Curriculum organisation for a learning society: The Key Abilities Model and four curricular forms

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Abstract

Current curricular forms reward with good grades those students who assume an orientation towards merely reproducing the meaning of learning materials. Such curricula will not produce a learning society.

The Key Abilities Model provides guidelines for curriculum programming, assessment and reporting, learning and teaching, and school organisation, to create rich and flexible learning environments. Within the Model, six Key Abilities are identified as constituting the widely valued overall aims of school education (Multi-Literacies; Problem Solving; Creativity; Community Participation; Self Management; and Knowledge of Self, Others & the Environment). To develop such abilities, the Model identifies the need for explicit provision for Four Curricular Forms, and their associated pedagogies: Focused Learning, Transdisciplinary Investigations, Community Development, and Problem-Based Learning.

Paper

There is growing consensus that education must extend its traditional goal of student mastery of subject-centred scholastic knowledge, to include the development of individuals who can prosper in complex and changing social, cultural and economic worlds. The ‘inner intent’ of reform efforts being made and advocated widely, could be characterised by these key principles: (1) emphasis on exit outcomes (prospering in the real world); (2) active learning for intellectual quality (constructivism); (3) personal responsibility for own learning and behaviour (genuine engagement); (4) individually meaningful and relevant (not one-size-for-all); (5) real-life purposes and context-driven (integrated curriculum); (6) links with community for mutual capacity building (productive partnerships in a learning community); and (7) extension of pedagogical repertoires (teachers moving from ‘sage on the stage’ to ‘guide on the side’). However, teachers, schools and systems are having great difficulty resolving some of the contradictions between these principles and practices on the one hand, and pressures of accountability and traditional school culture on the other.

Thompson and Zeuli (1999, pp. 345-6), for example, observe that perhaps the most striking thing about teachers’ efforts to learn and put into practice current reform ideas is that ‘it is possible – indeed, fairly common – to get a great deal right and still miss the point… of the reforms’. After all, the effort to change teachers’ mindsets and practices takes place within a set of cultural, structural and accountability constraints that often remain largely unchanged. The most crucial value determining the quality of
relationships and the nature of learning environments (including policy environments) is
the way in which power operates in them. Foucault (1977, p. 14) explained that, ‘The
problem is not one of changing people’s “consciousness” or what’s in their heads; but the
political, economic, institutional regime of the production of truth’.

It should not surprise us, then, that the history of curriculum change is a history of
little change (Glatthorn & Jailall 2000, p. 97), or, as Woodrow Wilson put it so nicely, ‘It
is easier to change the location of a cemetery, than to change the school curriculum’
(quoted in Bailey, 2001). Attempts at curriculum reform that fail to make it possible for
power to operate in fundamentally different ways in learning environments will fall
victim to the inertia of the traditional, industrial age educational paradigm.

How are patterns of power currently determining the student’s experience of
schooling, and constructing the student’s image of self, others, and the world? We know
that many of the most potent messages students receive are not communicated through
the explicit curriculum and its content. Rather, the messages are part of the hidden
curriculum. They are part of the form that curriculum takes. Curricular form determines
what students can and cannot experience, and the ways in which they can and cannot act,
and in the words of Aristotle, ‘It makes no small difference whether we form habits of
one kind or another from our very youth; it makes a very great difference, or rather all the
difference’ (quoted in Hunt, 1990, p. 121).

One example concerns the widely observed crisis of middle schooling. Research
confirms the common observation that students, especially from ages 10-15 years, are
‘switching off’ (Barrett, 1999, p. 6). Among the needs of young adolescents, identified in
nationally developed statements, are: ‘Purpose. Having opportunities to negotiate
learning that is useful now, as well as in the future. Empowerment. Viewing the world
critically and acting independently, co-operatively, and responsibly’ (Barrett, 1999, p. 8).
One of the guiding principles of middle schooling in Australia is that it should be
‘Learner-centred. Coherent curriculum is focused on the identified needs, interests, and
concerns of students, and with an emphasis on self-directed and constructed learning’
Barrett, 1999, p. 9).

