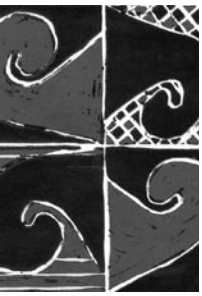

Nurturing Talent through Curriculum Integration

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ABSTRACT
In this paper I discuss the benefits of curriculum integration for gifted and talented students in the regular classroom setting. Although this approach to curriculum delivery enhances learning for all learners, the focus of this article is the gifted and talented student. In this paper I begin by describing the approach and the teacher's role in the process. I then explore how curriculum integration differentiates learning, enhances cultural inclusiveness and crosses traditional subject boundaries. Examples of integrated units are woven throughout this paper to illustrate how this approach can be implemented in practice.

Practice Paper
Keywords
Curriculum integration, differentiated curriculum, differentiated instruction, gifted, inclusion practices, inclusive classrooms, gifted, learning experiences, Māori culture, negotiating curriculum, teacher roles.

INTRODUCTION

In New Zealand education it has long been accepted that "one shoe size does not fit all". Individualisation of instruction has been the established form of practice, and teachers have become well versed in modifying the regular classroom to meet student needs. National Administration Guidelines (Ministry of Education, 2005) mandate that the needs of gifted and talented students must be addressed and curriculum statements have been designed to allow flexibility of delivery (Ministry of Education, 2000). Research reveals that, although progress is being made in the education of gifted and talented students, there is need for further development in this area (Riley, Bevan-Brown, Bicknell, Carroll-Lind, & Kearney, 2004). In this article it is proposed that through adopting an integrated approach to curriculum delivery the needs of *all* learners, including gifted and talented children, can be addressed. Curriculum integration provides a more inclusive and equitable learning environment where teachers negotiate curriculum, differentiate learning, accelerate content and enrich.

WHAT IS CURRICULUM INTEGRATION?

Curriculum integration involves teaching through contexts that are gleaned from children's experiences, interests, wonderments, and passions. These meaningful contexts may evolve as a result of a skilled teacher seizing upon a teachable moment or, alternatively, may be sparked by a child posing a question or, as Beane (1997) suggests, the investigation of an issue or concern.

The Draft New Zealand Curriculum (Ministry of Education, 2006) discusses the need for children to experience a curriculum that connects with their lives. In my teaching experience students have pursued investigations fuelled by a bullying incident, an international email arriving and even boredom in the playground. 'These questions and issues are then used to "co-construct" or "negotiate" the curriculum *with* the teacher, allowing all children's voices to be heard and valued' (Brough, 2006, p. 10). These voices include the voices of our gifted and talented students.

Curriculum integration is not so much an approach as a *way of thinking about learning and teaching.* The process is driven by the students and the themes provide a vehicle for the students to explore and learn about the world in which they live. Once questions are posed, students begin to negotiate the curriculum considering what they already know about the topic, how to group or organise investigations, how they might find and implement solutions, what skills they may require, and how they will present and assess their learning. Children are able to see a genuine purpose for the acquisition of particular skills. It is important to appreciate that curriculum integration is more than merely integrating subjects. It is a philosophy that crosses traditional subject boundaries and empowers the learner (Brough, 2006).

THE TEACHER'S ROLE IN THE CURRICULUM INTEGRATION PROCESS

The teacher's role in the learning process necessitates a high level of pedagogical skill. Expertise in questioning is required, skilled classroom management and a comprehensive knowledge of curriculum allowing teachers to compact several curriculum levels when required. These skills allow the teacher to provide appropriate resourcing, scaffolding, enrichment, and acceleration. Teachers who are most successful with talented students are those who adopt a particular pedagogical style that involves the sharing of decision making with students: they facilitate, rather than regulate, mentor rather than teach, while providing holistic educational experiences (Tomlinson, 1995). For many teachers this entails a paradigm shift requiring them to move from a position of power to one of empowerment. Cathcart (1998) views the teacher as someone who is a partner, facilitator and resourcer. She describes this as a new way of thinking about teaching. While this is not a new concept, it can be an approach many teachers might find too challenging and uncomfortable.

