

Marzano and Kendall

Marzano and Kendall [3] (Marzano) have given Bloom's taxonomy a bit of working over. They reframe the three Domains and instead of categorizing learning activities they describe six levels of processing knowledge.

Domains	Levels of Processing
Information Mental Procedures Psychomotor Procedures	Self System
	Meta-cognitive System
	Knowledge Utilisation (Cognitive)
	Analysis (Cognitive)
	Comprehension (Cognitive)
	Retrieval (Cognitive)

Each level of processing can operate within each of the three domains.

The first four levels of processing are cognitive, beginning with "Retrieval" the least complex, then moving upward with increasing complexity through "Comprehension", "Analysis" and "Knowledge Utilisation".

The fifth level of processing, the **Meta-cognitive System**, involves the learner's specification of learning goals, monitoring of the learner's own process, clarity and accuracy of learning. Simply put involves the learner's organization of their own learning.

The sixth level of processing, the **Self-System**, involves the learner's examination of the Importance of the learning task and their self-efficacy. It also involves the learner's emotional response to the learning task and their motivation regarding it.

Cognitive Levels

I will be dealing with the meta-cognitive and self-system levels of processing in a later blog. For now, let's return to the four cognitive levels of processing.

Retrieval (1)

Retrieval involves the recognition and recall of information and the execution of mental procedures and psychomotor procedures.

For example:

Recognition in the Information Domain may involve the student being asked to state whether a proposition is true or false.

Recall in the Information Domain may involve the student being asked to produce a statement about a piece of information.

Execution in the Mental Procedures domain might require the student to execute a procedure, such as a calculation, without significant error.

Comprehension (2)

Comprehension involves the integration and symbolization of knowledge.

Integration may involve the student being asked to identify the basic structure of an item of information, mental procedure or psychomotor procedure. Using conveyancing practice for examples:

The student must describe a relationship between the consideration stated on the transfer of land, the price stated in the sale contract, and another document at settlement.

Symbolisation may involve the student being asked to produce an accurate symbolic representation of information, mental procedure or psychomotor procedure. For example:

The student must produce a flow diagram showing the steps undertaken concerning a transfer of land document from the point of its creation to its lodgement at land registry.

Analysis (3)

Analysis involves matching and classifying activities, analysing errors, generalising from foundational knowledge and specifying logical consequences.

Matching may involve identification of material similarities and differences in information. For example:

Describe the similarities and differences between a transfer of land created for transferees taking as joint proprietors and one created for those taking as tenants in common.

Classifying involves identification of categories including subordinate and super ordinate categories. For example:

Identify and explain the category of right or restriction described on completed T2 Transfer of Land.

Analysing Errors is fairly self-explanatory. For example:

Determine and explain the plausibility of an explanation given by the other party at settlement regarding an apparent defect in the execution of a transfer of land.

Generalising involves the construction of new generalizations based on prior learning. For example:

Construct and defend general principles concerning the preparation and purpose of the transfer of land document.

Specifying involves identification of logical consequences of information or procedures. For example:

Make and defend predictions about the likely consequences if the transfer of land accepted at settlement is defective.

Knowledge Utilisation (4)

Knowledge Utilisation involves decision-making, problem-solving, experimenting and investigating.

Decision-making involves the use of information and procedures to make decisions. For example:

Using Information – the student must decide whether to accept the transfer of land document at settlement and explain why.

Using Mental Procedure – the student must decide whether to accept the transfer of land document based on her or his own analysis of other documents and information.

Problem-solving involves the use of information and procedures to solve problems. For example:

Using Information – student must solve a problem concerning the transfer of land document using her or his own knowledge and information.

Using Mental Procedure – student must orally describe the mental processes and skills another person would be required to use to prepare a transfer of land document without previous experience

Experimenting involves the use of information and procedures to produce and test hypotheses.

Investigating involves the use of information and procedures to conduct investigations.

Potential Implications

If we adopt this taxonomic approach we could achieve an improved framework for competency standards, educational objectives, curriculum design, instructional design, and design for formative and summative assessments.

Also, this approach provides practitioners with clearly defined waypoints for our own reflective practice as educators and mentors.

Educational Objectives

You may have picked this up in the examples I used from conveyancing practice above. It is important to frame the objectives for each level of processing within each domain in contemplation of education objectives.

Mager [4] identifies Global Objectives, Instructional Objectives and Educational Objectives.

Global Objectives describe the overarching goals, for example the Competency Standards for Entry Level Lawyers in Australia. In this blog I have used examples from conveyancing practice to illustrate different levels of knowledge processing.

The global objective for property law practice in the Competency Standards is:

‘An entry level lawyer should be able to convey, lease and mortgage real property. The lawyer should also be able to provide general advice on standard matters arising under legislation relating to land use in that State or Territory.’

Instructional Objectives involve performance criteria, the conditions under which the task must be performed and the criterion (or how well the learner must perform to be satisfactory).

An example of an instructional objective from the Competency Standards:

‘The lawyer has ... competently drafted an appropriate instrument of transfer or conveyance and had it executed and (if necessary) stamped and registered, according to law.’

Educational Objectives are specific subject verb object statements, for example: “The learner will be able to [verb phrase] [object], or:

The student must Identify and explain the category of right or restriction described on completed T2 Transfer of Land.

Conclusion

At the beginning of this blog I stated that ‘we as instructors and assessors should be ready, willing and able to give an account of how and why we instruct, mentor and assess as we do’.

I submit that we are able to do this in a systematic way by adopting a taxonomic approach to the way we design instruction and assess student performance in Practical Legal Training.

It does take substantial labour to implement this approach but there are many benefits, including patently clear statements of educational objectives for students, lecturers and assessors that allow for consistent assessment and grading of performance (more on grading in another blog).