However, younger children share such needs. The eminent child psychologist,
Erik Erikson, made clear several decades ago that if children from ages 3 to 6 are allowed
the freedom to select meaningful activities, they tend to develop a positive outlook
characterized by the ability to initiate and follow through. If not, they withdraw from
taking an active stance and permit others to make decisions for them (Erikson, as cited in
Corey, 1996, p. 104-5). The central task of middle childhood, ages 6 to 12, is to achieve a
sense of industry:

A sense of industry is associated with creating goals that are personally
meaningful and achieving them. If this is not done... some of the following
problems originate during middle childhood... a negative self-concept; feelings of
inadequacy relating to learning; feelings of inferiority in establishing social
relationships; conflicts over values; a confused sex-role identity; unwillingness to
face new challenges; a lack of initiative; dependency. (Corey, 1996, p. 105)
More explicit consequences of this learned dependence and experience of alienation (Sheehan, Marshall, Cahill, Rowling, & Holdsworth., 2000) are becoming ever more prevalent: high drop-out rates, increasing levels of youth depression and suicide, drug abuse, anti-social behaviour, poverty, welfare dependence and homelessness. Many of the problems manifesting so dramatically in the late primary and early secondary years and beyond, clearly have their origin in the curricular forms students traditionally experience, and do not experience, from the beginning of schooling.

A second example is provided by research on literacy learning. One of the main causes of limited literacy development involves the kinds of literacy demands and practices students experience, and the relevance students see in literacy for their own lives (Cairney, 1987, 1988). Green (1998) reports on a comparative study of the literacy demands in upper primary and lower secondary schools. The study found that in the final year of primary school, 45% of writing involved non-fictional genres, 45% fictional, and 10% other types (listing and labelling). In the first year of high school, in subject English only 12% of writing involved non-fictional genres, 16% fictional, and 71% other types (copying, Q&A activities, filling in the gap, and listing). 53% involved predominantly literal Q&A activities. Similar proportions were observed in subject History. In Science, Green noted that between 50% and 69% of all 'writing' was copying. Green (1998, p. 127) found a very similar pattern in reading activities. Most primary schools have a long way to go in terms of providing students with opportunities to construct understandings as they actively use and analyse texts in real contexts and for genuine personal and social purposes. High schools clearly reflect an even stronger alignment with the traditional, dis-empowering and alienating curricular form characterised by control and a transmission model of learning.

A final example of how patterns of power embodied in curricular forms influence student constructions of self, others and the world is provided by a recent study of the interrelationship between thinking styles and learning. The study showed that those students who achieve highest academically (that is, in technical or scholastic knowledge) are actually those who prefer to work individually, who show adherence to existing rules and procedures, and who do not enjoy creating, formulating and planning for problem solution (Cano-Garcia & Hughes, 2000, p. 413, emphasis added). However, it is highly significant that the researchers confirm that,

As outlined by many educational researchers in the UK, Sweden and Australia, it is untenable to think that students possess inherent, invariant learning styles, or that learning is a decontextualised process... [Our current curricular forms] reward with good grades those students who assume an orientation towards merely reproducing the meaning of learning materials' (Cano-Garcia & Hughes, 2000, p. 424-5).

This study confirms Eisner’s (1991) view, shared by many, that evaluation practices, including the various forms of inspection, testing, assessment and reporting, are the most powerful forces influencing the priorities and culture of schools, the hidden curriculum.
More than what educators say, more than what they write in curriculum guides, evaluation practices tell both students and teachers what counts. How these practices are employed, what they address and what they neglect, and the form in which they occur speak forcefully to students about what adults believe is important. (Eisner, 1991, p. 81)

Clearly, if we hope to achieve a learning society of innovative, creative, collaborative problem solvers, then progressing more students to complete Year 12 will not be enough. It is essential that we change the dominance of the traditional curricular form.

