

CHAPTER TWO

Curriculum Integration

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Introduction

One of the guiding principles of the curriculum is coherence, whereby students are offered “a broad education that makes links within and across learning areas” (Ministry of Education, 2007, p. 9). When used effectively, curriculum integration provides a learning environment that offers this coherent education, allowing connections to be made within and across subjects (Beane, 1997; Etim, 2005; Fraser, 2000; Murdoch & Hornsby, 1997). As Drake (1998) argues:

The world we are living in is changing, and education must change with it. If we live in an interconnected and interdependent world, it only makes sense that knowledge be presented as interconnected and interdependent. (p. 24)

Nonetheless, it could be argued that curriculum integration remains one of the most confused topics in education today. Many teachers and researchers use the term to mean a variety of things, some of which have nothing to do with curriculum integration. The confusions surrounding the term have undoubtedly hindered consistent professional development and research in this area.

Curriculum integration is a design that supports the need for learners to be actively involved in their learning, through being part of the decision-making process (Dowden, 2006; Drake, 1998; Etim, 2005; Fraser & Charteris, 1998; Whyte & Strang, 1998). While many discuss the benefits of curriculum integration, this design still remains largely misunderstood due to the number of varying definitions available and the confusion

between this approach and others (Fraser, 2000; Mathews & Cleary, 1993; Murdoch & Hamston, 1999).

What does curriculum integration mean?

Current talk about curriculum integration is almost completely ahistorical, suggesting alternately that it is rooted in reforms of the 1960s or that it is a recent ‘fad’ that began in the late 1980s. Furthermore, the same current talk almost always implies that curriculum integration is simply a matter of rearranging lesson plans as overlaps among subject areas are identified. Neither interpretation is true, of course, but the fact that both are widely believed has seriously limited discussions about curriculum integration and the scope of its use in schools (Beane, 1997, p. 4).

One of the best ways to understand curriculum integration is to discuss what it is not. First, it is not ahistorical, as Beane rightly points out. The roots of curriculum integration are to be found in the progressive education movement of the early 1900s and are evident in the work of Dewey (1910, 1913), Kilpatrick (1926) and others. Dewey (1902) stated that within the curriculum, “facts are torn away from their original place in experience and rearranged with reference to some general principle” (p. 6). This concern highlights the need for education to be realistic and relevant to the students’ world, calling upon their prior knowledge and experiences in broadening their understanding (Mathews & Cleary, 1993; Whyte & Strang, 1998).

Curriculum integration is responsive to this concern because it values the students’ prior knowledge and uses this as an initial starting point to be built upon (Beane, 1997; Brough, 2007; Dowden, 2006; Mathews & Cleary, 1993). This is an active process that makes learning relevant to what the students already know (Boomer, Lester, Oncore, & Cook, 1992). In order to illustrate what curriculum integration is, Pring (2006) employs a metaphor, arguing that it depicts “the seamless coat of learning”, whereby subjects are viewed as interconnected rather than isolated from one another. This notion is reflected in the Ministry of Education’s (2007) assertion that “all learning should make use of the natural connections that exist between learning areas”, as each individual area is “valuable for the pathways it opens to other learning” (p. 16).

Second, curriculum integration is not what teachers did in the 1960s and 1970s; it is not “centre of interest”-based teaching, nor is it purely child-centred teaching. In fact the tendency for people to claim it is totally student driven does teachers a disservice. Teachers have considerable curriculum knowledge and pedagogical skills that ensure that curriculum integration provides a challenging and rewarding learning environment. The chapters that follow in this book underline teachers’ role in negotiating curriculum with their students, not relinquishing all direction and control to them. Moreover, the chapters provide a variety of examples along a continuum of curriculum integration. Some show the teacher as centrally involved in a leading role throughout much of the process, while others reveal students taking increasing responsibility for how the curriculum is enacted. Even within the more teacher-directed examples to follow however, there are multiple opportunities for students to negotiate the “what” and “how” of their learning. So while the teacher’s role may vary in the chapters to follow, the emphasis on negotiation remains important.

Finally, curriculum integration is not the teaching of thematic units, whereby a central topic forms the “theme”, with each curriculum area explored for its potential to contribute to that theme. This third point creates the most common confusion and has sparked the most debate. It is worth examining why this is the case.

