

INSIDE THE CLASSROOM DOOR: PERSPECTIVES ON CURRICULUM, TEACHING AND LEARNING¹

CLIVE McGEE

*Waikato Institute for Research in Learning and Curriculum
University of Waikato*

ABSTRACT *This paper is in two parts. First, I will survey some of the major international curriculum scholarship and influences upon New Zealand school curriculum. Second, having provided this broad survey, I will move closer to the classroom to consider contemporary developments in research on learning and teaching, which needs to be considered alongside recent curriculum scholarship, and which may open the way for future research activity. Within the constraints of this paper I can touch on just a little of this vast field.*

CURRICULUM ORIGINS

The study of curriculum is an academic field of growing importance. It is a field of inquiry that has gradually become more systematic in studying an issue that has interested citizens over the course of history: how can we best provide necessary educational experiences for the children of each generation so that they may become effective adults? Throughout most of the history of probably every culture and nation this central question has been largely answered by the development of informal educational arrangements. Families taught their children to do those things that would enable successive generations to survive; and taught them a collection of beliefs and understandings about their particular part of the world and their place in it. As societies developed increasingly complex systems and institutions, so did the need grow for specialised training and education. Over time formal schooling arrangements for elites extended to cater for an increasing number of children. Even so, universal schooling for all children has not yet been achieved in all countries.

To be truly comprehensive in surveying curriculum history, attention would need to be given to the great cultural realms of the world: Western, Eastern, African, Latin American, and so on. But in New Zealand the dominant international influences on school curriculum for over a century have come from Europe and North America. Influences from our own country and the Pacific region have only gradually strengthened in recent years, especially with changing views about the importance of indigenous Māori knowledge and the influx of immigrants from Pacific nations who brought their own views about what their children should learn.

Curriculum development in the western world has a very long history, even if for most of that history formal schooling was restricted to a few. From earlier civilisations, and especially the Greeks and Romans, we know that curriculum decisions were a matter of contestation as different political and philosophical viewpoints competed for ascendancy, or at least some sort of influence.

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Greece and Rome had various advocates of what attributes the good citizen should possess. Athenians advocated a sound mind and body based upon principles of balance and moderation. Leisure was a serious matter and included music, drama, art, poetry and athletics. Numerous Greek philosophers advocated particular goals for education: Aristippus, pleasure; Epicurus, moderation and simplicity; and Zeno, self-denial. The views of Socrates, Plato and Aristotle have been enormously influential over the centuries: the Socratic method of questioning and intellectual inquiry; Plato's liberal education outlined in his *Republic* and *Laws*, including music, mathematics and gymnastics (more broadly conceived than today); and Aristotle's elaboration of a liberal education in *The Politics* to include, for example, philosophy, politics, ethics, sciences and moral education. Rome was heavily influenced by Greek ideas, adapted to suit their practical, organisational and engineering strengths (shared earlier by Egyptians). Cicero, Plutarch and Quintilian were major educators who advocated ideas that have relevance today: Cicero's oratory and rhetoric linked to life experience; Plutarch's views on the educated gentleman which were a powerful influence in the later Renaissance; and Quintilian's views that inspiring teachers who exposed their students to varied, interesting curriculum had no need for overly-strict student discipline.

Today, the New Zealand curriculum still carries the impact of the seven liberal arts from the Graeco-Roman world: the *trivium* of grammar, rhetoric and logic (or dialectic), and the *quadrivium* of arithmetic, geometry, astronomy, and music. The triuivium was set in the daily civic life of the Greeks, but was useful, too, for the development of mind and the seeking of truth. Mathematics in the quadrivium was seen by Plato as a tool for the sharpening of the mind.

In the Middle Ages, the educational curriculum in the western world was dominated by Christianity, yet the curriculum was problematic, involving contestation over differing interpretations of Christianity, and tensions between Christian, pagan and secular views. For example, in the thirteenth century an Italian friar, St Thomas Aquinas, worked to unify Catholicism and Aristotelian philosophy and develop methods of teaching based upon engaging students in argument and interpretation. Yet on the whole religion held the high ground.

The European Renaissance saw renewed emphasis upon the humanistic content and pedagogy of Greece and Rome: classical literature in Latin and Greek. Great teachers like Vittorino de Feltre (Italy), Aenea Sylvio (Italy), Erasmus (Holland), Thomas Elyot (England) and Michel de Montaigne (France) advocated and practised various teaching methods and forms of curriculum content that have carried their influence forward to this day. For example, Montaigne promoted the involvement of students in observation, direct experience and interaction with the real world. Erasmus emphasised the need for teachers to understand the individual needs and interests of the students. All of this education was, however, offered only to the children of elites. But regardless of this, the Renaissance restored the balance to curriculum by an emphasis upon the intellectual, physical, aesthetic and moral aspects of education. Even so, as Brubacher (1966) has pointed out, grammar became dominant and the quadrivium much less important; somewhat surprising when mathematics and science would have aided the discoveries of contemporaries like Copernicus, Galileo and Columbus (and interesting to compare with our own twenty-first century emphasis upon mathematics and science in the New Zealand curriculum).