It is possible to create learning environments and communities in which power operates in more productive ways than in the traditional culture of schools. ‘There is another dimension, or form, or experience of power that is distinctly different from pervasive conceptions’ (Kreisberg, 1992, p. 61), where power is conceived as capacity rather than domination. In my work, study and research in recent years, I have been looking for practical ways of dealing with the apparent polarities of control and empowerment, of accountability and constructivism, of part and whole, of specific mandated outcomes and knowledge that is relevant and useable in the student’s world beyond school. Several schools have begun a process of school reform based on some of the models and resources I have developed. I believe other schools and systems may find them useful.

The Key Abilities Model

The Key Abilities Model (Seaton, 2001a) provides guidelines for curriculum programming, assessment and reporting, learning and teaching, and school organisation, to create rich learning environments which closely reflect the known principles of effective learning and teaching, and promote meaningful and engaged learning connected to the world. The Model assists with addressing officially mandated learning outcomes, while supporting and tracking the development of six transformational or exit outcomes, six Key Abilities needed to prosper in complex and changing social, cultural, and economic worlds. The six Key Abilities are: multi-literacies; problem solving; creativity; community participation; self management; and knowledge of self, others and the environment.

The Model identifies a Spectrum of Key Activities - genres and procedures which are associated with traditional disciplines and subjects, and which are general enough that they might be employed in a wide variety of both directed and negotiated activities. Along with officially required curriculum outcomes, these Key Activities may constitute the elements of a school curriculum program, and the easily assessable indicators of the Key Abilities.

The Key Abilities Model provides a coherent structure for assessing and reporting students’ learning and performance through the years of compulsory schooling. As Resnick and Resnick (1989) recognise, you get what you assess, and you do not get what you do not assess. Accordingly, in addition to the tracking of student performance on the required outcomes, the Key Abilities Model enables schools to map or profile each student’s demonstration of the Key Abilities along a developmental continuum, with
performance level statements for each of six levels. To provide more detailed information about the learning activities students have been engaged in, the Model enables identification and reporting of performance levels for the Spectrum of Key Activities. Learning and assessment of many of the Key Activities are supported by the use of rubrics. These rubrics not only identify the criteria of performance for particular Key Activities, but also describe the quality of the elements of performance for each criterion, along a developmental continuum.

**Four Curricular Forms**

Teachers and schools are challenged to ask themselves, how can we reconcile the principles of the reform agenda with the constraints of formal systemic curriculum and assessment policies, and our traditional modes of instruction and interaction? We must bear in mind that, ‘Those who want to influence the learning of others should try to create as much correspondence as possible between institutional goals and learners’ goals’ (ASCD, 1999, f. 7, a. 1, p. 8). When all epistemological authority remains with teachers, or with curriculum policy makers, who decide what is worth knowing and doing, two of the most intractable educational problems remain - lack of student engagement and superficiality of learning, along with the myriad associated personal and social problems which flow from them.

The use of different ‘curriculum organisers’ being explored in some locations to describe alternative ways of ‘slicing up’ or combining the content of the curriculum ‘pie’, fails to significantly change the messages communicated by the basically unchanged form of curriculum. The New Basics Framework currently being trialled in some Queensland state schools, for example, while attempting a bold move away from the atomisation of curriculum to a set of mandatory Rich Tasks, explicitly asserts that, …there is no sense of having students negotiate the curriculum... Our challenge is not to gratify the immediate needs of the students, but to question the purpose of our curriculum choices, …it is important that the New Basics Framework does not translate into a Progressivist educational agenda. (New Basics Branch, 2000, pp. 4-5)

I believe a more satisfactory solution is to make explicit provision for Four Curricular Forms, and their associated pedagogies: Focused Learning; Transdisciplinary Investigations; Community Development; and Problem-Based Learning.

