Curriculum Integration in New Zealand

A Roadmap for Success

October 2022

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"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." (Drake, 1998, p. 24)

This quote highlights the importance of curriculum integration to add authenticity to learning experiences. It involves a shift in the traditional role of the teacher in dynamic settings (Fraser, 2013). It is more than just connecting pieces of information, but relating them in meaningful ways for students to see a bigger design, "knowledge is meaningfully related and connects in such a way that it is relevant to other areas of learning as well as real life." (Morris, 2003, p. 164). This allows learning to be more reflective of the real world and is considered more authentic by many (The Education Hub, 2020).

The concept of curriculum integration is not new and has been done throughout New Zealand education in the last century but has re-emerged as a key theme of 21st century learning (The Education Hub, 2020). The concept of curriculum integration has evolved from thematic units in subject areas to a more integrative model whereby subject matters are organised according to student needs and development (Dowden, 2010). In a modern learning environment, schools might relate the concept of curriculum integration most closely with inquiry learning, "curriculum integration is most often linked with inquiry learning. The logic here is that, in an authentic inquiry context, students need to draw on more than one subject to fully investigate a problem or a topic." (The Education Hub, 2020).

Challenges of curriculum integration

The process of curriculum integration, however, is relatively misunderstood by many staff. This includes a lack of knowledge of how curriculum integration works and how the curriculum can be adequately covered in authentic inquiry/integrated learning programmes (Fraser, 2013). Furthermore, student-centred curriculum integration can be difficult to implement in an education system with deeply entrenched practices and beliefs around single-subject education (Dowden, 2010). This may be why curriculum integration efforts in New Zealand can face resistance from teachers, particularly those with significant experience in delivering the curriculum to prescribed guidelines and outcomes.

Deeper learning through curriculum integration

The goal of curriculum integration, at its core, is to provide opportunities for deep learning – a wider and deeper understanding of the topic as a whole, allowing learners to think abstractly and critically (The Education Hub, 2020). In a 2018-2019 review of curriculum integration in New Zealand schools, teachers indicated that curriculum integration is used primarily for the following 5 reasons:

1. To provide opportunities to explore relevant and authentic issues
2. To enhance opportunities for all students to achieve
3. To provide opportunities for students to develop 21st century learning capabilities
4. Opportunities for students to "see connections" and "go deeper"
5. Enable more efficient curriculum delivery and use of time (McDowall & Hipkins, 2019).

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The New Zealand Curriculum gives schools the mandate to make connections within and across learning areas, with local contexts, community, and the wider world (Fleck, 2019). *The New Zealand Curriculum* specifies that "All learning should make use of the natural connections that exist between learning areas and that link learning areas to the values and key competencies." (p. 16)[1].

The curriculum allows for integration opportunities to enrich the curriculum and deepen learning, and several teachers are now creating opportunities for authentic learning opportunities and further collaboration.

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[1] PDF available at https://nzcurriculum.tki.org.nz/content/download/1108/11989/file/NZ%20Curriculum%20Web.pdf

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Impact on Students, Staff, and School

Curriculum Integration is intended to provide authentic, deep learning experiences. Fleck (2019) describes 7 positive impacts on students:
- Higher engagement in learning, greater relevance to their world
- Fewer attendance concerns, less pastoral incidents
- Developed deeper questioning and independent thinking skills
- Able to recognise connections between different subject areas
- Increased ability to transfer learning and competencies to other contexts
- Students happy and confident in learning
- More committed approach and value towards learning and achievement

The concept of student-centred integrated learning is developmentally appropriate for adolescent students, particularly as they seek control over their lives, new challenges, responsibility, and extending their competence and connecting competencies (Dowden, 2010).

A study by Brinegar and Bishop (2011) found that initial scepticism shifted to engagement as students better understood the learning processes involved in curriculum integration. It has been observed that curriculum integration may be particularly beneficial for at-risk students due to increased motivation and student self-efficacy (MacMath et al., 2010). Personalised inquiry allows students to explore subjects of interest to them which is motivating to them (The Education Hub, 2020).