The Age of Reason of the seventeenth and eighteenth centuries saw the emergence of science to challenge the dominance of the humanities and their focus upon the discipline of the mind through the classics. Scientific discoveries, such as

Newton's on gravity, gave an impetus to the value of scientific inquiry. Reason and empiricism were advocated by philosophers like Thomas Hobbes and Descartes, the former being seen by some as the forerunner of modern psychology with his theories that sense impressions produce brain images that trigger imagination and memory and so on. John Locke's *tabula rasa* (blank slate) theory that sense impressions accumulate in the brain had considerable influence on subsequent curriculum thought.

The cause of science was further aided by Herbert Spencer's essay "What knowledge is of most worth?" written in 1859 and arguing for science as the most important (worthwhile) subject for school curriculum. Spencer was influenced by Darwin's *Origin of the Species*, also published in 1859. An auspicious year, 1859 was also the year of John Dewey's birth, the year Horace Mann (a great American advocate of a common school for all children, regardless of class, race, beliefs) died, and the year John Stuart Mill wrote his famous essay "On liberty" in defence of liberalism.

The origins of twentieth century progressive education can be seen in the work of Jean Jacques Rousseau, the French philosopher who argued – in the eighteenth century work *Social Contract* – for children to be allowed to grow and develop naturalistically, free from unnecessary adult constraints. Contemporary child-centred education that stresses the chance to learn through play and allows children to follow their interests owes a lot to Rousseau. The Swiss Pestalozzi built on this work in an experimental elementary (primary) school which featured object lessons, and individual differences in curriculum. The German Johan Herbart developed a five-step teaching method which was very influential in a number of countries as "the Herbartian method". Froebel, also a German, developed an influential child-centred kindergarten curriculum. Americans were enthused by those European nineteenth century developments and, eventually, so were New Zealand educators.

THE TWENTIETH CENTURY

The scene was set for the twentieth century. Just over 20 years before the century began, New Zealand embarked upon a compulsory, free, and secular education system. The curriculum of the schools from 1877 was largely imported into the colony from the "mother" country, Britain. The content of the curriculum was Eurocentric, with a minimal amount of content that would suggest that New Zealand was located in the South Pacific, far away from Europe, and incorporated an indigenous Polynesian population alongside mainly British colonists.

As the twentieth century progressed, there were major influences upon the design and content of the curriculum and reference will be made to just a few. Considerable influence came from outside the country, through the earlier ideas and practices outlined above, and others that emerged during the century. Perhaps as a small, remote country, there has been a tendency to look elsewhere for inspiration. I shall show how these external influences continued. Only in the second half of the century did curriculum content broaden to include more knowledge from the Pacific region. In terms of pedagogy, however, New Zealand teachers were to learn of major international developments that built on those already described.

Opposing Orientations

Throughout the twentieth century, there has been a struggle between two opposing orientations in the curriculum field that may be loosely called traditional and progressive. I shall comment briefly on each. First, traditional views have strongly influenced curriculum development. Knowledge is divided into subjects which have not changed much in the last 100 years, and transmitted to the next generation. In the early decades of the twentieth century, faculty psychology dominated with its view that the discipline of the mind muscle requires strenuous exercises in memorising and recitation; responding to children's interests is "soft pedagogy" (Brubacher, 1966). Curriculum content should be the same for all. Traditionalists argued the respective merits of the humanities and the emerging sciences. Later in the century Mortimore Adler's book *Paideia Proposal* (1982) argued again for the great books to be the basis of the curriculum, and Sizer (1984) claimed, "There is hurt in learning, and it is difficult to persuade someone to hurt himself'" (p. 9). Arthur Bestor's (1956) book; *The Restoration of Learning* re-emphasised the training of the mind view and strongly opposed subject integration or thematic studies. In his controversial book, *Cultural Literacy* (1987), E.D. Hirsch argued that America's literacy problems arose from students' ignorance of a common culture, and not from failure in reading skills; and he outlined the content that constitutes the learning necessary for a student to become culturally literate. Not surprisingly, Hirsch's one culture fits all Americans view is highly controversial. The search for a civics curriculum has always been a controversial issue in New Zealand too (Benson & Openshaw, 1998). In summary, from a traditional perspective, curriculum is fixed and predetermined content to be delivered and learned.