The distinctions between these Four Curricular Forms are more strategic, or pedagogical, than fundamental, and each overlaps and complements the others. However, each of the Four Curricular Forms has a particular significance.

1. **Focused Learning**: Focused learning and teaching relating to particular mandated learning outcomes and Key Activities that cannot practically be learned and mastered solely in complex, transdisciplinary or real-life contexts.

2. **Transdisciplinary Investigations**: Complex, active-learning units, each incorporating a variety of particular mandated learning outcomes and Key Activities from several key learning areas, which individuals and/or groups would undertake according to readiness, at the discretion of the teacher.
3. **Community Development**: Real-life, on-going, multi-participant projects with consequential, public outcomes, which would provide contexts for a wide variety of identified Key Activities.

4. **Problem-Based Learning (PBL)**: Largely student-directed, purpose- and problem-based learning activities, in which the topic and the Key Activities to be incorporated in the activity are negotiated for individuals and/or groups.

These Four Curricular Forms broadly correspond to the four levels of knowledge that brain research tells us about:

- **Surface Knowledge**: the product of rote learning
- **Technical or Scholastic Knowledge**: ideas, principles and procedures that are traditionally regarded as the core content of any subject or discipline, but which lacks a quality that makes it available for solving real problems or for dealing with complex situations
- **Felt Meaning**: 'an almost visceral sense of relationship, an unarticulated sense of connectedness that ultimately culminates in insight', an 'aha!
- **Deep Meanings**: 'the fundamental purposes and values that make life itself worthwhile' and 'ultimately, the forces that drive the selection and interpretation of life experience'. (ASCD, 1999, f. 5, a. 1, pp. 10-13)

There are also significant parallels between the Four Curricular Forms and Luke and Freebody’s (1997) ‘four resources framework’, which breaks the repertoire of literacy practices students must master into four broad roles: code breaker; meaning maker; text user; and text analyst. The Key Abilities Model and the Four Curricular Forms provide coherent and practical guidelines for extending broadly across school and curriculum organisation these principles of learning, pedagogy and curriculum identified by brain research and reflected in the ‘four resources framework’ for literacy learning.

**Focused Learning**

Focused Learning activities cover mainly code breaking type learning, and some specific mandated learning outcomes and Key Activities which are difficult to learn and master solely in context. Focus areas might include aspects of literacy, mathematics, numeracy, foreign languages, fine arts, information and communication technology, sport and physical education. Focused Learning activities might be allocated in the order of 30% of curriculum time.

**Transdisciplinary Investigations**

As education authorities in Australia mandate outcomes based education, schools grapple with the challenge of planning for, and assessing, a substantial number of pre-determined outcomes at a variety of performance levels. Despite the obvious contradictions between mandated, pre-determined outcomes and explorative, open-ended and personalised learning, a constructivist or student centred approach to pedagogy is often rhetorically advocated within these curriculum policies. Nevertheless, many schools are adopting a ‘traditional’ approach to outcomes based education as they scramble to address many specific outcomes from eight key learning areas.
Moreover, at any age level there are likely to be students at different performance levels, who, accordingly, should be working on different outcomes. The challenge for schools is to write a curriculum program which includes all required learning outcomes, but which has enough flexibility that different students within one age level can cover different outcomes from appropriate performance levels. The school curriculum program ought not, therefore, assign particular outcomes or performance levels to particular Year Levels. In consistency with the philosophy of outcomes based education, the school cannot have a one-size-fits-all, pre-planned, time-based curriculum program. And yet, this is what is happening in many locations.

An alternative approach is to write the mandated learning outcomes into the school curriculum program as ‘collections’ of outcomes, from which selections are made for groups and/or individuals on an ‘as needs’ basis. Students must be able to weave a pathway through the required learning outcomes on the basis of their individual profile of performance. Accordingly, Transdisciplinary Investigations are complex, active-learning tasks or units, specifically designed to incorporate a variety of particular mandated learning outcomes from a variety of key learning areas. Individuals and/or groups undertake the Modules selectively and largely at the discretion of the teacher, according to readiness.