Different interpretations: Thematic units vs curriculum integration

The term “curriculum integration” has frequently been used as a synonym for thematic units (often called “multidisciplinary approaches” overseas). However, thematic units are distinctly different. Some would argue that thematic units are part of the continuum of curriculum integration and are an important starting point, but this is not always the case. Thematic units, for all the fun and interest they can promote, are not curriculum integration and may stop teachers from developing pedagogy that fosters curriculum integration.

How do thematic units differ from curriculum integration?

- Curriculum integration involves students in negotiating the curriculum with their teacher. This may start rather modestly, with

students suggesting activities within a study, or be more substantial, such as students taking a role in co-planning, exploring and evaluating a study.

- Curriculum integration tends to be issues driven rather than topic driven. In the chapters to follow a number of issues are threaded throughout. These include ethical dilemmas, weighing up evidence and argument, exploring ways to preserve the past and educate for the present, making museums more interesting for children, rebuilding a school environment and instigating an aid project. Where topics are evident, these are regarded as a means to an end, not an end in itself. For example, the topic of living in Stone Age times features in Chapter Five, but the issue of how to make museums (and thus learning) enticing for children is one of the main issues explored.
- Curriculum integration involves the teacher scaffolding students' learning rather than directing them. This scaffolding is the sophisticated artistry of teachers' work—work that is far more nuanced, intuitive and skilful than mere telling. It requires that teachers know when to intervene and when to hold back. It also requires an innate sense of just how to intervene. The best response might be a well-placed question or a statement that conveys curiosity. There is still a place, of course, for direct teaching. However, within parameters there are frequent opportunities for students' agency, with freedom to experiment and initiate.
- Finally, curriculum integration only draws upon learning areas that relate to the central issues of the inquiry. No attempt is made to cover all curriculum areas. Instead, the learning areas drawn upon are those that are germane to the study and naturally arise from the inquiry. This means that the teacher cannot fully plan in advance, as the learning areas that students will engage in are not always known at the outset, and the issues-oriented focus requires an openness to what unfolds rather than prescribing what will be.

Thematic units differ in a number of ways.

- Thematic units focus on a particular topic chosen by the teacher, such as the Middle Ages, dinosaurs, sea mammals or plastics.

The topic itself is the main focus. This largely reflects a model of learning where the aim is for students to obtain information about the topic.

- Thematic units attempt to cover the curriculum. For example, the teacher-chosen topic is considered through the lens of each learning area as teachers plan how each could contribute to an exploration of the theme. Teachers might use a web diagram to plan the unit and often brainstorm in syndicates a number of ingenious activities. For example, in a study of the Middle Ages, students may build a castle in their room (technology), perform a play (drama), develop an alternative currency (mathematics), locate and perform medieval songs (music) and examine the role of guilds in the period (social studies). Achievement objectives are considered within each learning area and assessment decisions are made. Students are often encouraged to bring materials to school that would support the theme.
- Thematic units involve the teacher in planning and directing students in activities, which means the teacher can be fully planned in advance and recycle units from year to year.

Any approach to curriculum can be implemented poorly or executed well. For instance, there can be well-designed thematic units that foster learning, just as there can be poor attempts at curriculum integration. The converse is also the case. The teacher remains the crucial factor. However, curriculum integration affords students status as negotiators in the pursuit of knowledge. Their say matters and, as a result, their commitment is enhanced:

Out of negotiation comes a sense of ownership in learners for the work they are to do and therefore a commitment to it. Learning is an active process. Teachers can't do it for learners. Information may be imposed but understanding cannot be for it must come from within. Students learn best when they want to. They want to when they are doing it for themselves, as a result of their own needs. (Cook, 1992, p. 16)

A common misapprehension is that teachers have little say within curriculum integration. However, the process of negotiation means that teachers have considerable input, and there are times when they will

direct and lead. But they also involve, invite and expect the students' contributions, and these contributions are taken seriously.

This process does not just happen, and teachers need to scaffold students' ideas and skills throughout. This is where teachers' pedagogical abilities are fully employed and crucial to the success of the approach. In effect, the investigative process is negotiated between teachers and students and reflects how research occurs in the world at large. In many ways the curriculum integration process is parallel to the one taken by research students at university level. In negotiation with their supervisors, they identify an area of concern and raise some related questions. They investigate what is already known about the area (a literature review), and consider ways to examine the problems identified. They may collect data in the field, interview people, make comparisons and trial interventions. They may then refine their interventions or create graphs of their results, make inferences, build analysis and identify themes, which they then discuss, drawing some conclusions. Their conclusions are compared with what was previously known and implications for further study or learning are indicated. At every step they gain feedback and guidance from their supervisors on the skills required and the development of ideas, as well as the expression of those ideas.