CURRICULUM INTEGRATION DIFFERENTIATES LEARNING

Another challenge facing teachers is the need to differentiate or individualise curriculum delivery. This requires that the content, process and products all be adjusted to suit individual needs. While differentiation is necessary for all students, educators of gifted children have expressed a particular need for its implementation as it has the capacity to address many of the frustrations currently experienced by gifted students. As one teacher noted, 'Children already come to us differentiated. It makes sense that we would differentiate our instruction in response to them' (Tomlinson, 1999, p. 24). Differentiating instruction often necessitates compacting the curriculum or acceleration. This involves early exposure to new content, or coverage of the same content more rapidly. Curriculum integration addresses this issue, providing students with the opportunity to follow their own passions and work at a level that provides challenge and extension. The Ministry of Education (2000) suggests differentiation is not about more of the same but it is about 'well-thought-out, meaningful learning experiences that capitalise on students' strengths and interests' (p. 36). It is obviously important to establish children's prior knowledge in order to avoid unnecessary repetition, allowing teachers to match learning experiences to need.

It could be argued that differentiating the curriculum is easier to define than to implement (Tomlinson, 2001), and many teachers may have difficulty visualising how to manage and implement this approach in the classroom. A window into my classroom programme is provided to illustrate how adopting an integrated approach to curriculum delivery can enhance learning and differentiate curriculum.

CURRICULUM INTEGRATION IN ACTION

On Monday morning the teacher aide who worked in my Year 1 to 2 class announced excitedly that he had driven to school in his new car. The children then proceeded to ask him a number of questions, one of these predictably being "What colour is your car?" He replied that it was white, and he thought white was the most popular colour car on the road. This comment generated a debate as many of the children's family cars were not white and Batman's car was black and, therefore, he must be wrong. I seized upon this learning opportunity and asked the children how we could find out for certain about the most popular colour. Amongst the many suggestions were: "We could see what colours our cars are then ask children in other classes", "We could go and look at the colours of the cars parked around school, and in the staff car park", and "Some of us could go and watch the cars going past on the road". All the children were very keen to pursue the investigation, and I then asked them to consider how they would show their findings. They were given the freedom to work in groups or as individuals.

The collection of data varied greatly. Some individuals designed a variety of tally type charts and one child drew a mark with a different coloured crayon to represent the colour of the car going past. One group chose to draw pictures of cars using the appropriate coloured crayon, and another attempted to write down the colour of each car as it travelled past. Both of the latter two groups found they had to adapt their initial method of recording because they were unable to record the data quickly enough. On the children's return to class the results were discussed and the different processes for collecting data were shared. The children were surprised to learn that some of their results differed. After a long, thoughtful silence a student suggested he and another child should total the results so they could be sure. Other students offered to make a large graph to show their families what had been discovered and a discussion took place on which graph would be the most appropriate. Colours of superheroes' cars were also discussed and this investigation snowballed to include the children exploring automobiles in cartoons and graphic novels.

UNPACKING THE ACTION

Throughout the initial investigation children were provided with choice of presentation. For instance they were asked what they already knew about graphs, and invited to display their data in a meaningful way. Acceleration was used to extend the children who were calculating and displaying the classroom data. They were introduced to more sophisticated graphing methods and involved in collating and calculating large amounts of data. All these young children were able to discuss the results of their investigations as they were in control of the learning process. This approach is in contrast to the teacher who may have pre-planned the statistical investigation topic and provided a bar graph for the children to colour in as instructed.

The learning context described arose as a result of capitalising on children's interests, an essential component in the curriculum integration process. The investigation of car colours provided individuals with the opportunity for flexible grouping and cooperative learning. The children not only worked as individuals but were also provided with the opportunity to work with friends or complete the more challenging class graph activity. This provided both heterogeneous and homogeneous grouping. Continual exposure to traditional heterogeneous cooperative learning can result in frustration or lack of challenge for gifted and talented students. It is therefore essential that a flexible balance of grouping practices is employed (Ministry of Education, 2000). The students' suggestions extended the initial investigation further to include superheroes' vehicles and comics. They read and studied a variety of comics, designed their own story boards and published materials for our library.

Differentiation arises when lessons are learner-directed rather than teacher-directed. This investigation was initiated by the children and the process was driven by the students' suggestions. The children's learning needs were differentiated as the process and content was individualised. Learning was accelerated where necessary by extending literacy, graphing and calculating skills. A responsive learning environment according to Clark (2002), provides challenge, offers opportunity for in-depth activity and provides minimum time constraints. One of the skills teachers of curriculum integration require is the ability to be flexible, especially in terms of planning and timetabling. The children's debate concerning the car resulted in a complete change to the intended classroom programme.

