

What do flexible learning spaces mean for curriculum organisation in secondary schools?

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Abstract

Traditional sole-teacher classrooms are being replaced by large, open, flexible learning environments in New Zealand schools. Teacher collaboration within these shared teaching and learning spaces raises important questions about curriculum organisation in secondary-school settings. If secondary teachers are to work collaboratively in shared spaces, will collaboration occur in cross-subject teams or within traditional subject boundaries? This article seeks to open for debate the topic of how curriculum might be organised in secondary schools with shared teaching and learning spaces. While examples exist of schools that have radically reorganised curriculum into contextualised cross-subject modules, this article suggests that there is also value in continuing to organise the secondary curriculum around subject domains.

Introduction

The shape of education in New Zealand is changing, quite literally. New teaching and learning spaces, variously called flexible, modern, or innovative learning environments, are replacing traditional classrooms. These new spaces, characterised by an abundance of glass and natural light, are generally designed to accommodate a large group of learners and multiple teachers within the same open, yet flexible, space. Such a model is potentially more problematic to adopt in secondary schools than in primary. While primary teachers have generally been responsible for one group of learners and all curriculum learning areas, secondary teachers have traditionally been subject specialists working with different groups of learners across the school day. If secondary teachers are to work collaboratively, sharing the learning environment with other teachers, a question that schools must quickly address is whether teachers will collaborate within or across traditional subject boundaries. Shifting from subject specialisation to cross-subject collaboration represents a significant

upheaval in curriculum organisation for secondary schools and is a topic worthy of discussion and debate. As yet, this topic has received little attention in the research literature exploring innovative learning environments (ILEs) in New Zealand and Australian secondary schools. While there is a clear policy drive and strong advocacy for ILEs in New Zealand, secondary schools seem to be sitting in something of a blind spot. Despite the significant implications ILEs have for curriculum organisation in the secondary sector, the Ministry of Education's online support materials for teachers working in ILEs feature many more examples of ILEs in primary school settings than in secondary (Ministry of Education, n.d.). Furthermore, the research literature offers only passing glances into how secondary schools are making use of open, shared spaces. This article seeks to shed some light into this blind spot and open for debate questions relating to curriculum organisation in secondary-school ILEs. What are the possibilities for secondary curriculum organisation in shared learning spaces? Are new structures required for organising the secondary-school curriculum in the 21st century, or is there still a place for curriculum organised along subject lines? Questions such as these are of great interest to secondary schools and to initial teacher educators such as myself who seek to understand just what sort of teaching and learning environments we are preparing new teachers for.

Policy push for curriculum integration

The move towards flexible learning spaces in New Zealand has been largely driven by Ministry of Education policy (Ministry of Education, 2015) and is closely intertwined with the 21st-century education narrative. The Organisation for Economic Co-operation and Development (OECD) is a dominant voice in this narrative, asserting that rapid technological change and globalisation contribute to the world "constantly shifting and demanding higher cognitive capacity" of its citizens as countries move towards knowledge-based economies (Groff, 2012, p. 8). Schooling, therefore, "must be centred on fostering the skills and mindsets of self-directed lifelong learning" with a focus on "21st Century competencies" if students are to be adequately prepared for the future (Groff, 2012, p. 9). The reshaping of school buildings is emerging as a byproduct of this educational vision. "Modern learning environments" are a means of "future-proofing school facilities" (Ministry of Education, 2011, p. 15) and allow for "new and innovative teaching" (Ministry of Education,