In the review of curriculum integration in New Zealand, McDowall and Hipkins (2019) conducted workshops with teachers and asked some survey questions. They found that most students that teachers taught were more engaged in instances of curriculum integration, particularly for those who had traditionally struggled to engage. Many teachers reported students taking their thinking to a deeper level, possibly from increased motivation and more time to explore topics of inquiry. With curriculum integration, students were able to develop a wider range of capabilities across disciplines than in isolated conditions.

Curriculum integration may also be beneficial for staff when implemented correctly and there has been adequate time and resources for planning. Fleck (2019) lists the following potential benefits for staff:
- Increased collaboration across the school
- Enhanced understanding of what happens elsewhere in school
- Increased knowledge and understanding of different curriculum learning areas
- Increased enthusiasm and passion for teaching
- Increased use of active education pedagogies
- Meaningful use of Teaching as Inquiry

A big concern for teachers is the amount of time needed for successful implementation, and it may be perceived that more time is needed than what is readily available, especially if they perceive curriculum integration as being forced into their practice. Curriculum integration may actually save time in the long run because they facilitate students' inquiry into deep and compelling issues, rather than being caught up in the minute details of narrow planning (Fraser, 2013). "Lessons can become more meaningful to students and save teachers valuable time when subjects are integrated properly, not superficially." (Morris, 2003, p. 164). With time and practice, staff who are initially against the concept of curriculum integration may find benefits to their workload and flow.

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Usage Findings in New Zealand

In 2018-2019, the review by McDowall & Hipkins gathered information on how curriculum integration is used in New Zealand. More than 50% of participating principals indicated that curriculum integration occurs to some degree, and 30% of teachers indicated they had participated in curriculum integration efforts. Largely, this usage was in years 9-10, prior to NCEA. As years 11-13 become more specialised to NCEA requirements, curriculum integration may be more difficult to implement in ways that allow for teachers to be innovative while still ensuring that students are receiving credits and meeting learning goals under more strict national learning criteria.

The extent to which teachers worked together varied. Sometimes it was restricted to planning, but others worked together as a team during learning in larger learning spaces. This likely depends on the school design, including the presence of flexible learning environments and breakout spaces that allow for teachers to collaborate in large spaces with large groups of students. It was largely used as part of a wider suite of pedagogical approaches, including student-led inquiry, personalised learning, play-based learning, team teaching etc. Efforts to integrate also varied in terms of how much students led their own work, such as total freedom of choice vs. predetermined topics.

English, the arts, and social sciences were the most common areas for curriculum integration. Science and mathematics teachers were more likely to agree that it is more difficult to cover subjects in depth.

76% of principals and 68% of teachers believed curriculum integration was successful or very successful. 77% of teachers agreed or strongly agreed that curriculum integration allows students to better build meaningful connections between learning areas than learning those subjects separately. 65% agreed it is more engaging for students. 59% believed students learn more about the nature of the different subjects involved. Just under half agreed or strongly agreed that student learning outcomes are better.

74% of teachers indicated they found it easier to explore authentic issues and contexts, 72% found it more stimulating to work with other teachers, and 68% found it more engaging for them as a teacher.

43% agreed it is more work to teach, 42% that it is more difficult to cover each subject in depth, 38% that integration caused timetabling difficulties, and 38% that it is difficult to align with NCEA and such courses are more work to assess (36%).

Usage statistics and teacher perceptions such as these from McDowall & Hipkins highlight the potential for curriculum integration to strengthen teaching and learning practices at school, not only in terms of linking knowledge areas and competencies, but also in enhancing student engagement and creating more positive learning outcomes.

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A Roadmap for Curriculum Integration Success

Integration for the sake of integration can interfere with learning as activities will not be meaningful (Morris, 2003). Across research, it is clear that curriculum integration needs to be carefully planned.

"Lessons can become more meaningful to students and save teachers valuable time when subjects are integrated properly, not superficially." (Morris, 2003, p. 164).

