with misconceptions of what learning is and how best to achieve it. These views are shaped and influenced by their previous learning environments. Emphasis may have been placed on quantitative learning (facts and information), rather than qualitative learning. Qualitative learning is necessary for university study as it allows students to develop an understanding of "how to learn." Helping students to attain qualitative learning strategies can help them develop their own strategies for learning. Quantitative and qualitative conceptions of learning are associated with surface and deep learning. In a recent study, we found that males and traditional female students were more likely to be surface learners.

Surface learning is the passive acceptance of information and memorisation as isolated and unconnected facts. It results in a superficial retention of subject matter for examinations and does not promote understanding or long-term retention of information and knowledge.

In contrast, **deep learning** involves the critical analysis of new ideas, relating them to already known principles and concepts, and results in understanding and long-term retention of concepts so that they can be applied when problem solving in new contexts. Deep learning promotes understanding and lifetime application. Critical to encouraging a deep approach to learning, is to design learning opportunities that encourage students to adopt this approach.



DEVELOPING LEARNING SKILLS

What can lecturers and tutors do to support students' learning to successfully negotiate the academic expectations of university learning?

While it is well recognised that the first six weeks of a university course sets the tone for the students' engagement with their course, what is less recognised is the change in demands on the student, particularly in relation to the level of self-regulation they need and the implications this has for successful student outcomes.

Here are some ideas, strategies and tools to improve student outcomes:

Developing Students' Learning Skills

Many students do not actively engage in planning, monitoring and evaluating their learning activities, e.g. reading a chapter of a book or an article or writing an essay. One way to assist students to develop their learning regulatory skills is to give them an explicit framework to aid them in being active in their learning and model how this is used with the reading for that week or their essay assignment.

Planning

1. What is the nature of the task?
2. What is my goal?
3. What kind of information and strategies do I need?
4. How much time and resources will I need?

Monitoring

1. Do I have a clear understanding of what I am doing?
2. Does the task make sense?
3. Am I reaching my goals?
4. Do I need to make changes?

Evaluating

1. Have I reached my goal?
2. What worked?
3. What didn't work?
4. Would I do things differently next time?

Strategies to Help Students Become Successful Learners

- Opportunities for learning through active engagement
- Discussion about learning within the discipline, including tips about how the concepts can be understood
- Identifying connections and relationships to the real world to establish the relevance of the learning
- Demonstration of higher order thinking skills through the modelling of your thinking when analysing a task, or problem solving
- Study and research skills, particularly advice with annotated examples for reference
- Good relationships and interactions between staff, students and peer groups by providing opportunities for group discussions in tutorials, and
- Academic literacy skills.

Learner-Friendly Lectures

Lectures that are structured in a meaningful and interesting way, and providing explicit links with students' prior knowledge, facilitate a better understanding of the material.

Lecture Structures

- **Classical**
The lecture is divided into broad areas and then sub-divided, for example:
 - Introduction
 - Theories of intellectual development: Jean Piaget, Lev Vygotsky, and Information Processing
 - Features of each theory
 - Applications of each theory to educational teaching
 - Conclusion and summary.
- **Problem-Centred**
A problem or question is outlined and a variety of solutions are examined.
- **Sequential**
A problem or question is presented and answered by a chain of reasoning which leads to a solution or conclusion.
- **Comparative**
Two or more theories, models or perspectives are compared. Each method or perspective is outlined to provide all students with the required prior knowledge.

Learning from Lectures: Aids

The primary purpose of aids is to facilitate student understanding by improving the clarity of ideas by:

- Providing an “advance organiser” in the form of PowerPoint slides or skeletal notes or outline of the lecture prior to the lecture as well as relevant reading on the topic
- Providing the prior knowledge that is needed so that students are able to understand the lecture material, or if the material is unfamiliar, beginning with examples
- Starting with an overview of the lecture
- Outlining the structure of the lecture so that students have organisational cues to structure their note taking
- Illustrating the structure visually
- Highlighting the important points at the start of the lecture and again at the conclusion of the lecture
- Explaining the structure to the students and making explicit links between aspects of the lecture topic and where the topic fits in relation to the whole course
- Providing effective explanations help students’ understanding. Explanations include the “What, When, Where, Why and How,” the use of concrete names and labels, simple definitions using simple sentences, as well as the use of signalling and visual aids, and
- Including visual aids such as maps, graphs, matrices and diagrams to clarify understanding or to emphasise important points.

