

Assessment



What's Worth Learning in Higher Education?

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The following offers a frame of reference to guide your reflections on what and how you will teach. It is not intended to be a checklist but a set of guidelines from which you can construct your own discipline's specific set of learning aims to guide your design for student learning.

Setting out to achieve these learning objectives, however, is not straightforward as universities must balance what are often competing needs that require quite different teaching and assessment strategies.

Academic teachers often find themselves weighing up:

- teaching merely useful prescribed knowledge and skills against helping students develop really useful dispositions and ways of learning
- accountability to the requirements of a discipline or profession against developing independent thinking and student autonomy in establishing learning goals and needs
- safety and rigour against creativity and originality
- reproduction against transformation
- fixed content-based curriculum against student-centered curriculum.

Whitehead, in 1929 (pp. 139-140) stated his view of the mission and role of the university in teaching and learning. He said:

The university imparts information, but it imparts it imaginatively ... A university which fails in this respect has no reason for existence. This atmosphere of excitement, arising from imaginative consideration, transforms knowledge. A fact is no longer a bare fact: it is invested with all its possibilities. It is no longer a burden on the memory: it is energising as the poet of our dreams, and as the architect of our purposes.

Imagination is not to be divorced from the facts: it is a way of illuminating the facts. It works by eliciting the general principles which apply to the facts, as they exist, and then by an intellectual survey of alternative possibilities which are consistent with those principles. It enables men to construct a vision of a new world, and it preserves the zest of life by the suggestion of satisfying purposes...

Thus the proper function of a university is the imaginative acquisition of knowledge. Apart from this importance of the imagination, there is no reason why business men, and other professional men, should not pick up their facts bit by bit as they want them for particular occasions. A university is imaginative or it is nothing - at least nothing useful."

Do you believe that this a reasonable view and is it a view that hold true in the current context of the university in our society?

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Ramsden (1992) asked academics what they want their students to learn. He argues that this is a central question for teaching since all teaching methods ought to flow from particular goals for student learning. When he asked a group of newly appointed lecturers in several disciplines to describe their aims for undergraduate student learning the following were mentioned:

- taking an imaginative and creative approach to design problems (in environmental planning)
- understanding when a particular mathematical concept is needed for an engineering problem which required the integration of both mathematics and engineering (in mechanical engineering)
- being able to analyse different perspectives on the nature of renaissance art (in fine arts)
- having an appreciation of the significance of the normal in interpreting data from a patient (in medicine)
- understanding the limitations of the concept of marginal utility in real situations (in economics)
- understanding the social, political and economic context of legal decisions and developing the desire to know more about them (in law)
- analysing the variety of practices and disputes that arise in the area of industrial relations (in industrial relations)
- seeing the connections between a physiological and a pharmacological way of solving a problem (in pharmacology).

What do students learn at University?

A review of Pascarella and Terenzini (1991 in Pressely and McCormick:1995) found that some of the positive effects of college and university study included:

- increase in both general (mathematical and verbal competence) and specific subject matter knowledge
- increase in the probability that people will continue to engage in knowledge enhancing activities after graduation. More likely to read books, newspapers and magazines; be informed of public affairs and participate in continuing education
- improved oral and written skills
- improved critical thinking after graduation
- greater flexibility in thinking
- increase in Piagetian formal operational competence
- increase in intellectual self-confidence and achievement motivation.

Dahlgren (1984:33) identified that it has become clear from numerous investigations that

- many students are accomplished at complex routine skills in science, mathematics and humanities, including problem solving algorithms
- many have appropriated enormous amounts of detailed knowledge, including knowledge of subject specific terminology
- many are able to reproduce large quantities of factual information on demand
- many are able to pass examinations
- but many are *unable* to show that they understand what they have learned when asked simple yet searching questions that test their grasp of content. They continue to profess misconceptions of important concepts; their ideas of how experts in their subjects proceed and report their work are often confused; their application of knowledge to new problems is often weak; their skills in working jointly to solve problems are frequently inadequate. Conceptual changes are relatively rare, fragile and context-dependent occurrences.

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What is it POSSIBLE to learn at University?

Reflection on what might be possible for students to learn or develop as a result of engaging in a course of study in higher education might include a taxonomy of skills such as:

- **Researching:** including collecting, analysing and organising ideas and information
- **Communication:** including a capacity to express ideas and information coherently
- **Solving problems:** including problem posing, setting objectives and evaluation
- **Using mathematical ideas and techniques**
- **Self management:** planning, prioritising and organising activities
- **Working with others and in teams**
- **Using technology**
- **Personal self reflection**

What do students think about their learning?