This, however, requires time, training and resources for staff. In assessing various research and resources on successfully implementing student-centred curriculum integration, we split the integration process into four key areas: Preparation, planning, execution, and evaluation. There is an emphasis on the planning stage as this will help ensure that integration efforts are not superficial. Without effective planning, the execution of curriculum integration activities may not be successful and may further push staff and students from trying to integrate the curriculum.

Preparation

1. Decide what educational goals integration will achieve and have them as the primary focus of curriculum integration
2. Integrate curriculum integration into strategic planning, annual goals and other relevant governance documents
3. Consult on curriculum integration where necessary with staff and the school community to determine opportunities and risks
4. Communicate clearly with staff why curriculum integration will occur and why it is important
5. Decide on the scope of integration
   a. If curriculum integration is new to the school, we recommend starting small and using modules or phases as trials upon which to build
   b. A curriculum integration *programme* will be more encompassing and may be more appropriate if staff have prior experience with integration
6. Decide on the level of integration, whether it is discipline-based (e.g. within science) or full integration across disciplines (this will depend on the educational goals of integration)
7. Determine the training needs of teaching staff and make targeted PLD accessible for staff

Planning

8. Establish dedicated roles for curriculum integration, such as in a working group, and elucidate their responsibilities
   a. Consider whether this is across the curriculum or in modules
   b. We recommend the inclusion of teaching staff and not making roles exclusive to school governance or leaders
   c. Consider coordinators and committees and ensure their roles and responsibilities are unambiguous
9. Provide the appropriate amount of time for staff to plan and collaborate without disturbing their current responsibilities or significantly adding to their workload
10. Design learning outcomes specific to educational goals and curriculum areas

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11. Within each discipline, outline the curriculum content to be covered – a concept map may be a helpful resource to create and find opportunities for enrichment
12. Determine in what order content will be delivered to ensure that students receive the information they need to continually progress
13. Incorporate integration into the curriculum, allowing for continual progression
14. Select assessment methods and tools and formalise criteria upon which learning outcomes will be formally assessed
    a. Mix traditional subject-specific teaching with new integrated approaches
    b. Rubrics may be useful to assess competencies and capabilities in integrated areas
    c. Rich assessment tasks may be used as evidence of deeper learning

Execution

15. Allow adequate time and release for teaching staff to collaborate, plan, and evaluate curriculum integration
16. Tailor activities and material to the developmental progress of students
17. Ensure that integration opportunities are applied in authentic contexts and are tailored to the interests and passions of students – with inquiry learning, students may be able to choose their own project areas of integration under adequate supervision
18. Provide guided inquiry, ensuring students are supported and supervised in their projects and progress
19. Mix inquiry/integration with direct instruction, ensuring that students have a knowledge base upon which to build
20. Teach concepts in a logical order that allows students to make connections and deepen their learning
21. Conduct assessment consistently according to predetermined assessment criteria
22. Provide students with ongoing feedback
23. Frequently share curriculum integration activities and outcomes with parents and whānau

Evaluation

24. Include curriculum integration in teacher reporting and KPIs (where appropriate)
25. Compare student learning outcomes to educational goals
26. Assess how learning outcomes fit into the school's annual plan and strategic goals
27. Assess gaps in student knowledge, competency, and capability included in the original plan
28. Where gaps exist, allow staff to collaborate and plan how to address this
29. Consult with students on how they learn with integrated units etc., and what might help for their deeper learning and engagement
30. When engagement/consultation opportunities arise with the community, ask them about curriculum integration and identify any opportunities from the community
31. As necessary, update documents outlining the curriculum to reflect how curriculum integration evolves as the staff learn and grow their expertise

Fleck, 2019; Morris, 2003; Malik & Malik, 2011; The Education Hub, 2020.

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Practical tips for success

In regard to incorporating integration into the curriculum and getting teachers on board, it is possible that there may be resistance, or external factors such as time and resources may impede well-intentioned integration efforts. It is recommended to start small, building connections with two learning areas and trialling integration (Fleck, 2019). With small, successful foundations in place, larger-scale integrations may be further explored. Efforts to achieve full integration without trial may result in large-scale failure, and this could jeopardise morale and staff perceptions of efficacy, making future attempts more difficult.

