Implementing a key competency approach to curriculum

Lessons learned from other jurisdictions

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Additional report to the main report on

***Student Competencies in a Redeveloped Senior Cycle* (April 2023)**

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1. Purpose, scope and structure of the report

This is an additional report and complements the main report on *Student Competencies in a Redeveloped Senior Cycle* (McGuinness, 2023), published in April, 2023. For convenience and to avoid repetition, the above report will be referred to in this document as the Main Report.

The purpose of the current report is to identify key messages from the research literature and experiences of other jurisdictions when introducing key competencies into a curriculum and to highlight the lessons that have been learned. Although the focus for this report is on policy learning from other jurisdictions, I want to emphasise, even at this early stage, that curricula are designed, re-designed, redeveloped or reformed in specific educational, cultural, historical and policy contexts. In that sense, they are unique – but policy-makers can still learn from others. Also, the Irish school system (and NCCA) has considerable experience, and a growing research evidence base, on introducing broader learning goals into curricula, through earlier initiatives described in evaluation reports from Senior Cycle Key Skills (NCCA, 2008, 2009, 2010), the longitudinal research reports on the Framework for Junior Cycle which incorporate discussion of key skills (McGarr et al, 2022, 2023) and the more recent conceptualisation of Key Competencies in the Primary Curriculum (Walsh, 2023). This experience is recognised in international reviews where Ireland is referenced several times as a case study.

A word about the scope of the report:

- It is widely acknowledged that curriculum covers a continuum from the intended/designed curriculum, through the taught curriculum, the experienced curriculum, and the assessed curriculum, with the risk of gaps and discontinuities rather than enrichments occurring at each stage. This phenomenon is often referred to as "the implementation gap" and is recognised in many large scale public policy reforms as well as in school education. A comprehensive review of that literature is beyond the scope of this report. Suffice to say that policy implementation is no longer judged as a top-down linear process, involving the creation of policy initiatives and documents to be delivered to passive end users. The process is more complex and messy, requires thinking about systems, involving multiple actors, and interdependencies between causes and consequences, to the extent that there is now some debate as to whether the term 'implementation' is still an appropriate description of the process. For example, other terms such as 'curriculum enactment', and 'curriculum co-creation' are now used to capture the complexity of the meaning more fully. While acknowledging this, I will continue to use the term 'implementation' for the purposes of this report, primarily because it is still the term used in much of literature which is referenced.

- While the focus for this report is on key competencies, it is inevitable that more general issues and questions about the implementation of any curriculum redevelopment/redesign or curriculum refreshing also come into view. Key competencies may not be the only new concept being introduced and some of the other changes are often experienced as more challenging than the introduction of key competencies *per se*.
- For the most part, the research material and experiences from other jurisdictions are not specific to the senior cycle of education but are drawn from across all phases of education as other jurisdictions tend not to tailor their key competency framework to specific phases (see Main Report, p. 14).
- Finally, NCCA is already well attuned to the importance of "conducive conditions" in realising the vision and purposes of the senior cycle redevelopment, as evidenced in the discussion in Chapter 3 of Senior Cycle Review Advisory Report (NCCA, 2022, pp. 53-60), where the importance of contextual and systemic factors related to curriculum and assessment such as "*school culture and leadership; professional learning; planning, collaboration and support; stakeholder engagement and communications; and societal expectations and influences*" (p. 53) is discussed.

That said, the remainder of this report is divided into three sections, with each section addressing the question of 'lessons learned' from different, yet complementary, perspectives.

Section 2 takes a **broad policy viewpoint** drawn from recent reviews and syntheses of research on the implementation of key competencies into school curricula. Two comprehensive reviews were identified as relevant. The first review is an OECD working paper, *Curriculum Reform: A literature review to support effective implementation* (Gouedard, Pont, Hyttinen & Huang, 2020), written to support the ongoing work of the OECD's Learning Compass Framework and their project on the *The Future of Education and Skills: Education 2030* (OECD, 2018). The second review was completed for the European Commission, *Key competences for all: Policy design and implementation in European school education* (Looney et al, 2022a, executive summary; 2002b, full report).

Section 3 changes the viewpoint considerably and zooms in on **the specific details of three case studies and the story of their implementation journeys.** New Zealand and Scotland are selected because they are examples of 'early innovators' (consultation and piloting since 2004, with 2007 and 2010 national roll-out) and because there is a substantial research base available. British Columbia, which is more recent (consultation and planning since 2011, with phased roll-out 2016-2019) is included because of the approach they adopted to address some of the reported challenges of the earlier key competency frameworks. The key features of these different curricula will be described,

and any monitoring and research evidence about their progress and impact will be interrogated, looking for early insights as well as longer term evaluation, where available.