The Transdisciplinary Investigations not only help to make the large number of mandated outcomes manageable, but also to confine them, so they do not overrun the entire curriculum program. Though they are, by definition, teacher-planned and closed-ended, where possible these Modules are constructed in such a way as to lend themselves to high levels of student self management with teacher support, rather than high levels of teacher-directedness and control. Transdisciplinary Investigations might constitute about 40% of curriculum time. This will depend on the number of specific outcomes mandated by education authorities.

These first two Curricular Forms serve to address the particulars and satisfy the accountabilities. They emphasise the development of mandatory learning outcomes. They are not significantly different from the traditional form of curriculum, except in the extent to which the Transdisciplinary Investigations integrate traditionally separate slices of the curriculum pie (key learning areas), providing a richer context for learning and performance of specific outcomes, and in the level of student self management possible within the structured tasks. The third and fourth Curricular Forms may provide further contexts for development and performance of specific outcomes, but most importantly provide substantial scope for development of the six Key Abilities and related capacities.

Community Development

The distinction drawn by Marshall (1992) between work-oriented and learning-oriented classrooms reflects the constructivist perspective. Teachers in work-oriented classrooms concern themselves with transmission of information, and student mastery of specific, pre-determined learning outcomes, whereas those in learner-oriented classrooms facilitate the active construction of knowledge through an emphasis on problem-solving
and open-ended activities that connect with student values, interests, purposes and life worlds.

Savery and Duffy (1995, p. 33) suggest that one of the vital principles in the social constructivist perspective is the ‘social’ part, that is, the characteristics of the learning environment, the context of learning.

Rather than simplifying the environment for the learner, we seek to support the learner working in the complex environment. This is consistent with both cognitive apprenticeship (Collins, Brown, & Newman 1989) and cognitive flexibility theory (Spiro et al. 1992) and reflects the importance of context in determining the understanding we have of any particular concept or principle. The importance of such ‘complex environments’ for literacy learning is also widely recognised. Lankshear (2001), for example, outlines how engaging in ‘outside school Discourses’ in such ‘organic contexts’ is an important component of any attempt to realise in substance the purposes espoused for Australia’s National Literacy Plan.

Community Development activities, then, are real-life, on-going, multi-participant projects with consequential, public outcomes. Students, parents and members of the wider community, in addition to school personnel, play a major role in the selection, establishment, and on-going management of these activities. In this way, the learning community contributes in tangible ways to community capacity building, ensuring the most learning for all, the most relevant learning, and the highest levels of student and community ownership. Community Development activities provide contexts for a wide variety of identified Key Activities from various key learning areas. They might constitute about 15% of curriculum time.

There are many possibilities for Community Development activities, using resources of the school, the local community, and the world community. A few examples are:

- Learnscape - design, construction and maintenance of one or more of a wide variety of environmental enhancements or developments within or near the school grounds, such as a permaculture garden, bush regeneration, outdoor ‘classroom’, amphitheatre, bush food garden, organic market garden, or maze
- Small commercial enterprises, such as a commercial community newspaper, school shop or aquaculture farm
- Recycling and other environmental management programs
- Building construction
- Service learning projects, such as adopt-a-grandparent

In the complex and real life contexts of Community Development activities, appropriate uses of technology become diverse. They include, but are not limited to, use of technology as a research tool as a knowledge builder (with the construction and use of databases and spreadsheets, for example), and as a medium to support communication, collaboration and networking (with email, and the construction and use of websites, for example).
Problem-Based Learning