This is very much the process that students in classrooms undertake, with their teachers as "supervisors", providing the necessary teaching and guidance during curriculum integration. Although 5-year-olds would not undertake a review of the literature, they would be part of a class discussion on what is already known about the topic and what they would like to know more about. In addition, the teacher will be assessing what skills the students need in order to pursue the questions and concerns that are generated.

In the above explanation, curriculum integration actively involves students, using problems and issues of importance to them in developing a curriculum that goes beyond the confines of stand-alone subjects. However, Murdoch and Hornsby (1997) caution that curriculum integration "does not do away with the distinctions between those subjects or learning areas—these remain important for the purposes of balance and organisation" (p. 1). This salient point is important to underline. Curriculum integration draws on the distinct knowledge of

learning areas in ways that preserve the integrity of those areas. The chapters that follow provide a number of examples of what this looks like in practice.

Virtue, Wilson and Ingram (2009) express the concern that teachers transitioning from a thematic approach to a fully integrated approach are likely to encounter many challenges, because experience in cross-curriculum planning and negotiating with students is necessary for the approach to be successful. As mentioned previously, curriculum integration involves students in decisions about the direction and content of learning (Beane, 1997; Beane, 2005; Boomer et al., 1992; Brough, 2007; Fraser & Charteris, 1998; Mathews & Cleary, 1993; Murdoch & Hornsby, 1997). Thematic units, however, tend to be decided on and planned by the teacher, with very little if any, input from the students (Fraser & Charteris, 1998; Jacobs, 1993; Mathews & Cleary, 1993). In this sense, the teacher is an activity provider, planning exercises that may foster student engagement, but also limiting students' ownership and learning (Beane, 1997; Fraser & Charteris, 1998).

There are various possible reasons for the popularity and longevity of thematic units. The teacher can plan in advance and collect activities over time. This decreases time spent on preparation in the long run, as themes can be recycled in subsequent years with just minor updates. Syndicates can pool resources, which further increases efficiency in busy teachers' lives. Assessment can be designed to match the activities, and a sense of curriculum coverage, albeit thin, is achieved. There is also the "feel good" factor when a class is "doing" dinosaurs, immersed in a series of tenuously connected but engaging activities around an appealing topic. Champions of thematic approaches, however, fail to interrogate the "dubious educational value ... or the lack of rationale" (Dowden, 2006, p. 184) of such designs.

Within the two approaches the role of the teacher is also considerably different, because thematic units are largely teacher directed whereas curriculum integration involves the teacher less as director and more as negotiator with students (Boomer et al., 1992; Brough, 2007; Drake, 1998; Fraser & Charteris, 1998). One area where these two approaches appear to be similar is in the connections they both make between learning areas. However, the manner in which these connections are made is different. In

thematic units, subjects are placed at the centre and the curriculum design “forces a fit” across the curriculum. In curriculum integration, issues form the centre, and learning areas are drawn upon when required.



Fig 2.1 *Maths and art*

The role of negotiation

Negotiating curriculum with students forms the core of curriculum integration pedagogy (see, for example, Beane; 1997; Beane, Ellsworth, & Miller, 1996; Boomer et al., 1992; Brodhagen, 1995). Negotiating curriculum is also valued for the culturally responsive and inclusive learning environment it creates (Bishop & Berryman, 2009; Brough, 2007; Fraser & Paraha, 2002). This negotiation can include involving students in planning, decision-making and assessment processes (Boomer et al., 1992; Brough, 2007). Negotiating curriculum has been included by Bishop and Berryman (2009) as a key strategy in the Effective Teaching Profile, because it has been recognised as an approach that caters for the learning needs of Māori students in secondary schools. They reveal that negotiating curriculum makes learning interesting for the students because it views them as capable and agentic, enabling them to contribute to what and how they learn (Bishop & Berryman, 2009). In doing so, student ownership of

the learning is gained, which fosters enthusiasm and enhances student motivation (Boomer et al., 1992).