CULTURALLY RESPONSIVE LEARNING ENVIRONMENTS

Curriculum integration not only provides motivating learning contexts and differentiates curriculum but also creates a more culturally-inclusive learning environment. Teachers who provide culturally-inclusive classrooms recognise that meaningful contexts vary from individual to individual and from culture to culture. It is essential therefore, that teachers are sensitive and informed about the individuals in their class. Teachers should also be aware that their cultural perception of what it means to be "gifted" may be vastly different from the children they teach. If this is overlooked, teachers can inadvertently deny children an inclusive learning environment, and as a consequence, their talents may be neither recognised, nor nurtured.

In New Zealand it is essential that teachers are aware of the Māori concept of giftedness. Moltzen (cited in RymarczykHyde, 2001) reports that gifted Māori children are rarely identified or provided for. This is probably due to cultural stereotyping and lack of understanding. From the results of Bevan-Brown's research a Māori "concept of giftedness" has emerged which includes a multitude of different abilities. However, she stressed that these concepts will not necessarily apply to all Māori learners as they are a diverse people (Bevan-Brown, 2004). These concepts include: being of service to others; interpersonal and intrapersonal skills such as humility, reliability, patience, honesty and moral courage; ability and skill; Māori knowledge; language ability; leadership (both up-front and behind the scenes), and the passing on of knowledge. It is also essential to note that gifts and talents can be "owned" by a group. Individuals are often not named as ability is demonstrated through group interaction. These are presumably challenging concepts for many teachers as research shows that many New Zealand schools do not make provision for Māori perspectives and values (Riley et al., 2004).

Curriculum integration endorses a culturally responsive pedagogy as the decision making process empowers learners. Inevitably, this results in the provision of a more equitable learning environment. Curriculum integration values prior knowledge, celebrates diversity and is holistic in nature. Children feel heard and valued. Beane (1997) views curriculum integration as a way of bringing democracy to the classroom. Bishop (2001) suggests curriculum integration is a way of establishing collaborative learning partnerships which help to enhance student/teacher relationships and address learning needs. Fraser and Paraha (2002) concur, suggesting it promotes the principles of the Treaty of Waitangi through partnerships.

CULTURALLY INCLUSIVE PRACTICE IN ACTION

As a non-Māori, the author has attempted to address the needs of Māori students not only through embracing shared decision making but also by tapping into the richness of the Māori culture. The following is an example of a learning experience that provided an opportunity for giftedness to emerge and be nurtured. The experience arose as a result of a name being bestowed on a whānau grouping of classes to which my students belonged. The name "Raukura" was given, which was interpreted to mean a precious treasure, symbolised by the rarity of the albatross feather. During this integrated unit two classes of 8 to 10 year old children (in a year 4 and 5, team teaching situation) decided to create a dance that was to be performed for the benefit of both the local and wider community. The children wished to challenge the audience to address the plight of the albatross which they had studied at some length. The students built on dance skills acquired throughout the year, working in groups, sharing leadership and creating movements that represented the ocean and the dangers the albatross faced at sea. To present the challenge some of the boys needed to learn how to use the taiaha as part of their haka. Senior boys skilled in the use of the taiaha were called upon and, with the appropriate supervision, proudly passed on their knowledge to the younger boys. Advice was sought from parents and many of them involved themselves in costume making and moko designs.

This unit of learning encompassed the sharing and teaching of traditional skills and knowledge, service to others, consultation with whānau, creativity, artistic talent and use of contexts for learning that were relevant to Māori. As the draft New Zealand Curriculum (Ministry of Education, 2006) suggests, this group of children experienced a curriculum that addressed their learning needs, affirmed their identity, heritage and talents. The group as a whole acknowledged "kotahitanga", as this is what generated the outstanding dance performance. It also gave the opportunity for several children to earn mana: some were recognised for their personal qualities, service, or artistic ability, and others for their leadership roles.

