

The Essence of Education

Education has seen numerous reforms, movements, initiatives, and changes in the socio-cultural beliefs associated with the value and purpose of education. In recent years, questions have been asked about the nature and structure of the content that should be included in the Australian curriculum. While there is little doubt that the content to be included in a curriculum is important, it is interesting to note that there has been little discourse around what educators (and society) truly believe is important to be understood by our children. It is of little surprise, therefore, that a discussion on what we collectively believe understanding to be, or how we demonstrate our understanding or, more practically, how we assess such understanding, has been lacking in planning our National initiatives and direction.

To add to this melting pot, education has been subject to a number of political and social influences that have seen increasing demands for transparency, increased accountabilities and greater scrutiny in a very limited number of measures. Education is, however, far from being one-dimensional, as indeed these measures would suggest. Parents who enrol their child at a particular school do so for a number of reasons and, although it seems that as a society we want a multi-dimensional development from our schools, we then focus solely on academic results. Are academic results truly the most important aspect of schooling? Why do we not want more for ourselves? Will the development of such incomplete measures of education change the nature of education in individual institutions to appease public scrutiny? What will be the long-term impact on the nature of our education?

Educators have looked to educational research to improve their practice for many years. The fact remains, however, that educational practice and assessment have rarely been considered together. As such, if assessment procedures and measures of school efficacy do not take into account the underlying purpose of education and that which seeks to develop understanding, then there will be forever a lack of both alignment and synergy of purpose.

Educational research has been aided by studies in a number of disciplines, including both psychology and neurobiology, to better understand the learning process, and to provide a greater insight into the structure, processes and applications that best support student learning. At the same time, educators have been asking questions about what is truly important for students to learn; what do they need to know; and what skills must students possess.

These questions have been heavily compounded by political agendas and external influences that demand increased standardisation, assessment, reporting, administration and comparability. These extraneous factors play a significant role in the development of the curriculum and influence pedagogy and assessment processes. Such mandated accountabilities, compliance related matters and a legal system that seems intent on *not* holding people responsible for their own behaviour, distract teachers from the most basic and fundamental of thoughts about student learning and the ultimate purpose of education.

Educators of substance would agree that the integrity of education is found in the development of genuine understanding, and not simply the achievement in a standardised assessment, and believe

that the very cornerstones of education are found in the attainment of knowledge, skills and understanding.

The questions that should dominate discourse, therefore, are centred around what knowledge, skills and understandings underpin the engagement, activities and pedagogy found within the dynamics of the classroom. Knowledge can be assumed when a student is able to reproduce or state the information required. This is exemplified when a student can recall the location of a Capital city, the name of a famous historian, or a line in a poem. Skills are those routine performances that can be performed when required. This is evidenced when a student can re-arrange an algebraic equation, write with good grammar, or can demonstrate the appropriate technique in using a lathe. In short, knowledge and skills are readily easy to define, specify, develop and assess, but understanding is more complex. Understanding is not the simple recall of facts and, as such, it cannot be reduced to simply knowledge or alternatively expressed, routine performance. In a similar vein, understanding cannot be reduced to the replication of a known, automatised skill and is, therefore, not a skill.

Understanding: a flexible performance capability

David Perkins defines understanding as the “ability to think and act flexibly with what one knows”. In this context, Perkins describes understanding as a “flexible performance capability”. This definition places pedagogical content knowledge and the attainment of skills as a crucial backdrop to learning, but these are a far cry from understanding. As stated by Perkins¹:

“Understanding shows its face when people think and act flexibly around what they know. In contrast, when a learner cannot go beyond rote and routine thought and action, this signals a lack of understanding.”

This viewpoint represents a significant displacement from the generally agreed societal and, broadly speaking, educational view of understanding. Conventional representations of knowledge are based upon the processing and acquisition of models, representations or images, as opposed to the more contemporary view that sees understanding as a performance capability.

This subtle, but significant distinction, can be seen when students are able to act and think flexibly around what they know, as opposed to being constrained by rote and routine automation of knowledge. It is one’s ability to explain, justify, extrapolate, relate, interpret, and apply learning that is the flexible performance capability that demonstrates the understanding.

This contemporary view of education, its purpose and the associated design of learning activities, pedagogy, assessment structures and philosophy is in stark contrast to conventional perspectives and that which was experienced by the parents of many students currently in schooling.

It must be noted that genuine understanding, when considered as a performance, can only occur upon the development of sound knowledge and skills. As such, although understanding as a performance capability is in no doubt a shift in the minds of many educators and learners of all ages, it does not undermine the need to develop knowledge and skills.

To complicate the discussion further, performances of understanding may be given at various levels, thereby providing a dimensional analysis to the concept of understanding itself. This statement suggests and explains why learners may understand concepts at varying levels of complexity and depth. This concept is not new to educators, and has long been held within former definitions and theories of learning.

The distinction between a routine performance (knowledge) and understanding performances is not always absolute. In general, the nature of a performance that is indicative of genuine understanding may indeed vary with the context. In addition, there may be multiple performances of understanding appropriate to a particular context, and a student may be able to demonstrate some and not others.

These challenges should not deter from the proposition of understanding, but rather only highlight the subtlety and various distinctions found within genuine understanding.

The Ability to Understand – a Performance Capability

The ability to understand something is correspondingly a more complex attribute than mere recall and skill rehearsal.

The learning process according to some theorists requires knowledge and skill acquisition, reflection, the construction of mental models or schemas and the application of these relationships, models, knowledge and skills. This relationship with the formulation of mental models or schemas is not new and is well-founded in the work of Piaget. Unlike these theorists, the *Teaching for Understanding* framework has a central tenant that understanding does not arise from the development of these models but rather as a performance capability, which may/may not be supported by such models. There is no doubt that some students benefit from the internalisation of conceptual models however students with sufficiently high background knowledge do not need such models for their learning. This may, of course, be because they have themselves created their own mental models, schemas and representations.