Drake (1998) claims that with curriculum negotiation of this kind, genuine connections are made between the students' world, the classroom and the issues of importance to them. Others, such as Brough (2007), also assert its usefulness in catering for diverse learners. However, as with any approach to curriculum, the skill and attitude of the teacher remain the crucial factor. As Gibson and Ewing (2011) argue:

Curriculum integration needs to reflect the real world and therefore be interactive. As teachers we must remember that if we believe in a constructivist theory of learning, it is the learner who ultimately will do the integrating by building knowledge and relating it to his or her existing understandings. Nevertheless we have a responsibility to construct learning experiences that are both intellectually and creatively demanding, and scaffold the knowledge integrating processes of our students. (p. 33)

A longitudinal study by Bishop and Brinegar (2011) of students at middle school found that students themselves can initially resist curriculum integration, conveying attitudes of scepticism and indifference. However, even in the early stages a number of students recognised that curriculum integration afforded them a greater say in what happened in the classroom, plus the opportunity to present to audiences. Over subsequent years, regard for the approach grew, with students reflecting on the learning gains made from integrated projects.

Challenges

Curriculum integration requires a shift in the traditional role of the teacher. It is more dynamic, interactive and finely nuanced than teaching a thematic unit. It requires teachers to share decision making and the messy process of inquiry, where the outcomes are unknown. As such, it can feel both demanding and daunting for those who are new to it. Drake (1998) comments on teachers' feelings of exhaustion when trying curriculum integration because they are required to take on roles different from their usual ways of operating. Some teachers may feel threatened by this approach for a number of reasons, including their reluctance to share decision making and their preference for having activities carefully planned well ahead of time (Etim, 2005; Fraser & Charteris, 1998).



Fig 2.2 Girls searching for relevant information online

A further challenge that is known to cause concern is teachers' lack of knowledge about curriculum integration. When not done well, curriculum integration can become as forced or artificial as any poorly executed approach, resulting in lack of student motivation and engagement (Beane, 2005; Jacobs, 1993; Murdoch & Hamston, 1999). Another impediment for some is the concern that they will not be covering what the curriculum requires. Teachers do need to remember the big picture and ensure their music programme, for instance, is not overlooked just because music does not feature in an integrated unit. There is place and space for stand-alone subject teaching alongside any integrated unit. The erroneous belief that curriculum integration incorporates all learning areas leads some to raise this concern. Curriculum integration only draws on those learning areas germane to the inquiry at hand.



Fig 2.3 Year 5/6 children identifying cross-curricula connections

There is no doubt that schooling is becoming more high stakes with the drive for collecting and reporting data on achievement in literacy and numeracy. This increased emphasis on two learning areas affects teachers' planning and curriculum decision making. It narrows what counts as knowledge in schools, with accountability mechanisms in place to ensure this restricted focus is maintained. As a result, teachers may feel that integrating curriculum detracts from the main business of their work. However, Drake (1998) and Drake and Burns (2004) provide numerous ways to meet standards and enhance student learning, through integration.

Finally, time is one of the biggest factors in the successful implementation of curriculum integration, and some believe that curriculum integration requires more time than what is readily available in the classroom schedule (Boomer et al., 1992; Murdoch & Hornsby, 1997). Time, however, is a perennial challenge in any approach to teaching and it should not be used as an excuse not to innovate. Anecdotal evidence suggests that teachers save time in the long run because they are not caught up in the minutiae of narrow planning, teaching and assessing, but are instead liberated to facilitate students' inquiry into deep and compelling issues. Instead of curriculum coverage, the emphasis is on depth of learning.

Implications

When teachers employ curriculum integration, Beane (1997) claims that relationships are strengthened and power dynamics are challenged in the process. Collaborative skills are enhanced through having a collective focus on inquiry. This encourages teachers and students to work alongside one another (Beane, 1997; Drake, 1998; Etim, 2005). Some studies claim that students' levels of engagement and persistence are greatly enhanced because curriculum integration personally involves the students in their own learning (Drake, 1998; Fraser, 2000; Murdoch & Hamston, 1999; Paterson, 2003). Further benefits mentioned are fewer attendance concerns, less disruptive behaviour and fewer discipline problems (Drake, 1998; Paterson, 2003).