Connecting teachers may be difficult if those teachers are resistant, thus it is important to work with the willing and find opportunities for integration with teachers who want to be involved (Fleck, 2019). 'Change champions' may be identified to act as initiators and 'trend setters', showing the potential of curriculum integration and modelling how it can be done effectively. Collegiality and social networks will be useful to draw staff together to collaborate. Where there is animosity or staff are unwilling, efforts to force integration may not be successful and worsen staff perceptions.

Psychological safety is essential throughout this process. Teaching staff need to be able to make mistakes, speak up, and ask questions. The feelings of psychological safety enhanced through having a learning culture at the place of work encourage staff to take risks, experiment, and engage in innovation (Higgins et al., 2012). Allowing staff to experiment through trial and error and using mistakes as learning opportunities will strengthen curriculum integration as staff are safe to innovate and experiment.

Preparation

Planning

Execution

Evaluation

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Next Steps

This piece of work is exploratory in determining what curriculum integration is and how it may be achieved within schools in Aotearoa. NZCER has already conducted research into the current state of curriculum integration in New Zealand with regards to why and how it is implemented and the perceptions of teachers of its efficacy for engaging learners (McDowall & Hipkins, 2019). These results have been discussed throughout this paper. We do not recommend reconducting this work, but rather, further exploring how teachers implement curriculum integration according to the recommendations above. Next steps may be:

1. Identify schools that are piloting curriculum integration (those in the first two years of formal integration efforts) and some with well-established integrated curriculums to conduct interviews or short workshops with involved staff.

2. Interviews and workshops would cover the curriculum integration process – the planning, execution, and ongoing evaluation of integration efforts; in particular, the process that staff followed and their perceptions of how this leads to the success or failure of aspects of curriculum integration.

3. The result would be a refinement of a "curriculum integration roadmap", combining tips from a variety of resources and research articles with anecdotes and evidence supplied by New Zealand teachers with lived experiences.

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References

Brinegar, K., & Bishop, P. A. (2011). Student Learning and Engagement in the Context of Curriculum Integration. Middle Grades Research Journal, 6(4), 207-222.

Dowden, T. (2010). Curriculum integration in Aotearoa New Zealand: Rediscovering the potential of student-centred curriculum design in the middle years. Australian Journal of Middle Schooling, 10(2), 4-10.

Drake, S. M. (1998). *Creating integrated curriculum: Proven ways to increase student learning*. Thousand Oaks, CA: Corwin Press.

Fleck, C. (2019). *Creating a Connected Curriculum*. Te Kete Ipurangi. https://nzcurriculum.tki.org.nz/Curriculum-resources/NZC-Online-blog/Creating-a-connected-curriculum

Fraser, D. (2013). Curriculum integration. *Connecting curriculum, linking learning*, 18-33.

Higgins, M., Ishimaru, A., Holcombe, R., & Fowler, A. (2012). Examining organizational learning in schools: The role of psychological safety, experimentation, and leadership that reinforces learning. *Journal of Educational Change*, 13(1), 67-94.

MacMath, S., Roberts, J., Wallace, J., & Chi, X. (2010). RESEARCH SECTION: Curriculum integration and at-risk students: a Canadian case study examining student learning and motivation. *British Journal of Special Education*, 37(2), 87-94.

Malik, A. S., & Malik, R. H. (2011). Twelve tips for developing an integrated curriculum. *Medical teacher*, 33(2), 99-104.

McDowall, S., & Hipkins, R. (2019). *Curriculum Integration: What Is Happening in New Zealand Schools?* New Zealand Council for Educational Research. https://www.nzcer.org.nz/research/publications/curriculum-integration-what-happening-new-zealand-schools

Morris, R. C. (2003). A guide to curricular integration. *Kappa Delta Pi Record*, 39(4), 164-167.

The Education Hub. (2020). *An introduction to curriculum integration*. Retrieved from https://theeducationhub.org.nz/an-introduction-to-curriculum-integration/

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Contact Details

www.growwaitaha.co.nz

growwaitaha@gmail.com

www.facebook.com/growwaitaha

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