Progressive education, on the other hand, grew out of a complex and enormous humanitarian movement in Europe and the United States which eventually led to the curriculum being seen as an interaction between content, teacher and student. Whereas the traditional curriculum held the high ground for many years in New Zealand after the 1877 advent of compulsory primary schooling (Openshaw, Lee & Lee, 1993), progressive ideas gradually challenged the status quo. From the 1920s at least some New Zealand teachers became aware of the philosophical and psychological ideas of international scholars like John Dewey (1916) and William Kilpatrick from America; Sir Percy Nunn, Susan Isaacs, and A.S. Neill from Britain; and Comenius, Rousseau, Froebel, Pestalozzi, and Herbart, whose earlier European contributions were widely disseminated and to which I have already referred. Advocacy grew for child-centred curriculum and learning, inclusion of learner interests and needs in curriculum decisions, greater freedom and creativity, activity methods, the project method, problem-solving and inquiry learning, and subject integration. It took a long time for these ideas to take root in New Zealand classrooms. The proficiency examination at the end of primary schooling which lasted until 1936 and senior secondary examinations had a stifling effect on both teachers and students (Ewing, 1970). Even so, the progressive movement could be seen in the 1929 *Syllabus of Instruction for Public Schools*, when the introduction stated that the document was "mainly suggestive" and "teachers are to consider themselves free to make any alteration . . . of work they consider desirable" (p. 5).

A huge fillip was given to the spread of progressive ideas in New Zealand the year after the demise of the proficiency examination. In 1937 a number of eminent international educators visited New Zealand, sponsored by the New

Education Fellowship. Lectures were given in a number of places, attended by over 6000 teachers who heard views about how artistic expression, creativity, student choice of topics, and much more could be part of the curriculum capitalising upon children's experiences. Syllabi such as art and social studies later reflected the broader conception of curriculum. So did individual teachers' approaches in their teaching. Speakers advocated that more time should be spent on art, music, natural science and physical education, and less on formal arithmetic, spelling, grammar, and oral reading. Whether the shift was eventually too great is debated to this day. But Peter Fraser, the Minister of Education at the time, regarded the influence of those meetings as substantial, even calling them the start of an educational renaissance in New Zealand (McGee, J., in press).

After World War II, the ideas from Europe and America came into even more prominence, particularly in primary classrooms, as I have explained in my book *Teachers and curriculum decision-making* (McGee, 1977) and in McGee (1995). In a massive transformation, syllabi took on a more open design, thus casting the teacher much more prominently into the role of curriculum decision-maker in the classroom. In spite of derogatory public comments about the excesses of "play way" education in some primary classrooms, New Zealand curriculum documents from the 1950s encouraged teachers to use their own ideas and initiative. Various forms of in-service education supported school-based curriculum development. Especially in the primary schools, child-centred approaches became a catch cry, emphasising freedom and creativity, catering for children's interests and needs, activity methods, individual projects to give students choices, and integrated and thematic (centres of interest) studies. Beliefs in children's abilities to transfer learning from one topic to another strengthened, building on the ideas of Thorndike, Dewey and Bruner (see Tanner & Tanner, 1990). Yet the social efficiency movement remained a force, and the earlier ideas of Franklin Bobbitt (1918) became more prominent again.

Internationally, therefore, progressive education was not going to have it all its own way. The disciplines were about to reassert themselves, which would inevitably affect New Zealand. On the south western tip of Cape Cod, Massachusetts, is a little town called Woods Hole, the ferry port for Martha's Vineyard and Nantucket. The Carnegie Foundation and various government agencies funded a conference at Woods Hole in 1959, run by the American Academy of Sciences. Chaired by Jerome Bruner, and attended by prominent American psychologists, scientists and mathematicians, it followed the shock-waves caused by the launch of Sputnik I by the Soviet Union, and the American humiliation that turned the spotlight onto schools. Why were they not producing mathematics and science graduates to keep the United States of America ahead in the space race?

Bruner's resulting book, *The Process of Education* (1960) became the manifesto for curriculum development and design for the next decade and beyond, highly influential in New Zealand, too. It reasserted the place of the disciplines, especially the sciences and mathematics. Bruner argued that even young students, as miniature scientists, mathematicians and social scientists, could grasp complex discipline structures, and transfer that learning to other knowledge (Bruner, 1960). The curriculum content should be designed as an ever-extending spiral. If learning from the disciplines was successful there would no longer be books like the one published in 1961, called *What Ivan knows that Johnny doesn't* (Trace, 1961).

Curriculum-making became an empirical science, based upon particular design specifications. In America millions of dollars poured into the development

of curriculum packages, designed from behavioural objectives that specified and prescribed both teacher and student content and actions. Assessment was based on tests linked to objectives, and curriculum evaluation emerged as a field in its own right and brought names like Robert Gagné and Lee Cronbach, who had both attended Woods Hole, and Michael Scriven, into prominence (Tyler, Gagné & Scriven, 1967).

This curriculum development drew heavily on the work of Ralph Tyler on how to design curriculum. In 1949 Tyler wrote a little book, *Basic principles of curriculum and instruction* in which he posed four questions that, he believed, should form the basis for curriculum design and construction (Tyler, 1949, p. 1):

1. What educational purposes should the school seek to attain?
2. What educational experiences can be provided that are likely to attain these purposes?
3. How can these educational experiences be effectively organised?
4. How can we determine whether these purposes are being attained?

More importantly, Tyler elaborated on the sources of objectives and turned the focus on to the learners themselves as a major source. What had previously been vague and general aims gave way to more precise objectives that could be linked to assessment to demonstrate learning gains.