Perkins² further states that:

“The representational view explains understanding in a fundamentally different way [to understanding performances]. Understanding lies in the possession of the right mental structure or representation. Performances are part of the picture but simply in consequence of having the right representation. A flexible performance capability is a symptom. It does not constitute the understanding, but signals possession of the appropriate representation. In contrast the performance view of understanding is best seen as lying in the performance capability itself, which depending on the case may or may not be supported partially by representations.”

The ongoing distinction in this discourse is not merely academic, but rather essential to place understanding at the centre of all that is done within the classroom. Further, the language surrounding and utilised within the discourse is essential to frame the position of the learner within the learning process. Such remarks as “I understand” or ‘I get it’ represent the perception of the learner and a viewpoint that understanding has been acquired.

For some theorists and educators, understanding is the possession of a mental model. If this were true, how would one demonstrate such understanding? Does simple replication of the model imply or demonstrate understanding? Can a model not be retained without genuine understanding of it? A mental model is simply not sufficient to imply understanding, as the model is of limited value on its own. The use of a model through interrogation, manipulation, or application is indeed the performance capability. Further, it could also be argued that we do not possess a mental model for everything we understand and, if indeed true, this weakens the case of understanding being dependent upon mental models.

In summary, an argument that understanding is achieved solely via the development of representational views is inadequate. Simply put, not all understandings require mental models, and for those complex learnings which benefit from representations or mental models, knowledge of the model itself does not lead to a flexible performance (and application) that defines understanding. This should not be read to dismiss the importance of various representations and mental models in assisting in the development of understanding.

Understanding as a performance capability favours practice and refinement and, by its very nature, incremental learning. This view clearly defines learning in constructivist terms, and provides for an essential distinction and qualifies the role of the teacher as that of a facilitator and guide, who designs and develops performance opportunities that extend and promote the learner's performance capability and, hence, understanding.

David Perkins³ notes that when performance is placed at the centre of classroom purpose and discourse, the following principles define the enterprise of the learner:

1. *Learning for understanding occurs principally through reflective engagement in approachable, but challenging, understanding performances;*
2. *New understanding performances are built on previous understandings and new information provided by the instructional setting;*
3. *Learning a body of knowledge and know-how for understanding typically requires a chain of understanding performances of increasing challenge and variety;*
4. *Learning for understanding often involves a conflict with older repertoires of understanding performances and then associated ideas and images.*

These performances of understanding should not occur at the conclusion of an area of study, but rather from the very beginning of the course and in a progressively more complex and challenging form.

The *Teaching for Understanding* framework addresses the implications of this conceptual model through to the development of a pedagogy of understanding. The framework addresses the following four questions:

1. *What topics are worth understanding?*
2. *What about these topics needs to be understood?*
3. *How can we foster understanding?*
4. *How can we tell what students understand?*

The framework is composed of four elements, each of which is designed to engage with each of the aforementioned questions.

The elements of the Framework are as follows:

1. *Generative Topics;*
2. *Understanding Goals;*
3. *Performances of Understandings; and*
4. *Ongoing Assessment.*

These elements when considered in depth:

1. Assist in determining or identify contextual themes for study;
2. Assist in the organisation of curricular;
3. Clearly articulate what learners need to know through the formation of goals on key understandings;
4. Engage students and provide opportunities for a range of organic and challenging performances of understanding that enable students to, not simply recall acquired knowledge, but rather to apply, critically analyse, extend and synthesise what they know and understand; and
5. Assist in monitoring the learner's progress through on-going assessment and feedback against the understanding goals.

Good teachers utilise various components of this framework, and the incorporated elements to varying degrees within their Teaching and Learning programmes. Although the use of any one elemental feature is likely to enhance learning engagement, there is a subtle change to the learning paradigm when all four elements are applied as intended.

The subtle difference lies in the fact that, under the guide of the framework, the Teaching and Learning paradigm is more organic in that it stimulates greater interest in the content under study, leads to a different discourse in the conversation of learning, and demands a more dynamic approach to the planning, development and implementation of assessment instruments. Notwithstanding these subtle changes, the framework demands a profound shift in the teacher-student learning paradigm.

A.B. Paterson College was one of the first schools in Australia to introduce the research-based learning pedagogy and has continued to evolve and develop this framework over many years. In recent years, this framework has been further enhanced by the explicit and direct instruction of the 21st Century learning skills, such as:

- Learning Skills: Critical Thinking, Creative Thinking, Collaboration, and Communication;
- Literacy Skills: Information Literacy, Media Literacy, and Technology Literacy; and
- Life Skills: Flexibility, Initiative, Social Skills, Productivity and Leadership

These skills have not only been identified as essential attributes needed by employers in the future, but also represent essential skills that aid learners in both knowledge acquisition and the demonstration of understanding. In addition to these, we believe that young people need a strong sense of self, an awareness of the needs of others, global and civic responsibility, and an underlying heart and compassion for the world and all peoples.

The *Teaching for Understanding* framework provides a wonderful structure for students to explore and develop an in-depth understanding of the world, and a common language by which they can demonstrate their understanding through a variety of vehicles and opportunities. Through this research-based pedagogy and our commitment to educate the heart, hand and head, we provide our students with a leading opportunity to not only acquire knowledge and skills but, above all, develop the flexible performance capability that is understanding.

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¹Teaching for Understanding – Linking Research with Practice (p.42)

²Teaching for Understanding – Linking Research with Practice (p.46)

³Teaching for Understanding – Linking Research with Practice (p.52-53)