An additional benefit for students is that, through learning in an integrative fashion, they become better prepared for life through examining

social issues of personal significance (Beane, 1997, 2005; Drake, 1998; Etim, 2005; Wineburg & Grossman, 2000). Reflective and critical thinking skills are developed as students make connections between school activities and their own life experiences (Bishop & Berryman, 2009; Drake, 1998; Etim, 2005; Fraser & Charteris, 1998; Murdoch & Hamston, 1999).

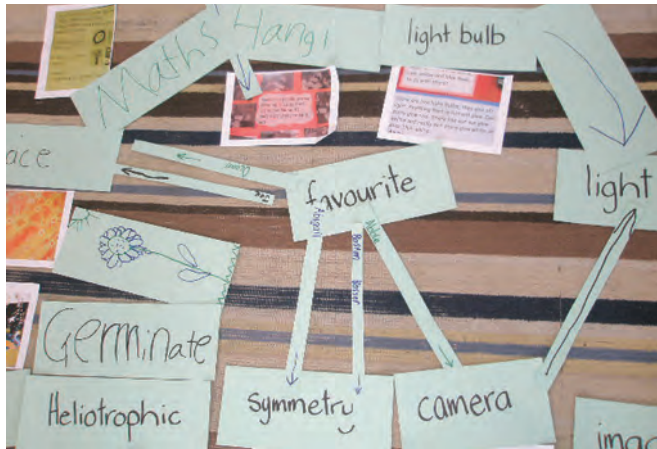


Fig 2.4 Cross-curricula connections by Year 3 children

Teachers who have made the effort to understand curriculum integration, challenge their existing practices and negotiate curriculum with students have found they are more than compensated by their students' learning progress. This growth includes high motivation, depth of learning and persistence. Some of the specific changes in their students that teachers have reported include the following (Fraser & Whyte, 1999, pp. 1–2):

My kids didn't want to see the slides at the zoo [which the zoo officer had prepared for school trips] they wanted to keep asking her questions. (Junior class teacher)

The learning activities are more spontaneous, driven by children in their search for answers about their world. (Middle primary teacher)

The children don't need to satisfy the teacher as much as they used to. They gain pleasure out of reaching their own aims. (Junior class teacher)

I was really surprised by the range of questions they came up with. (Teacher of 5- and 6-year-olds)

The children are more returning to things, like the greenhouse effect, and revisiting it at a deeper level. They're using the ideas they developed earlier in the year to set up experiments and extend their knowledge later in the year. They never used to do that. (Middle primary teacher)

I've been so impressed by the quality of the children's writing and discussions ... now they comment on each other's ideas back and forth. (Middle primary teacher)

Conclusion

Improving students' learning is inextricably linked to the improvement of teaching (e.g., Darling-Hammond, 1998). Curriculum integration promotes a "high" pedagogy (Beane, 1997) that is culturally responsive, relevant and engaging (Bishop & Glynn, 1999). The skill, knowledge and passion required for such a pedagogy is a considerable challenge for teachers, but one that many welcome when they realise the learning gains for their students.

Unpacking the process of curriculum integration enables teachers to understand the crucial details and the depth of learning and teaching. Many will see the strong links between this approach and inquiry-based learning. These processes bring teachers closer to how students learn and how much they *can* learn. Curriculum integration also enables teachers to understand what students want to learn, and therefore what they *need* to learn to access the knowledge they desire.

It seems clear that the benefits of curriculum integration and the learning experience it provides far outweigh the challenges and concerns related to its implementation. In terms of further research, it would be beneficial to know more about the learning gains for students who are experiencing an integrated curriculum. This book goes some way towards providing tangible data from classroom research that reveals what that learning looks like.

The case studies of classroom practice in this book reveal a range of examples that connect curriculum. Some (such as Chapter Nine) clearly exemplify the intent of curriculum integration as described above. Others reflect some curriculum integration principles but are not as far along

the continuum. A few thematic elements are evident in several chapters, such as some teacher planned and directed activities within a partly negotiated unit. We hope that this variation is helpful for readers as they consider their own practice and reflect upon where they “sit” on the curriculum integration continuum. Readers may also like to consider the opportunities for negotiation outlined in each chapter.

Each of the chapters has in common: the importance of sharing decision making at various points with students; an emphasis on student engagement in solving problems (not just following instructions); and units where the focus is confined to a few learning areas rather than stretching to cover the curriculum. In summary, the case studies in this book show effective ways to connect curriculum, negotiate with students and deepen the learning experience.

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