The application of Tyler's questions to curriculum design dominated the 1960s and 1970s and beyond. The Tyler Rationale, as it became known, was not necessarily used as Tyler intended, but applied as a linear model to construct instructional packages using the psychological theory of Bruner and the behavioural design strategies of Gagné (1974), and no doubt the assembly line time and motion ideas and practices of Frederick Taylor (Pinar et al., 1996).

These packages led to the use of the term *teacher-proof curriculum*. Nothing was left to chance in this strict input-output model of standards to be achieved. Teachers were accountable through their students' test scores. New Zealand teachers experienced this development through direct importing of packages in reading and science, and adaptations in mathematics textbooks to teach "new math". But New Zealand avoided the excesses of the testing. Bruner himself led a team that developed a social sciences package called *Man: a course of study* (MACOS). Based upon inquiry learning, with the students as miniature social scientists, it was opposed by conservative groups because it included studies of cultural groups they considered scarcely human. It was banned in Queensland, some states in the United States of America, and the Concerned Parents Association sought to ban it in New Zealand; a good example of the struggle over which knowledge is legitimate and proper for children. Another package known to local teacher educators was a collection of inquiry-based units also in social studies, and developed by Hilda Taba and her team at California State University in San Francisco. Taba also wrote a standard textbook on the systematic approach to curriculum development (Taba, 1962) which encapsulated developments in cognitive psychology that gave curriculum developers insights into children's learning. Benjamin Bloom's (1956) *Taxonomy of Educational Objectives* and Guilford's (1967) theory of intellect are other examples of influential theory incorporated into these learning packages which impacted upon New Zealand teachers.

While all of this upsurge in discipline-based curriculum reforms was going on, the progressive urge was fighting back. The 1970s saw a new group of theorists emerge to reconceptualise curriculum. A few examples will suffice. Elliot Eisner, from an arts background, attacked the prevailing narrowness of the American curriculum and its obsession with testing, in articles like "How can you measure a rainbow?" and his book, *The educational imagination* (1994). Silberman (1970) advocated open classrooms for America, along the lines of the English primary schools which were regarded as practising the integration of content which reduced the effects of rigidly divided subjects. The Plowden Report (1967) advocated a continuation of the informal primary education that was popular in the United Kingdom, although Bennett's (1976) research later questioned the academic achievement of pupils in informal classrooms, compared with those in more structured ones. New Zealand built some open plan schools in the 1970s but, to me, the goals of open education were largely unrealised, and most open classrooms are now walled-in.

But architecture notwithstanding, there was a far more liberal, progressive spirit in some of the curriculum documents of the 1960s and 1970s in New Zealand. Teachers were experimenting with a wide range of teaching approaches and enjoyed the opportunities for autonomy offered by syllabi that were open and suggestive rather than closed and prescriptive. Documents such as *Suggestions for teaching English in the primary school* and a similar publication in social studies, and books by Richardson on the arts, and Ashton-Warner on language and reading, provide evidence of this experimentation and progressive spirit (see McGee, 1995 for details).

In recent years technocratic forces have become stronger again. Whereas for several decades from the 1950s, New Zealand teachers enjoyed the comparative freedom offered by open-ended national syllabuses, all that changed in the 1990s. Terms like "inputs", "outputs", "productivity", and "efficiency" reasserted themselves. A new common curriculum in the 1990s turned the clock back to narrowly-specified objectives and zealous assessment, which have re-defined teachers' classroom decision-making. The wide scope for teachers that was characteristic of the decades following World War II has given way to an obsession for accountability through a prescriptive national curriculum.

Ironically, this change came at a time when critiques had pointed to inequities in New Zealand children's access to relevant and meaningful learning experiences (eg. McCulloch, 1991). It also runs against a current of scholarship that has questioned the positivist assumptions over curriculum, particularly that the one curriculum suits all. *The New Zealand Curriculum Framework* (Ministry of Education, 1993) and subsequent curriculum statements followed a turbulent decade of curriculum activity which, oddly, had little impact upon schools. The 1980s saw a conservative attempt to develop a revised core curriculum (Department of Education, 1984), a liberal-progressive curriculum review and draft national curriculum (Department of Education, 1986 and 1988a) and designs for greater school-community consultation (Department of Education, 1988b).

In the United Kingdom, a vigorous political attack on progressive education (eg. the Black Papers on progressive education, Cox & Dyson, 1971, and the Great Debate) led to the re-emergence of a prescriptive core curriculum in 1988. In America too, following the report *A Nation at Risk*, a strong accountability and testing movement gathered momentum in the 1980s and 1990s (Pinar, Reynolds, Slattery & Taubman, 1996).