Section 4 changes the viewpoint again and draws together some key themes on implementation that are of **particular concern to curriculum authorities and councils,** like NCCA, some of which have been already been referred to briefly in the Main Report. Three important issues were identified: (1) the positioning o**f key competencies in the curriculum** and where they sit in relation to other parts of the curriculum; (2) **the description and further articulation of the key competencies in documents** for schools and teachers; (3) the extent to which the introduction of key competencies into a curriculum needs a new **alignment for pedagogy and for assessment**. While these issues have been prompted specifically by the three case studies, the experiences of a wide range of other jurisdictions are drawn upon in this section, with links to websites for examples of approaches.

Section 5 - The final section of the report summaries and reflects more generally on the recurring challenges and lessons learned.

2 Broad policy viewpoints: Lessons and recommendations

2.1 General comments

Two comprehensive reviews were identified as relevant. The first review is an OECD working paper, *Curriculum Reform: A literature review to support effective implementation* (Gouedard, Pont, Hyttinen & Huang, 2020), written to support the ongoing work of the OECD's Learning Compass Framework and their project on the *The Future of Education and Skills: Education 2030* (OECD, 2018). That project is working with over 40 countries around the world on competency-based curriculum reform. The second review was completed for the European Commission, K*ey competences for all: Policy design and implementation in European school education* (Looney et al, 2022b, the full report). That review draws on the experience of all 27 members of the European Union who are involved with implementing some aspect of the EU's Key Competences Framework, and especially from the experience of five case study countries (including Ireland). The emphasis was on peer learning with an explicit objective of identifying "lessons learned" and providing recommendations for policy makers designing and implementing policy reforms for the development of broad competences by all learners. Before examining the recommendations, here are some key points to note.

While both reviews focus on policy implementation at a systems level, and across multiple actors, **there are differences in emphasis and scope between the two reviews**. For example, the EU report concentrates more on the early stages of implementation while the OECD working paper takes a more bird's eye view of curriculum reform, coherence and alignment in the longer term. The EU review confines itself to the European school system, while the OECD paper draws on a wider range of research and the experiences of educational systems across the world. Also, some differences can be detected with regard to policy position more generally – the OECD recommendations tend to have more of a top-down flavour and wider systems lens, the EU recommendations are more focussed on co-construction with schools and teachers. That said, there is much overlap between the two sets of recommendations.

Both reports emphasise the **complexity and multifaceted nature** of implementing a curriculum reform and the importance of **gaining consensus around the vision** of a new curriculum approach, hence the emphasis on **engagement, co-construction, consultation** across a range of stakeholders **to establish trust and ownership**. While the EU report focuses on the early stages, the importance of engagement at EVERY stage is widely acknowledged. NCCA has already followed this recommendation for the Senior Cycle Review with the wide range of consultations conducted (Consultation | NCCA).

The OECD report does strike a cautionary note about how **different interpretations of a vision can lead to challenges for policy implementation** The example described is Japanese education during 1990s/2000s, when their curriculum reform articulated two main ambitions – to nurture traditional values such as emotional and social competency, and to promote individuality and the ability to think for oneself - qualities which were considered necessary for Japanese society to meet future challenges. The emphasis on 'individuality' was interpreted differently among stakeholders. The intention of the designers was to shift from a one-size-fits-all curriculum to allow students to make choices according to their interests and aptitudes. Those who interpreted it in this way supported the implementation, while for others who understood individuality as a way to differentiate students into elite and non-elite programmes – thus increasing inequalities – were more reluctant to implement it. The reform ran into some difficulty and was later reversed (p.13, Box 4.2). The message here is to create many opportunities for stakeholders to 'make sense' of the implications of a new curriculum, to do so continually and at different stages, as actors will actively construct their understanding of the curriculum policies through existing beliefs and practices.

The EU report highlights two factors for successful implementations – **strong political commitment** from key educational policy actors **and implementation capacity**. While many leaders may champion a key competency approach as the appropriate direction for 21st century learning, there may be others for whom any disruption to the more traditional 'content' curriculum will challenge deeply held beliefs and values about the purposes of school education. Resources and political will are needed to sustain the vision. The other important factor asks to what extent a school system is ready and able to implement reforms, and whether there is sufficient support available to build capacity and school level change. The report argues that where both factors are present, successful implementation is very likely, but if either is missing, then there will be challenges.