In previous years, several of these children had been known for their non-conformity and over excitability rather than their performance and leadership skills. Bevan-Brown (2004) suggests environments that allow talent to emerge are: holistic and flexible; appreciate talented groups; foster language development; embrace Māori perspectives and culture and offer opportunities for leadership and service. Curriculum integration has the potential to address many of these needs. In my experience, parents and whānau of Māori children are exceptionally supportive when teachers show a genuine desire to embrace their children's culture. Similarly, I have found the parents of children from other cultures were equally as keen to have their child's culture respected and celebrated within the class. They also appreciated the opportunity for a more holistic approach to curriculum delivery that crossed traditional subject boundaries.

CROSSING CURRICULUM BOUNDARIES

In the real world we are rarely faced with problems that do not involve us drawing on numerous different skills, strategies and subject areas. As with most children, gifted and talented students possess wide-ranging interests that often cross subject specific boundaries. The following is an example of an integrated unit which resulted in numerous curriculum disciplines being explored. This unit was planned *with* my class of 8 to 10 year old children previously discussed.

I was fortunate to receive an email from a teacher in England who was planning to visit New Zealand. He wanted his children, who were living in a predominantly white British community, to correspond with a class in New Zealand to learn about a culture other than their own. I shared the email with my students and they were very keen to respond, and they immediately began asking a barrage of questions about living in England. They considered how they might organise and find answers to their questions, anticipated what skills they would require, and how they would demonstrate their learning. This integrated unit was driven primarily (and simply) by curiosities. Ultimately, it resulted in numerous curriculum areas being covered and the programme allowed time and flexibility for children to pursue specific interests in depth. The children suggested activities and examined differences and similarities across countries. They were involved in a vast array of investigations triggered by questions: Why were the English children asleep when we were at school? Why are the seasons different? What different sports and interests did they have in common? What was their school like? Where did they go for their holidays? What were their favourite games, books, foods etc?

The children also considered different ways they could communicate, what they would share and how long each method would take. Faxes were exchanged, letters and parcels were posted and emails sent daily. Tapes and videos were created to share local legends through stories, art, songs and dances. The children planned and prepared for several web camera evenings and a pōwhiri (welcome) was conducted to greet our English visitor. This comprehensive unit resulted in the coverage of five different curriculum areas (mathematics, science, English, social studies, the arts) with Māori and information technology woven throughout. The five key competencies – self-management, relating to others, participating and contributing, thinking skills, the use of language symbols and texts – would also have been required (Ministry of Education, 2006). This unit was planned entirely by the children and assessed collaboratively. It resulted in the exploration and investigation of different interests simultaneously through use of a rich learning context. This allowed the children to make meaningful connections across different curriculum areas (refer Brough, 2006 for a comprehensive account).

REFLECTION

Throughout integrated units both skilful management and scaffolding must be in place, to ensure that quality outcomes are being achieved. Children should be involved in setting goals to ensure individual needs are catered for and that acceleration occurs where necessary.

Acceleration can be tackled through the use of group and individual conferences, as gifted children require content and skills that are often more advanced than that of their peers.

Curriculum integration allows students to move beyond the basics to the complex. It provides the opportunity to make connections between ideas and involves higher order thinking strategies. Riley (2004) commented that integrated approaches not only allow for relevant content, but also simulate the knowledge and thinking needed by professionals who work within separate disciplines. Research to support an integrated approach is strong with gains seen in academic, motivational responses and positive teacher attitudes (Van Tassel-Baska & Brown, 2001). According to Moltzen (2005), students who are gifted and talented wish to: explore topics of interest in-depth for sustained periods of time; engage in rich discussion and debate; partake in tasks involving creative and higher order thinking; be provided with a differentiated programme that takes prior knowledge into consideration, and have the opportunity to work with likeminded others. They seek teachers who model a love of learning and recognise them as individuals; they wanted teachers who understood that "one size does not fit all". This sounds remarkably like curriculum integration in action.

Throughout this paper I have outlined how curriculum integration nurtures young talent in the regular classroom setting. It ensures *all* children are given the opportunity to develop to their full potential. As Renzulli (1998) suggests "A rising tide lifts all ships". While undoubtedly beneficial for *all* children, implementation is critical for gifted and talented students from all cultural backgrounds whose needs many New Zealand schools have failed to fully nurture. 'Education is not filling a vessel, but lighting a fire' (Jung, as cited in Boyes, 2001, p. 38).

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