2013, p.2). The Ministry of Education identifies the OECD's work on innovative learning environments as a rationale for flexible learning spaces, claiming that in such spaces the principles of the *The New Zealand Curriculum* (Ministry of Education, 2007) and ILEs are "enabled and can be enhanced ... with collaborative teaching" (Ministry of Education, n.d.). The idea that collaborative teaching is a way of meeting 21st-century education needs is also evident in the Ministry's ILE Assessment Tool (Ministry of Education, 2017). This tool presents the Ministry's "desired outcomes" in terms of building design and is intended to "help boards of trustees to create flexible learning spaces in all New Zealand schools over the next 10 years" (Ministry of Education, 2017). It is underpinned by design requirements and guidelines for designing school buildings which specify that learning spaces should "enable multiple teachers to engage in collaborative teaching and learning as well as to facilitate cross-curricular learning" (Ministry of Education, 2015, p. 36). This position is reflected in the ILE tool in the criterion that asks if the classroom design allows "teachers to work co-operatively with teachers from other classrooms or specialist disciplines" (Ministry of Education, 2017). These documents assume, in the first instance, that it is desirable for teachers to work together closely and, furthermore, that it is desirable for teachers with different subject specialisms to be working together. Collaborative teaching in secondary-school ILEs is itself an underexplored activity in the literature, but Trask's (2017) qualitative study of science teachers working together in flexible spaces leads her to caution that in the secondary sector "co-teaching across junior and senior classes means multiple collaborative relationships leading to sometimes unworkable time demands" for secondary teachers (p. 83). Ministry policy (Ministry of Education, 2015, 2017) applies to both the primary and secondary schooling sectors, suggesting that secondary ILEs are sitting in something of a blind spot and the differences in the ways primary and secondary schools are typically organised have not been reflected in policy.

Secondary ILEs and curriculum organisation

Gaining a clear view of curriculum arrangements in secondary ILEs is not easy. The research investigating secondary-school ILEs reveals a very eclectic range of spaces and approaches. Patterns have not yet emerged in terms of how ILEs are operating in secondary schools and, in particular, the extent to which shared spaces are influencing the way curriculum is organised.

Indeed, it is rare to find a study with a particular focus on curriculum organisation within a secondary ILE. The site of Alterator and Deed's (2013) case study is an Australian junior high school designed around "learning neighbourhoods". These shared spaces accommodate 100–150 students, taught by a team of teachers. The study's focus is on teachers' reactions to the new spaces, and while teacher participants in the study were identified as teachers of different subjects, the study does not address how curriculum is organised in the shared spaces and how collaborative teaching teams are comprised (Alterator & Deed, 2013). The large shared spaces in this study contrast with the environments considered ILEs by Byers, Imms, and Hartnell-Young (2018a) in their quasi-experimental study. They compare the impact of classroom design on student attitudes and learning outcomes in an Australian secondary school. The environments in this study are in fact sole-teacher classrooms, traditional spaces that have been retrofitted as ILEs. Classrooms have been reconfigured to create layouts with multiple focal points in order to disrupt the tendency for teachers' pedagogy to be dominated by direct instruction from the front of the room (Byers et al., 2018a). A further study by the same team investigated teacher and student spatial transition, again in an Australian secondary school (Byers, Imms, & Hartnell-Young, 2018b). The spaces described in this study, home to the Creative Arts and the Design and Technology faculties, are more open and include a central shared space for design thinking, connected to a variety of other spaces. Again, curriculum organisation is not the focus of the study, but from the descriptions of teaching and learning it is possible to infer that teachers are working autonomously as subject specialists. Trask (2017) reports on secondary teachers working collaboratively in flexible learning spaces, but within their own subject area. In contrast, both McPhail (2016) and Wright (2017), paying particular attention to curriculum organisation, describe integrated approaches to secondary curriculum design. Wright (2017) examines how a new New Zealand secondary school came to develop and structure curriculum, opting for a curriculum organised around thematic modules drawing on a range of learning areas. McPhail (2016) also focuses on a new school where teachers with different subject specialisms collaborate to teach cross-subject units to large groups of students. It is possible to see this range of examples as forming a continuum reflecting different levels of curriculum innovation. At one end would be the sole-teacher, single-subject ILE described by Byers et al. (2018a) and at the other would be

the inter-subject, co-taught, modular curriculum of the large shared spaces in McPhail's (2016) and Wright's (2017) studies. While these examples represent only a small sample of the secondary ILEs that have been discussed in research literature, they have been chosen for inclusion here to reflect the diversity that exists among the environments described, and to illustrate how difficult it is to make any generalisations about what constitutes an ILE in a secondary school and how it typically operates.