2.2 Recommendations

Essentially these are the broad categories for recommendations arising from these two papers:

- There are well elaborated and detailed recommendations about engagement, consultation, co-construction with stakeholders of all kinds, including teachers, school leaders, parents and students, about the vision itself, as well as about implementation. Early consultation - and often - seems to be important. Both reviews mention the need for a well-worked out 'theory of change'[1] with indicators of what the curriculum development is intended to achieve, not

[1] What is Theory of Change? - Theory of Change Community

just for student outcomes but for the system as a whole, as well as a plan of action on how to achieve them.

- Recognising and planning for teacher development from the beginning is strongly recommended. The EU report emphasises how important it is 'to develop and deepen practice' for school leaders and teachers.
- Piloting initiatives, curriculum trialling and phasing-in is important, to maintain momentum and to gather feedback and make adjustments. Piloting affords opportunities for teacher and school development, and to create communities of practice. School clusters can be effective for embedding collaboration and sharing of practice and for building capacity over time.
- Plan evaluation of the curriculum redesign and roll-out from the beginning, both formative AND summative. Take the opportunity to create periodic curriculum reviews, if that is not the current practice.
- Establish a transparent system for curriculum renewal, where the stakeholder processes are clear and consistent and task allocation is clear (no subsequent confusion, ambiguity or duplication.). Listen to feedback and build on lessons learnt, ensuring they are coherent with the logic of the policy design.
- Both reports make recommendations about communication, for the curriculum vision as well as the timeline of implementation. The importance of the tone and language of communications for different audiences needs to be taken into account.
- Successful implementation has ramifications across the whole system, and this needs to be taken into account. The OECD report, with its wider lens, is probably more explicit about this, noting the impact it might have on initial teacher training, on pedagogies, on student assessment, teacher appraisal, school evaluation and inspection. The EU report is stronger on recommendations about developing and deepening practices for school leaders and teachers, and related school evaluation.
- Both reports make recommendations about the need for adequate funding, as well as a sustainable funding strategy for the longer term. Explore technological opportunities (especially the lessons from COVID).
- Even with the best supports, successful implementation which meaningfully develops and deepens practice, takes time – and patience – and this was noted throughout both reports.

3 Implementation journeys: Three case studies

While the previous section adopted a broad policy viewpoint on curriculum change, in this section the focus in more specific and detailed. It examines the implementation experiences at the level of specific curricula. Three jurisdictions have been identified for review in this section – New Zealand, Scotland and British Columbia, Canada. New Zealand (2007) and Scotland (2010-2011) are examples of 'early innovators', where substantial research evidence has accumulated on their roll-out, progress and impact. British Columbia is more recent (phased roll-out 2016-2019), and is included because of the approach they adopted to address some of the reported challenges of the earlier key competency frameworks. All three curricula had substantial periods of consultation, planning and piloting before final national roll-out.

3.1 New Zealand

3.1.1 The Curriculum: From the start, it should be noted that the New Zealand Curriculum sets the general direction for schools/teachers, but there is considerable local autonomy for schools to create their own curriculum in response to the needs of their students.

A key competency approach to their curriculum was introduced in 2007 (ages 5-18), NZ Curriculum Web (3).pdf. They were the first jurisdiction to explicitly draw on the DeSoto theoretical framework of key competencies (OECD, 2005) for school education. Their framework included five competencies**:**

- **Thinking**
- **Using language, symbols and text**
- **Managing self**
- **Relating to others**
- **Participating and contributing**

Key competencies were accompanied by several other reforms, related to values, principles, and an approach to teaching called teaching as inquiry (not the same as inquiry learning). This new approach was collectively referenced in the early descriptions of the curriculum as the 'front end' of the curriculum, compared to the 'back end' which included the learning objectives (outcomes) related to subjects. Some changes were also made to the learning objectives which gave teachers and schools more autonomy and flexibility in designing their curriculum at the school level. The important point is that, from the beginning, there was a perception of a separation between these two components, and, as will become apparent from the roll-out evaluation and subsequent discussions, this discontinuity became more obvious and continues to be important for developments going forward.