Dewey recognised that purposeful engagement in a course of action, or having an aim, signifies that an activity has become intelligent. A true aim is thus opposed at every point to an aim which is imposed upon a process from without. The latter is fixed and rigid; it is not a stimulus to intelligence in the given situation, but is an externally dictated order to do such and such things... In education, the currency of these externally imposed aims is responsible for the emphasis upon the notion of preparation for a remote future and for rendering the work of both teacher and pupil mechanical and slavish. (Dewey, 1916, Chapter 8)

Xiaodong and his team at Vanderbilt University attempt to identify the implications of the principles of constructivism for how we design and manage curriculum. They conclude that we must provide students opportunities to: (1) plan, organize, monitor, and revise their own research and problem solving; (2) work collaboratively and take advantage of distributed expertise from the community to allow diversity, creativity, and flexibility in learning; (3) learn self-selected topics and identify their own issues that are related to the problem-based anchors and then identify relevant resources; (4) use various technologies to build their own knowledge rather than using the technologies as "knowledge tellers"; and (5) make students' thinking visible so that they can revise their own thoughts, assumptions, and arguments (Xiaodong et al., 1995, p. 59). This sort of open-ended learning activity clearly represents a curricular form significantly different from the traditional one, and unless room is made explicitly in school organisation and curriculum programming, it will occur in very spasmodic and constrained forms, if at all.

Problem-Based Learning, then, involves students in choosing, defining and exploring a real-world problem or purpose, and in developing, evaluating, explaining, and where possible pursuing, a solution, position or course of action in relation to that problem or purpose. The topic and the Key Activities to be incorporated in the activity are negotiated for individuals and/or groups. Problem-Based Learning might constitute about 15% of curriculum time.

With Problem-Based Learning it becomes appropriate and beneficial to use technology as a ‘door’ to the real world, breaking down the traditional isolation of the classroom, opening up information, presentation, and communication avenues, and empowering learners in their pursuit of ‘real-life’ aims they see as meaningful and purposeful. The KidSolutions website (Seaton, 2001b) provides a set of guidelines and resources for Problem-Based Learning, which many teachers and students have found useful.

The third and fourth Curricular Forms provide better opportunities for contextualised and self-directed learning. Learners are engaged, because the task is meaningful to them and they have a higher level of self-direction. Learning takes place out of a need to know (‘just in time’, rather than ‘just in case’), students construct knowledge rather than absorbing it, learning occurs in a real-world context, and has value.
beyond the school. In solving problems, pursuing their purposes, and contributing to real-life projects with consequential public outcomes, students develop multiliteracies, skills of higher order thinking, creativity, enterprise, independent learning and collaboration, and achieve deeper learning. Through these two Curricular Forms, students learn to ‘know their way around’, which includes:

...having a sense of orientation, recognizing problems and opportunities, perceiving how things work together, possessing a feel for the texture and structure of the domain. It encompasses not just explicit but tacit knowledge, not just focal awareness but peripheral awareness, not just a sense of what’s there but what’s interesting and valuable… Better than knowing that, knowing how, or like names for knowledge, knowing your way around resonates with the notion of a learning environment. (Perkins, 1996, p. vi)

In short, students develop the six Key Abilities, and related capacities and attributes required for prospering in the world beyond school.

There are a variety of ways in which a school curriculum program might allocate time to each of these Forms. The Key Abilities Model identifies some of the possibilities, along with some of the issues and options relating to student grouping and sub-school structures, timetabling, and high school administrative structures. Whichever organisational methods schools adopt, the important thing is that each of the Four Curricular Forms receives explicit recognition as a vital part of the school curriculum program.

The Key Abilities Model does not rely solely on changing teachers’ mindsets to bring about new and much needed educational outcomes. Nor does it rely on the complete dismantling of the traditional curricular form. However, if we hope to achieve a learning society, a healthy, productive and sustainable society of innovative, creative, problem solvers, it is essential that we change the dominance of the traditional curricular form. This Model embeds important new political, cultural and institutional dimensions in the experience of schooling by highlighting and assessing our most valued outcomes, and by making room for additional curricular forms and their associated pedagogies.

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