In recent years, the so-called post-modern age has produced numerous international curriculum scholars who contest this kind of technocratic prescriptive curriculum. But as yet there is no common voice among them, and probably never will be. William Pinar et al. (1996) have outlined a number of what they call *texts* that sub-group these recent orientations; for example, curriculum as racial text, gender text, postmodern text, biographical text, and so on. All attack the notion of a grand, single explanation; we now have what Sears and Marshall (2000) have called nano-narratives. Through publications like the *Journal of Curriculum Theorising* and a growing number of books, international names now becoming better known in this country include William Pinar, Peter McLaren, Patti Lather, Madeleine Grumet, and James Sears. Their work, and that of many others, aims to unpack or deconstruct the curriculum to reveal complexities hidden by one-for-all curriculum designs (see Sears & Marshall, 2000; Doll, 1993; Pinar & Reynolds, 1992 for elaboration). Maxine Greene (1988), Michael Apple (1979), Ted Aoki (1992), Bill Doll (1993), Ted Reynolds, and Gail McCutcheon (1995) from America, and Shirley Grundy (1994) from Australia are already better known here. These multiple voices have advocated for the disadvantaged, the powerless, and the disaffected.

Let me now draw this together. For most of our educational history, the word curriculum has meant the content selected for inclusion in the official requirements for schools; the plan. It is now more widely accepted in this country that as well as a content plan, curriculum includes what happens in the classroom when the plan is put into action. I call these the official curriculum and the operational curriculum.

Curriculum Ideologies

One of the pursuits of curriculum scholars in recent decades has been to describe and analyse how curriculum is influenced by multiple forces and why certain influences assume favour or dominance at any point in time. Numerous people, acting as individuals or part of a group, attempt to bring influence to bear on national curriculum decisions.

There is, of course, great competition between interest groups for their preferences to be part of the official curriculum content; a new subject, a different teaching method, an alternative way of assessing student achievement, and so on. A useful way to conceptualise this competition is to cluster viewpoints into orientations (arguably ideologies). Eisner and Vallance (Vallance, 1986) identified six orientations which are useful for my purpose:

1. A *cognitive process* orientation seeks to develop in learners a range of thinking skills that can be applied across various intellectual problems.
2. A *technological orientation* aims to establish clear objectives and the means to reach them, and demonstrate their achievement; a complex system is broken up into its constituent parts.
3. A *social reconstructionist* orientation that sees schools as agencies to bring about social change; and so seek to relate students' interests to society's needs.

4. An *academic rationalist* orientation which seeks to study the intellectual and artistic disciplines, and their distinctive structures.
5. A *personal success* orientation, in which school study is seen as a means to a practical end, particularly a pro-business end. The large shift from humanities and social sciences into business studies and computer studies is an example.
6. A *personal commitment* orientation, which means a life-long commitment to learning that is encouraged in school studies, regardless of the subject or field.

Schubert (1986) describes three ideologies, which I have summarised as follows:

Intellectual traditionalist: To the traditionalist, the school curriculum should be based upon the liberal arts tradition and include studies of the great books and myths, legends, fables, songs, stories, poetry and paintings. The goals are to develop a person's mind and to learn about the great ideas and questions of life.

Social behaviourist: This ideology is firmly embedded in the scientific tradition. It is based upon the view that science and technology have transformed societies. Students need to study these achievements, learn scientific methods, and make a further contribution to society through their expertise. Mathematics, social and natural sciences, and humanities and arts are the basis of the curriculum. Basics are essential: reading, writing, mathematics, science and technology. Skills learned at school should be suitable for jobs.

Experientialist: The content of the curriculum should be based upon the needs and interests of each student and delivered through school subjects. Children should learn democratic skills such as learning to work and share with others in groups. Schools have an emancipatory role, with a focus upon rights and justice for the disadvantaged, oppressed and alienated.

Another useful way of viewing these conflicting – and at times complementary – influences that have emerged over the centuries is a grouping developed by Tanner and Tanner (1980). Their "visions" can be summarised as follows:

The conservative vision: Conservatives see the curriculum as being based upon tried and tested studies in the belief that the proper purpose of schools is to cultivate each individual's intellect and to achieve academic excellence. Within this group there are several sub-groups: *perennialism*, *essentialism* and *eclecticism*. Bantock's (1980) work is an example of an extremely conservative view that school curriculum should be based on "high culture" and those who cannot cope should be given a curriculum based on folk knowledge.

The progressive vision: There are two main groups in this vision, according to Tanner and Tanner. *Experimentalism* encourages reflective thinking for social problem-solving and aims to produce a democratic citizen who faces up to

resolving issues confronting society. Scientific method and democratic processes are stressed in curriculum delivery. Dewey was perhaps the greatest intellectual leader of this vision. *Reconstructionism*, another arm of this vision, aims to build a new social order, and is associated with utopian writing such as that by Mannheim (1936) and Brameld (1956).

The romantic vision: This vision is based upon child-centredness, the major thrust of which is that children should grow and develop naturalistically, and free of authoritarian constraints. Rousseau (1911), Neill (1960), Goodman (1970) and Kozol (1978) are well known to this group. Student needs and interests should be paramount. Romantic naturalism is the term often used to describe this ideology.

The inner vision: Existentialism is the underlying philosophy in this vision. It seeks the meaning for human existence and the curriculum would comprise themes related to the human condition. Science is criticised because of its attempts to objectify the world. Self-development and self-fulfilment are goals. Kneller (1971) and Greene (1973) provide background understanding of this vision.