3.1.2 The Journey: A striking feature of the New Zealand context was the extent of the commitment to learning lessons from the evaluation evidence collected from schools and students, from the first two years of implementation (Sinnema, 2011) up to more recent years (McDowell & Hipkins, 2018), leading to the current programme to 'refresh' the curriculum. The research programme was commissioned largely by the Ministry of Education in New Zealand and conducted by the New Zealand Council for Educational Research and/or the Universities of Auckland and Waikato.

Indications from the earliest evaluations showed that, while schools and teachers welcomed the new curriculum and recognised its potential for high quality teaching and learning in schools and students, the new curriculum was "cherished but challenging" (Sinnema 2011, p. 2). That first monitoring report, covering the first two years (2008-2009), concluded that, despite the high regard in which the new curriculum was held, teachers reported lower levels of confidence about implementing it. They tended to assimilate the newer ideas about key competencies into their previous understanding about skills, perhaps not fully grasping the conceptual shift in meaning between the two terms (see Main Report, pp.15-16). Schools made variable progress, influenced by the level of regard in which the curriculum was held, the degree of confidence the teachers had about the newer practices, the quality of support they experienced, and their depth of understanding.

Looking back over the past 11/12 years, the findings from research reports have been summarised into four phases (McDowall & Hipkins, 2018; Education Research Office, ERO, 2019). Table 2 below outlines the key features of each phase with approximate dates, recognising that the phases overlap and the some schools may still not have moved beyond the second phase. The bullet points are taken verbatim from the ERO report.

Table 2 Phases in the development of Key Competencies (KCs) in New Zealand Schools (timeline approximate) (ERO, 2019, pp. 14-15)

Phase 1 2006-	• *"School leaders and teachers have a common concern that KCs will replace traditional knowledge and skills."* • *"Schools have yet to think about how KCs could be used to help students manage their learning."* • *"The KCs are made to fit into existing teaching practices, rather than inform them."*
Phase 2 2008-	• *"Leaders and teachers shift from considering the goals of learning as the uptake of content to viewing the learning of content as a vehicle for equipping student with the skills to be lifelong learners."* • *"Some teachers use inquiry topics to give students greater agency in their learning, giving them more choice over the content of what they learn and how they carry it out."*

	• *"Some teachers begin to recognise the potential to use KCs in distinct ways for different learning areas, though they are mostly used uniformly regardless of learning area."*
Phase 3 2011-	• *"Further development of KCs in ways that are specific to learning areas."* • *"Leaders and teachers see KCs as more complex and multifaceted than in previous phases."* • *"Increased complexity reflected in the introduction of 'capabilities', a term used to define learning outcomes of students who are practicing key competencies and weaving one or more together into content learning."* • *"Some teachers design rich tasks, which weave aspects of different KCs with concepts from one or more learning areas and build students' capabilities. Rich tasks have a conceptual focus and a 'doing' focus that draw on aspects of all KCs."*
Phase 4 2014 -	• *"Some teachers use inquiry projects to deliver the curriculum in more complex and open-ended ways than in previous phases, inquiry topics on real issues give students the opportunity to solve problems, requiring them to use previous knowledge and develop their KCs".* • *"Teachers operating in Phase 4 would provide students with a sound curriculum and students are certainly 'learning how to learn' and developing action competence."*

The bullet points in the table are largely self-explanatory and do show the growth in understanding and changes in classroom practice related to key competency teaching over time. Initially, teachers were worried and concerned that this new approach would substitute and downgrade traditional knowledge and skills (Phase 1) but then began to realise the potential of key competencies as vehicles for developing lifelong longing and for helping student agency (Phase 2). Another growth point was how teachers began to see the relationship between subject learning and key competencies in new ways (Phase 3 and 4), identifying how the key competencies can work together to build more capable students, drawing on their prior knowledge and applying it to solve problems (Phase 4).

Nevertheless, it is clear from this summary report that not all schools have arrived at Phase 4. In a separate report, surveying key competencies specifically in the primary school (ERO, 2019), it was concluded that even the most engaged schools were probably operating only at the equivalent of Phase 2, and in some 28% of primary schools there was no evidence of key competencies featuring at all.

According to the ERO (2018) summary report, the main obstacles and challenges facing schools were:

- confusion over the meaning of key competencies and their place in student learning;

- teachers' unwillingness to move away from familiar teaching styles and practices;
- the lack of clear of data showing the benefits of key competencies on student learning outcomes; and
- the lack of clarity about assessment which remained what was referred to in the report, as a 'work in progress'.