Learning from Lectures: Embedding Strategy Instruction in Lectures

“If you give a man a fish, you feed him for a day, but if you teach him how to fish, you feed him for a lifetime.”

As mentioned above, good lecturers present information effectively, so that students understand the “point” of the lecture. One way of facilitating this is by teaching students strategies of “how to learn” (being “metacognitive”). One effective approach is the “NORM” method of strategy instruction (Kiewra, 2002).

Note taking, Organising, Relating and Monitoring (NORM)

Students learn best when they are active and take notes. There is strong evidence to suggest that taking lecture notes leads to better learning outcomes than not taking notes, and higher quantities of note taking are associated

with higher achievement and vice versa. Students are often not good note takers. Evidence suggests they usually only record 20-40 per cent of the important lecture ideas. Titsworth & Kiewra (2001) showed that students receiving the brief lecture cue, “Now I’ll address the context for personal communication theory,” recorded 54 per cent of the lecture’s organisational points compared to 15 per cent for those hearing an uncued lecture on the topic.

Following the NORM procedure, then, lecturers can help students take more and better notes by:

Note Taking

- Providing lecture notes (if available)
- Providing students with a recording (e.g. Echo) of the lecture to replay so they can add to their notes
- Encouraging students to review their notes after the lecture to prompt them to reconstruct or add to their notes. Reconstruction alone increases the percentage of lecture points from 30 per cent to 50 per cent, and
- Working with a partner, which increases the percentage even higher (Kiewra, 2002).

Organising

Lecturers can help students organise their notes, for example by providing a completed matrix of notes or matrix frameworks for note taking. This assists in training students to use this matrix strategy for their own note taking by describing the strategy used, highlighting the utility of the strategy, how the strategy is used and where it can be applied. Matrices aid in building internal connections because they localise related information to facilitate the building of connections among ideas. Studying matrices notes led to higher achievement on relational test items than studying an informational equivalent text or outline following a lecture (Kauffman & Kiewra, 1999).

Relating

What students do with their lecture notes after the lecture has an influence on their learning. To facilitate learning, lecturers and tutors should encourage students to make links between ideas in the lecture material by the use of self-explanations when studying. Self-explanations are statements that learners make when trying to make sense of the material by using “why-type questions” (this strategy could be modelled in lectures and tutorials).

Monitoring

To encourage monitoring, students should use self-testing. Lecturers can facilitate self-testing by providing students with previous tests or practice tests as study devices (Pressley et al 1997).

In summary, lectures should not have the aim to only transmit content. Good lectures will model thinking in the discipline and embed the content into this thinking. Effective lecturing will encourage students to actively process lecture content by using effective note-taking strategies (such as Kiewra's (2002) NORM strategy) that focus on the meaning of the lecture rather than just the "words."

Planning Quality-Learning Experiences for Students

Planning quality-learning experiences involves selecting quality activities for learners and appropriate quality instructional methods to implement them.

Five principles of student learning to keep in mind when planning for quality learning

The research literature in instructional design (for example, Clark & Mayer, 2003, Mayer, 2005, Merrill, 2002) concludes that quality learning is facilitated when:

- Learners are engaged in finding solutions to real world problems
- Learners' prior knowledge is activated
- Teachers demonstrate what is to be learned rather than giving students information about what is to be learned. For example, they provide worked examples, pictures, animations or role modelling and guide learners by focussing their attention on relevant information or important parts of a task. This guidance should be slowly withdrawn as learners master the task
- Learners apply their newly acquired knowledge or skills to solve new problems, and
- Learners transfer or integrate their new knowledge into their everyday life through reflection, small-group discussion or demonstration.





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