I believe that some aspects of all of these orientations can be seen, to a greater or lesser degree, in the contemporary New Zealand curriculum, since it is a fairly eclectic curriculum. However, the politics of curriculum continue to be played out in a struggle over a compulsory core, and alternative and particular forms of knowledge (such as Māori knowledge). In the 1990s technology emerged as a new subject in the compulsory core, justified in part by the information revolution so closely connected to computer advances.

INSIDE THE CLASSROOM DOOR

So much for broad influences that have impacted upon New Zealand curriculum. Let me turn now to the educational setting where all this complexity coalesces and where it all really matters – the classroom. When we open the classroom door, what we see is that classrooms may be very similar in architectural design, but when the students and teachers arrive, each classroom is transformed into a unique place. Each has its own culture; its own mores, habits, and ways of interacting. And what is most striking when we look through the door is how busy and complex it all is. This has been brought home to me again recently, as with some colleagues, I have spent time in several classrooms to look at how and why teachers make curriculum decisions and how they interact with their students to bring about effective student learning (McGee & Penlington, 2000). Each has its own version of what Philip Jackson (1968) called the alternative 3 Rs of rules, routines, and regulations.

Teachers are faced with the day-to-day reality of deciding how to fit together the official curriculum, their own knowledge, beliefs and practices, and their students' learning needs. It is inside the classroom that inert curriculum documents have life breathed into them. Classrooms can be places of excitement and vibrancy and, in my experiences of being in them as an observer, frequently are.

To me there are two fundamental questions that interest the various curriculum participants, especially teachers and parents, if not always the students:

1. What are the connections between a teacher's curriculum decisions and what the students learn?
2. How do students learn and what does this mean for teachers as they engage with their students?

In the next section I will focus upon these questions. It needs to be said, perhaps as a reminder, that all teachers do not come out of the same mould. Each teacher, it seems to me, is a complex mix of characteristics, beliefs and attitudes, generally; on top of this is what they think about teaching and learning and how they act out these beliefs and views in their work as a teacher. Their own upbringing and their own teacher education will have shaped them. The broad curriculum movements I have described will have impacted differently, depending upon their teacher education and the impression it made on them. That is why it is not possible to come to ready answers to these questions.

Teachers' Curriculum Decisions and Student Learning

The first intriguing question relating to what goes on in classrooms is about the relationship between teachers' decisions and actions and student achievement. Indeed, it is probably the fundamental curriculum question. Research on this question has been enormous, yet infuriatingly complex in its results. In the early years of this research, process-product studies tried to measure the impact of various teacher actions such as asking particular types of questions, using praise and reinforcement, giving clear instructions, and so on. Researchers like Gage (1978) in the United States of America were optimistic that a science of teaching could be found. It can easily be understood how this desire to break teaching into its component and measurable parts was connected to the view of curriculum, mentioned earlier, as a series of systematic steps that the teacher would follow using well-tuned skills to impart content. And there *are* skills that are linked to student achievement. Brophy and Good (1986) identified the following from a meta-analysis of 200 studies:

- carefully structure activities so that students are presented with features such as advance organisers, links, analogies, overviews, outlines and reviews;
- repeat main points regularly;
- have clear questioning and presentation;
- be enthusiastic;
- match the level of questioning with the activity (closed questions which the students can easily answer for rote learning activities, and open-ended questions that engage students in high-level cognitive processing when teaching complex cognitive content);
- use wait time after asking a question;
- call upon a variety of students to answer questions;
- provide positive but accurate feedback about student replies to questions;
- incorporate students' comments and questions into the lesson.

The authors caution against the application of these findings to all settings for all types of student. This is an important caution, for it is still not possible (and probably never will be) to quantify the links between these skills and the

achievement of all students to the extent that we can formulate "laws" of practice which could be used to train and assess teacher competency.

In another meta-analysis Porter and Brophy (1988) found eleven somewhat broader characteristics from a large number of correlational studies that show that an effective teacher is one who has the following characteristics:

- is thoughtful about practice and reflects upon it;
- develops clear curriculum aims and objectives;
- makes clear expectations of students;
- knows the subject content;
- knows the students' characteristics and needs;
- uses a variety of sources to enrich learning;
- uses a variety of objectives;
- teaches students how to employ meta-cognitive learning strategies;
- integrates subject matter between subjects;
- provides regular feedback to students about their learning;
- accepts responsibility for student achievement.

These broader characteristics are even more difficult to agree on, when it comes to how they work in practice. They entangle with teacher personality and what the students themselves are like. However, they provide indicators and link well to the work of Schon (1987) on professionals as reflective practitioners who select on-the-job from a range of practices they have learned; Eisner (1994) who views teaching as a skilled art and the teacher as a connoisseur who uses judgement to make classroom decisions; Hoyle and John (1995) who advocated extended professionals; and Haigh and Katters (1984) who saw effective teachers as those with a flexible repertoire of practices from which they chose as the classroom situation demanded.