While the literature base is not yet able to reveal norms in terms of secondary ILEs, other sources of information do suggest patterns. Information about how secondary schools are organising curriculum in ILEs is shared through teachers' blogs, on Twitter, via the websites of individual schools or educational groups, and through the news media. With the exception of the news media, these sources tend towards advocacy of ILEs and shy away from critique, but they are useful in that they offer new lines of sight into the secondary ILE blind spot. From these sources, it is possible to see a trend among newly built secondary schools in New Zealand towards a cross-curricular approach to curriculum organisation, where the traditional school subjects have been de-emphasised and learning has been contextualised into cross-subject units, modules, or projects (e.g., Amos, 2015; Saville, 2018). This level of innovation and its accompanying willingness to disrupt traditional notions of schooling have sparked much interest from educators and the general public. Where schools, or individuals associated with them, enjoy a high profile in the online space, this can contribute to a sense that these schools are leading the way, that they are forging the path for other schools to follow. But is this the only way to offer a secondary-school curriculum appropriate for the 21st century? What is the place of "core" subjects in modern secondary schooling? Curriculum integration is not a new idea. Beane (1996) traces its history back to the early 20th century and describes a form of curriculum integration that brings together knowledge from different disciplines in co-operatively planned, problem-focused learning experiences. It is also true that curriculum integration does not require flexible learning spaces. It does warrant renewed attention, however, in the context of the current "spatial turn" (Benade, 2019) and accompanying policy steer towards cross-curricular teacher collaboration in New Zealand (Ministry of Education, 2015). Because these shared spaces necessitate some level of co-operation and collaboration among teachers, it is timely for secondary schools to

reconsider the type of curriculum they will offer. Will they retain the subject-specific curriculum and plan for collaborations within subject boundaries or will schools follow in the direction of a more integrated curriculum design with teachers with different subject specialisms planning and teaching cross-subject courses together?

Knowledge and the 21st-century curriculum

These two different curriculum pathways are underpinned by opposing ideas about what counts as knowledge and about what knowledge is for. McPhail and Rata (2016) promote a type of curriculum they call the Powerful Knowledge curriculum, organised around traditional school subjects. They distinguish this from an integrated 21st Century Learning curriculum type which they define as one organised around external organisers such as themes, topics, and projects. Their critique highlights two very different philosophical positions regarding knowledge. The idea of “powerful knowledge” stems from the work of Young (2013) and Muller (Young & Muller, 2013). It values the knowledge developed in the academic disciplines, from which many school subjects are derived, as objective and conceptually coherent. Critical of inter-subject curriculum organisation, McPhail and Rata (2016) question whether it can provide conceptual coherence and support learner progression towards deep understanding of the subject matter within a domain. They recognise a tendency within a 21st Century Learning curriculum to promote personalised learning and to emphasise students’ dispositions, suggesting this may come “at the expense of what they are actually learning” (p. 63). Such views resonate with a belief held by many educators that the specialised knowledge and skills associated with different subject areas are best taught by subject specialists (Wilson, in Education Council of Aotearoa New Zealand, 2018).

The place of knowledge in the curriculum is seen differently by those in favour of integration. Wraga (2009) notes that “the academic disciplines were developed to discover knowledge, not to disseminate it” (p. 89) and claims that a subject-specific curriculum is not coherent at all, but fragmented, because the connections within a subject area are prioritised over connections between subjects. Beane (1996) emphasises that curriculum integration involves learners in applying, rather than simply accumulating knowledge, and in engaging them with problems of real significance to their

lives. He describes a sophisticated model of integration where curriculum is organised around problems or issues, ideally co-planned by teachers and students. It is this central problem or issue that drives the learning, rather than assessment demands or teachers' beliefs about what knowledge is important. Knowledge from any number of subject areas will be brought in to serve this learning purpose (Beane, 1996). According to Wraga (2009), because "social problems and issues transcend disciplinary boundaries", an integrated curriculum provides better preparation for dealing with the complex problems of real life (p. 92). For this reason, the potential for an integrated curriculum to engage students with problems and ideas that have real-life relevance is often posited as a rationale (Brough, 2008; Dowden, 2012; Wraga, 2009). Brough (2008) explains that "teacher knowledge and expertise is vital" (p. 17) within an integrated curriculum, but that knowledge is employed in different ways, "brought into play within the context of the problem", rather than predetermined by the teacher (p. 17).