Saljo (1979) carried out an interview study with students which led to his describing five different understandings of what learning consists of among adults (see also Van Rossum and Schenk, 1984). The students' understanding of what learning is informed their approach to studying and choice of learning strategies. When students were asked to say what they understood by learning, their replies could be classified into different categories:

- **Learning as a quantitative increase in knowledge**
Learning is acquiring information or 'knowing a lot'
- **Learning as memorising**
Learning is storing information that can be reproduced
- **Learning as acquiring facts, skills and methods that can be retained and used as necessary**
- **Learning as making sense or abstracting meaning**
Learning involves relating parts of the subject matter to each other and to the real world
- **Learning as interpreting and understanding reality in a different way**
Learning involves comprehending the world by reinterpreting knowledge.

Newman and Wehlage (1993) in their research have identified five standards or benchmarks of instruction that they argue support the development of the kinds of capacities and achievements that study at universities ought to engender:

- Higher order thinking
- Depth of knowledge
- Connectedness to the real world
- Engendering substantive conversation between students and between students and their teachers
- Social support for student achievements.

Oils ain't just Oils and Learning ain't just Learning!

Perry (1999) argues that many students, when they arrive at university, largely think in absolute terms. Things are either right or wrong and they are deemed so because an authority has declared it so. The goal of teaching is to establish conditions in which students have cause to doubt the feasibility of such 'black and white' thinking. Perry argues that it is the task of teaching to provide challenges that enable students to progress through nine levels of development.

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If you wish to read further on this the Staff Development and Training Unit Teaching and Learning Resource collection has two useful references. They are:

Nilson, L 1998, *Teaching at Its Best*, Ankar (for a brief overview of Perry's theory)
 Perry, W 1999, *Forms of Ethical and Intellectual Development in the College Years*, Jossey Bass.

A briefer synopsis of the qualities embodied in Perry's concept in levels of thinking is:

LEVELS OF THINKING		
Dual	Black and white simplicity	<ul style="list-style-type: none"> Absolute truths given by an authority figure
Multiplicity	Recognition of Uncertainty	<ul style="list-style-type: none"> Temporary condition Leads to ultimate truth from authority
Relativism	All views are valued equally with the limits of a standard.	<ul style="list-style-type: none"> No one true interpretation Reserves the principle of right and wrong
Commitment	Makes choices using standards	<ul style="list-style-type: none"> Examines the impact and implications of commitment Sees them as trade offs
Limited Commitment	Part of human growth	Making commitments and reflecting on them and modifying them in the light of experience

Florida Taxonomy

Another way to think about learning is to consider the Florida Taxonomy (Givens Fischer & Grant, 1983). In identifying the specific features of knowledge use and learning these researchers found that university teachers rarely modelled thinking that went beyond levels 1-3, in fact, they rarely go beyond level one.

1. Knowledge of Specifics

Reads; spells correctly; identifies by name; defines meaning, cites specific facts; describes events

2. Knowledge of ways and means of dealing with specifics

Recognises symbols; cites rules; gives chronological sequences; steps of process; describes methods; cites trends; names classification systems or standards and provides examples

3. Knowledge of universals and abstracts

States and names generalised concept or idea, principle, law, theory

4. Translation

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Restates in own words or briefer terms; gives concrete examples of an abstract idea; translates verbalisation into graphic form

5. Interpretation

Gives reasons; shows similarities, differences; summarises or concludes from observation of evidence; shows cause and effect relationships; gives analogy, simile, metaphor; performs a directed task or process

6. Application

Applies previous learning or principle to new situations; applies abstract knowledge in a practical situation; identifies, selects and carries out process

7. Analysis

Distinguishes fact from opinion and fact from hypothesis; distinguishes conclusion from statements which support it; points out unstated assumption; shows interaction or relation of elements; points out particulars to justify conclusion; checks hypotheses with given information; distinguishes relevant from irrelevant statements; detects error in thinking; infers purpose, point of view, thoughts, feelings; recognises bias or propaganda

8. Synthesis (Creativity)

Reorganises ideas, materials, processes; produces unique communication, divergent idea; produces a plan, proposed set of operations; designs an apparatus or structure; devises a scheme for classifying information; formulates hypotheses, intelligent guesses; makes deductions from abstract symbols, propositions; draws inductive generalization from specifics

9. Evaluation

Evaluates something from evidence.

Givens Fischer, & Grant (1983) Studies of College Teaching, Lexington Press, Lexington

Domains of Learning


[Alverno College, Milwaukee, Wisconsin](#), has taken a position that all course work is directed at a set of known ends in terms of student learning. They take no responsibility for students' levels and capacities for learning upon entering, but assume considerable responsibility for the qualities of their graduates' learning. They state that all courses must account for students' achievement of mastery in the following eight general areas:

1. effective communication skills
2. analytic capability
3. problem solving ability
4. valuing in decision making context
5. taking responsibility for the global environment
6. effective citizenship
7. aesthetic responsiveness
8. effective social interaction.

For these achievements to occur, academic units need to ask:

- What's worth learning in a university?

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- What kind of learning tasks will engender the kinds of learning we think important?
 - How can we determine if students have learnt what we wanted them to learn?
 - How can we give students feedback that will help them to be their own critics in the future?