It is clear, then, that any individual teacher is a complex mix of characteristics, skills, and wider decision-making capacities. In a major study of primary teachers at work in a number of United Kingdom schools, Gipps, McCallum and Brown (1999) found that no single teaching model could describe the teaching they found. Most teachers had an eclectic style, but were often unsure about the links between method and lesson intention or between their own actions and student achievement. In another United Kingdom project, Wragg, Wragg, Hayes, and Chamberlin (1998) found that while it *was* possible to measure primary students' literacy achievement gains by test scores, it was impossible to attribute single causal factors. As Wragg et al. said, "classroom life teems with thousands of micro-episodes, often hanging together in strings and clusters" (p. 258). It was not unusual to have some children improve their scores while others in the same class declined. Even so, like other researchers, Wragg et al. were confident about a number of factors (such as those listed above) that were linked to success even if there were individual variations in general achievement trends.

One of the crucial matters revealed in the above kind of research is that since no single approach works in every case, teachers need to try various teaching approaches, depending upon the intention. From my own observations, I have an emerging theory that I have called a *theory of purpose*. Once a learning objective is identified, the learning experience should match that purpose. In my experience, this proposition, obvious though it may seem, falls down because of dislocation between purpose and process. For example, students will not write creatively if too many blocks are put in their way. I have seen students enthused by a

stimulating introduction to encourage them to pour out their ideas on paper, only to be inhibited by cautions about the need for correct punctuation, spelling, and grammar, all of which could have been attended to later.

A promising line of inquiry is a growing body of research that points to teacher knowledge of curriculum content as a key factor, perhaps *the* key factor, in student achievement (for example Corcoran & Goertz, 1995; Dunkin & Welch, 1996; Harlen, 1999; Scott, 1997). However, Shulman's (1987) model of teacher knowledge shows that content alone is not enough. There also needs to be an understanding of how to transform content into learning experiences for students, which Shulman called pedagogical knowledge. And as Borko and Putnam (1996) point out, learning to teach is a career-long enterprise so we should not assume that initial teacher education will ever suffice; teachers need career-long education which includes continuous knowledge acquisition as well as ways to organise it for learners.

Another intriguing question is whether the type of official curriculum is linked to student achievement, and I have found no evidence one way or the other. However, there *is* evidence at the classroom level, in terms of how teachers organise learning experiences from national requirements, that teachers vary greatly in the way they interpret national guidelines. Some research has found the introduction of a new curriculum, as in New Zealand and the United Kingdom, causes considerable adjustments to teachers' practices in the direction of the official intentions, but only if aided by professional development (Galton et al., 1999; Gipps, 1999; Pollard, Broadfoot, Gott, Osborne & Abbott, 1994). These changes do not necessarily improve student achievement. Nevertheless, I have informal evidence from several headteachers in the UK that the primary literacy and numeracy requirements have resulted in better student achievement in their schools. This probably demonstrates my theory of purpose, in that teachers have been required to focus on a clearly identified set of objectives and body of content. They have been instructed in the teaching methods to be used and the time to be spent. So regardless of whether I agree with all of the objectives, the combination of clarity of objectives, level of teacher knowledge, and method of teaching and assessment have combined to telling effect. Even so, all children will not reach the same level of achievement.

Student Learning

To develop this issue of children's learning I want to now look very briefly at recent advances in the study of learning which may suggest avenues for further research into how children learn in classroom contexts. I have already stated the need for teachers to possess substantial curriculum knowledge, and of factors that seem to be linked to students' learning success, especially effective teacher actions.

An enormous amount of work in psychology and educational psychology has resulted in considerable advances in our knowledge of how children learn. Behaviourist perspectives dominated educational psychology for more than the first half of the twentieth century, and have not given up their tight grip easily. The impact upon curriculum design and, therefore, teachers was enormous, for it tended to reduce complex learning into discrete objectives. Fortunately, cognitive psychologists have moved beyond such a narrow, mechanistic view of learning. Resnick (1989) stated with confidence that "cognitive theories tell us that learning occurs not by recording information but by interpreting it" (p. 2). Learning is a constructive and interactive process that builds upon existing knowledge, beliefs,

and dispositions. Many cognitive theorists such as Bruner (1990), Vygotsky (1962), and Gardner (1983) relate knowledge in the mind to the cultural and social situation in which it is acquired. For teachers, this means that their students should attempt their learning in meaningful settings; that is, the learning is situated (Borko & Putnam, 1996).

Graham Nuthall (1999) has made an important New Zealand contribution to current knowledge of student learning through studying the social processes and culture of the classroom. From these classroom studies he has come to the view, like others, that the mind develops through the "internalisation of those activities that children learn in their interactions with the physical and social world" (p. 143). "How students learn to learn is primarily a socio-cultural process" (p. 242). The research adds to our knowledge of how short-term and long-term memory play a major part in learning knowledge from classroom activities and the implications for curriculum design. In advancing a theory of learning Nuthall has argued that teachers need to regularly reinforce learning because only by revisiting the same content several times, will students commit it to memory. The implications for teaching methods are substantial. The research also shows, once again, how complex the mind is; many different thinking processes can occur together. Furthermore, as Nuthall's classroom recordings have shown, a lot of student interaction and learning takes place in the classroom in a way that is largely unknown to the teacher.