These ideas about the place of knowledge in the curriculum resonate with ideas emerging from future-focused education literature where knowledge is no longer seen as an end in itself, but as something to do things with (Bolstad et al., 2012; Bolstad & Gilbert, 2008; Gilbert, 2005). Knowledge "has no end point, but is always on the way to something, always in process" (Gilbert, 2005, p. 77). Gilbert (2005) makes distinctions between academic and applied knowledge, taking the view that 21st-century education needs "to put academic and applied knowledge back together" (p. 154). The role of knowledge in schools is presented not as something to be gained or mastered, as may have traditionally been the case in the Industrial Age. Rather, 21st-century learners must also be able to "actively interact with [knowledge]: to understand, critique, manipulate, create and transform it" (Bolstad & Gilbert, 2008, p. 39). This seems to promote a curriculum design that facilitates students interacting with knowledge in more contextual ways, rather than in isolated subjects. At the same time, however, they make clear that "the traditional forms of knowledge still matter" (p. 38). The importance of being able to apply knowledge and see its relevance to new situations is reinforced by the OECD (2010). The well-known report, *The Nature of Learning*, identifies "adaptive competence" as an important goal for learning while also stating that developing "routine expertise" is an important part of this (OECD, 2010, p. 48). Learners need "a well-organised and flexibly

accessible domain-specific knowledge base involving the facts, symbols, concepts and rules that constitute the contents of a subject matter field”, but they also need to move beyond this and acquire “the ability to transfer one’s knowledge and skills to new learning tasks and contexts” (OECD, 2010, p. 48). One reading of these works is that these writers are not so much proposing that schools need to change understandings of the place and role of knowledge in the curriculum, but to expand them.

Horizontal connectedness

This same OECD report draws together comprehensive research into how people learn and identifies, by way of conclusions, seven key principles of learning:

- Learning research strongly suggests that an effective learning environment is one that:
- Makes learning central, encourages engagement, and in which learners come to understand themselves as learners.
- Is where learning is social and often collaborative.
- Is highly attuned to learners’ motivations and the importance of emotions.
- Is acutely sensitive to individual differences including in prior knowledge.
- Is demanding for each learner but without excessive overload.
- Uses assessments consistent with its aims, with strong emphasis on formative feedback.
- Promotes horizontal connectedness across activities and subjects, in- and out-of-school. (OECD, 2010, p. 319)

These seven principles resonate clearly with the 21st-century education discourse, speaking of collaboration, engagement, and connectedness, and with their emphasis on placing learners at the centre of education. Many educators will be familiar with these principles and their brief summaries as they have also been published as a practitioner guide (Groff, 2012), and within the handbook produced at the culmination of the OECD’s ILE project (OECD, 2017). Perhaps not so many will be familiar with the detailed and extensive text of the full *Nature of Learning* (OECD, 2010) report from which the principles are derived. Because the OECD’s work is referenced by the Ministry of Education in their promotion of ILEs (Ministry of Education, n.d.), this document, and in particular the notion of horizontal

connectedness, deserves closer attention for its relevance to curriculum organisation. At the surface level, the idea of horizontal connectedness might suggest that the report promotes cross-subject curriculum organisation, that more closely connecting subjects by integrating them is desirable for 21st-century learning. Closer reading of the body of the report, however, implies a much more traditional story about learning. The importance of structure, for example, is articulated in the body of the report, but this is not obvious in the list of seven principles. Structure is discussed with regard to the knowledge structures of a content area as well as the structure of the physical learning environment (OECD, 2010). To promote deep learning, project-based learning is identified as a way to provide opportunities for students to apply “classroom-gathered knowledge to real-world situations” (OECD, 2010, p. 201). Projects are encouraged because they allow learners to explore a topic or phenomenon “from the perspectives of different subjects”, but “equally, perhaps even more, important is for teachers to point their students toward the multitude of small links that exist between subjects during class” (p. 77). These points imply that structuring curriculum around different subjects taught by specialist teachers is still an inherently good idea, and that a goal should be for students to understand these domains of knowledge in their own right, while also being able to make connections between them. The report considers projects and the inquiry learning approaches they involve to be important for fostering critical thinking, self-management, and interpersonal skills, but they are “in addition” to the “core subjects of schooling” (OECD, 2010, p. 217).

This is a much more traditional approach to 21st-century curriculum design than we might expect if we take notions such as horizontal connectedness at face value and look to the integrated curriculum model of some of New Zealand’s newer secondary schools as an exemplar to which all other schools should aspire. The expectation underlying this OECD report is that knowledge is explicitly taught in the first instance, before students are expected to apply it to new contexts. It would seem that a benefit of the traditional disciplinary structure of the secondary-school curriculum is that it “makes it possible for students to understand how concepts within a discipline are related, and to move from lower to higher order understandings” (McPhail, 2016 p. 526). The risk accompanying this type of curriculum organisation, however, is that connections between subjects may be easily overlooked

(Wraga, 2009). On the other hand, an integrated approach to curriculum organisation may present knowledge as more connected, but a cost may be that it becomes more challenging for students to develop coherent and robust knowledge structures within particular learning areas. However schools choose to organise the secondary curriculum, there are important questions to consider around how learners are supported to learn about and understand particular domains of knowledge, and, how they are supported to understand the connections between these knowledge domains.

Conclusion

The question of how curriculum is best organised in secondary schools with ILEs is a very pressing one and represents a significant point of difference between primary and secondary school contexts. As the Ministry of Education continues to invest in the upgrading of the school property portfolio, we can expect to see more flexible learning spaces in secondary schools across New Zealand. These collaborative spaces are intended to provide the physical environment that enables a 21st-century education, but in secondary schools have important implications for teacher collaboration and curriculum organisation that warrant careful consideration. The literature base currently offers little insight into what secondary-school curriculum could and should look like in modern, flexible, collaborative learning environments. More research into curriculum models in secondary-school ILEs will help to illuminate this blind spot and offer new lines of sight into these spaces. Modern secondary schools have important questions to consider regarding how learners are supported to build robust and coherent knowledge structures in particular domains and how connections between those different domains of knowledge are made explicit for learners. While there is increasing emphasis on students being able to apply knowledge, this is in addition to, rather than instead of, students learning knowledge. With flexible learning spaces to enable greater teacher collaboration, some schools may follow the lead of those that have radically reorganised curriculum into contextualised, cross-subject modules. Careful consideration of the nature of learning, however, suggests that this is not a necessary curriculum path in the 21st century and there are still strong arguments for retaining some level of focus on traditional subjects.

References

- Alterator, S., & Deed, C. (2013). Teacher adaptation to open learning spaces. *Issues in Educational Research*, 23(3), 315–330.
- Amos, C. (2015). *The foundation years—an updated guide to Hobsonville Point Secondary School*. Retrieved from <https://teachingandlearning.blogspot.com/2015/11/the-foundation-years-updated-guide-to.html>
- Beane, J. (1996). On the shoulders of giants! The case for curriculum integration. *Middle School Journal*, 28(1), 6–11.
- Benade, L. (2019). Flexible learning spaces: Inclusive by design? *New Zealand Journal of Educational Studies*, 54(1), 53–68.
- Bolstad, R., Gilbert, J., McDowall, S., Bull, A., Boyd, S., & Hipkins, R. (2012). *Supporting future-oriented learning & teaching—a New Zealand perspective*. Wellington: Ministry of Education. Retrieved from <https://www.nzcer.org.nz/research/publications/supporting-future-oriented-learning-and-teaching-new-zealand-perspective>
- Bolstad, R., & Gilbert, J. (2008). *Disciplining and drafting or 21st century learning?: Rethinking the New Zealand senior secondary curriculum for the future*. Wellington: NZCER Press.
- Brough, C. (2008). Student-centred curriculum integration and the New Zealand curriculum. *Set: Research Information for Teachers*, (2), 16–21.
- Byers, T., Imms, W., & Hartnell-Young, E. (2018a). Comparative analysis of the impact of traditional versus innovative learning environment on student attitudes and learning outcomes. *Studies in Educational Evaluation*, 58, 167–177. <https://doi.org/https://doi.org/10.1016/j.stueduc.2018.07.003>
- Byers, T., Imms, W., & Hartnell-Young, E. (2018b). Evaluating teacher and student spatial transition from a traditional classroom to an innovative learning environment. *Studies in Educational Evaluation*, 58, 156–166. <https://doi.org/https://doi.org/10.1016/j.stueduc.2018.07.004>
- Dowden, T. (2012). Implementing curriculum integration: Three easy lessons from past practice. *Set: Research Information for Teachers*, (3), 25–31.
- Education Council of Aotearoa New Zealand. (2018). *Teaching today podcast episode 3: Modern learning environments (MLEs)* [Audio podcast]. Retrieved from <https://www.educationcouncil.org.nz/content/teaching-today-podcast-episode-3-modern-learning-environments-mles>
- Gilbert, J. (2005). *Catching the knowledge wave?: The knowledge society and the future of education*. Wellington: NZCER Press.
- Groff, J. (2012). *Practitioner guide. The nature of learning: Using research to inspire practice*. Paris, France: OECD. Retrieved from <http://www.oecd.org/education/ceii/50300814.pdf>
- McPhail, G. J. (2016). From aspirations to practice: Curriculum challenges for a new 'twenty-first-century' secondary school. *The Curriculum Journal*, 27(4), 518–537. <https://doi.org/10.1080/09585176.2016.1159593>