Elliot Eisner (1994) has also theorised on the need to locate learning in its socio-cultural context. He argues that the Cartesian separation of mind from body led to a narrow conception of intellect, whereas in reality humans learn in a variety of ways. Learners acquire concepts which cluster into forms of representation, embedded in their culture, and related to the different aptitudes of individuals. Considered with Gardner's (1983) multiple intelligences theory and Sternberg's (1999) theory of multiple thinking styles, and much other recent work, the implication for teachers is to offer their students a rich variety of learning experiences related to their culture, and their social life. Over a century ago, in 1897, Dewey captured this in *My Pedagogic Creed*:

I believe that the individual who is to be educated is a social individual, and the society is an organic union of individuals. If we eliminate the social factor from the child we are left with an abstraction; if we eliminate the individual factor from society, we are left only with an inert and lifeless mass.

This whole issue has major curriculum implications regarding the role of the teacher as the key to the provision of a variety of learning experiences that are connected with and embedded in a student's culture. But students should have a voice, too, and a promising avenue of study is how teachers and students might negotiate classroom learning, and valuable work has been carried out by Garth Boomer et al. (1992) in Australia. Boomer has challenged the traditional approach that sees curriculum as an inert body of knowledge from which the students take what they can; they (students) come to the curriculum. Boomer argues the curriculum should come to the student in the sense that the body of knowledge is a basis for negotiation. Variations are possible. The teacher and student negotiate the variations about what is studied (within the framework of knowledge) and how it is studied. In this way, variations in learning preferences and interests can

be realised, and students can learn to become responsible, autonomous learners who know how to get help when they need it.

It has to be emphasised that to become autonomous learners, students need strategies, some of which have been mentioned above. On their own, however, strategies are not enough to guarantee learning. Children need metacognitive skills that enable them to control their use of strategies to suit what they are studying. Furthermore, attitudes and emotions play an important, connected part. Children need to learn how to approach their learning: to want to succeed, solve problems, accept that a problem is too difficult at a certain stage, and so on. And, as pointed out above, the learning is inevitably set in the immediate and wider cultural and social contexts.

Research Directions

Inside the classroom, the field of student learning remains wide open for future research. It will be necessary for researchers to try to capture the changes in students' knowledge, and how they acquire knowledge in the first place, and then add to it. Similarly, there is a huge opportunity for research on how teachers themselves learn, and the impact of their knowledge upon their learners; and the impact of the various learning experiences they initiate upon their students' learning and achievement (Shulman, 1986). Perhaps one of the problems with the overall research effort is that the psychological, philosophical, sociological and historical disciplines in education have tended to study teaching and learning from their own particular perspectives. There has been too little combining of these perspectives to study curriculum and classroom issues, a situation that needs to be addressed through multi-disciplinary research approaches.

I believe that we need to keep the classroom door open to investigate these challenging issues, using multiple research methods: observations of, and conversations with, teachers and students in classroom settings; and trials of learning activities and recordings of how students react to them. Links need to be made between curriculum, learning, teaching, and assessment, because research has tended to study them separately. There are promising new research techniques emerging that will help us better understand these links and classroom life: narratives, biographies and stories (Cortazzi, 1993). There is an urgent need for further research in New Zealand, where so little has been done, and this university is well placed to contribute. As I pointed out earlier, process-product research failed to take account of classroom complexities, or perhaps could not take account of them. It is extraordinarily difficult for researchers to describe everything (or even most of) what goes on in classrooms. Finding a way forward has to involve trying to record what happens as teachers and students interact. It is necessary to get both teachers and students to explain the thinking that lies behind their engagement. Only from knowing this will it be possible to theorise about the significance of the actions and practices. It is my view that each teacher and student has a unique contribution to make to any teaching-learning situation. But only if certain things happen will effective learning occur; and it is understanding these "certain things" that is the key to our future knowledge of classroom life.

In this paper, I have tried to show how teachers in the present have been influenced by a myriad of philosophical, educational, and other ideas developed over the centuries. Of course, I have mentioned but a fraction of them, and over-generalised in the process. I have also opened the classroom door to reveal just a

tiny glimpse of the complexity that lies within. The work of furthering our understanding of that classroom must go on. The search for the answer to Spenser's philosophical question, "What knowledge is of most worth?" should probably be a search for multiple answers in our multicultural society. At a local level students need to be given every opportunity to learn. My principal thesis in this paper is that it is the teacher who is the ultimate curriculum decision-maker; but the teacher does not work in a vacuum. Centuries of influence have shaped our contemporary views about curriculum and teaching and learning. Ultimately, though, it is the teacher and student working together in the classrooms that will improve student achievement. Let the purposes be matched by the proper means of achieving them.

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