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- McPhail, G., & Rata, E. (2016). Comparing curriculum types: 'Powerful knowledge' and '21st century learning'. *New Zealand Journal of Educational Studies*, 51(1), 53–68. <https://doi.org/10.1007/s40841-015-0025-9>
- Ministry of Education. (n.d.). *Innovative learning environments*. Retrieved from <http://ile.education.govt.nz>
- Ministry of Education. (2007). *The New Zealand curriculum*. Wellington: Learning Media.
- Ministry of Education. (2011). *The New Zealand school property strategy 2011–2021*. Wellington: Author. Retrieved from <http://gdsindexnz.org/wp-content/uploads/2015/10/The-New-Zealand-School-Property-Strategy-2011-2021.pdf>
- Ministry of Education. (2013). *Statement of intent 2013–2018*. Wellington: Author.
- Ministry of Education. (2015). *Designing schools in New Zealand: Requirements and guidelines*. Retrieved from <http://www.education.govt.nz/assets/Documents/Primary-Secondary/Property/School-property-design/Design-guidance/DSNZ-version-1-0-20151014.pdf>
- Ministry of Education. (2017). *Assessment tool*. Retrieved from <http://www.education.govt.nz/school/property/state-schools/design-standards/flexible-learning-spaces/assessment-tool/>
- OECD. (2010). *The nature of learning: Using research to inspire practice*. Retrieved from <http://www.oecd.org/education/cei/thenatureoflearningusingresearchtoinspirepractice.htm> <https://doi.org/http://dx.doi.org/10.1787/9789264086487-en>
- OECD. (2017). *The OECD handbook for innovative learning environments*. Retrieved from <http://www.oecd.org/education/the-oecd-handbook-for-innovative-learning-environments-9789264277274-en.htm>
- Saville, S. (2018). *Integration, it will never work*. Retrieved from <https://savilleblog.wordpress.com/2018/04/26/integration-it-will-never-work/>
- Trask, S. (2017). *Reconstructing senior science education in flexible learning spaces*. Paper presented at Transitions: Inhabiting innovative learning environments, Melbourne.
- Wraga, W. G. (2009). *Toward a connected core curriculum*. *Educational Horizons*, 87(2), 88–96.
- Wright, N. (2017). Disrupting the “paradigm of one”: Restructuring structures to integrate learning in a modern learning environment. *Journal of Educational Leadership, Policy and Practice*, 32(1), 48–61.
- Young, M. (2013). Powerful knowledge: an analytically useful concept or just a ‘sexy sounding term’? A response to John Beck’s ‘Powerful knowledge, esoteric knowledge, curriculum knowledge’. *Cambridge Journal of Education*, 43, 195–198. <https://doi.org/10.1080/0305764X.2013.776356>
- Young, M., & Muller, J. (2013). On the powers of powerful knowledge. *Review of Education*, 1(3), 229–250. <https://doi.org/10.1002/rev3.3017>

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