That said, the ERO report also points to ways in which teachers did successfully integrate key competencies into their practice. For example, when

- *"teachers have an understanding that key competencies are tools for deepening understanding and work with knowledge rather than as a substitute;*
- *students are encouraged to use language appropriate to a learning area – "thinking like an historian", "thinking like a mathematician";*
- *key competencies have the right degree of specificity in their description – if they are too general, they can seem vague and students find them hard to understand, if they are too specific, they can seem overwhelming;*
- *continuous improvement with appropriate feedback and encouragement;*
- *students are given challenging problems to solve so that they get the opportunity to use their emerging competencies in novel situations;*
- *students engage in self and peer assessment so that students and teachers are sharing a common language and using it in their assessment practices."* (ERO, 2018, pp. 16-17)

On reflection, the ERO report concludes that the slow pace of progress was due to insufficient detail to help teachers understand what the key competencies mean for students and how to integrate them into their practice and recommends that the Ministry supports leaders and teachers through:

- Further explanation and articulation of key competencies to provide clarity for all teachers about their meaning;
- Providing more resources, including examples of how to develop KCs in teaching practice.

That being said, the idea that 'more detail' is the key to resolving the challenges of introducing a new curriculum should be treated with caution, as will be evident from the Scottish case study.

New developments: New Zealand has committed itself to being a "system that learns" and has just embarked on '"refreshing" the New Zealand curriculum, building on the lessons learned from the first

decade or so. A new cycle of redevelopment has begun, with planned changes being phased in from 2023-2027. A draft version is available at the following link:

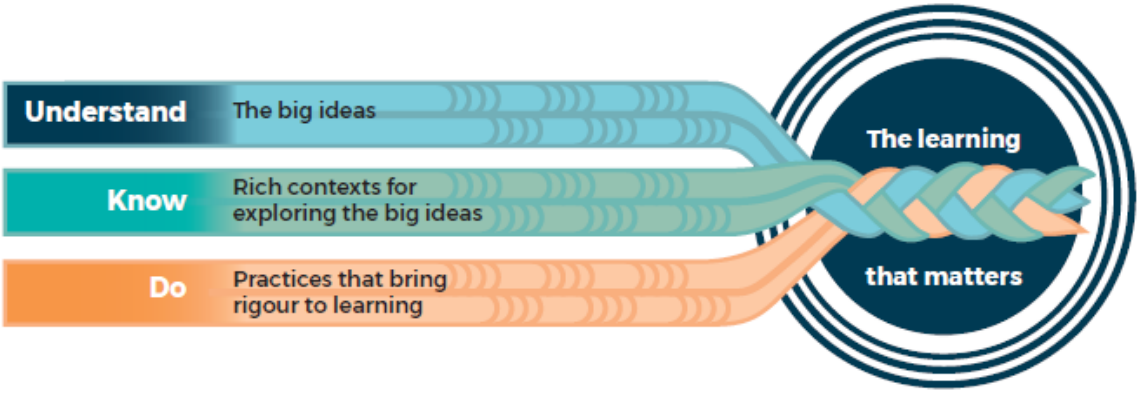
PDF Te Mataiaho March 2023.pdf (curriculumrefresh-live-assetstorages3bucket-l5w0dsj7zmbm.s3.amazonaws.com)

It is fair to say that the drivers for the proposed refreshing of the curriculum go far beyond the evaluation data on key competencies and the challenges they presented to teachers and schools as described above. An important cultural shift is the embracing of a bicultural curriculum to more adequately represent New Zealand's cultural diversity and heritage, and equity in recognition, access and achievements of Maori schools.

That being said, one of the key issues being addressed, which is relevant to this paper, is how best to "weave" – to describe and represent – the relationship between key competencies and subjects/learning areas, and how to set appropriate expectations about progression in students' learning with this relationship in mind.

A second key issue relates to the role of knowledge, and particularly the flexibility in choice of subject content afforded to local schools in the previous curriculum, without sufficient guidance. The consequences, it was concluded, was a lack of coherence and consistency in coverage of key areas of learning, resulting in some students missing out on important areas, raising again questions about curriculum entitlement and equity (see Aitken & Wood, 2023, explaining the reasons for the refresh). The new direction has also been influenced by the OECD's Learning Compass project, their discussions about different kinds of knowledge, and the role of knowledge in the conceptualisation of key competencies (see Main Report, pp. 14-17).

In order to achieve a better balance and integration between key competencies and different kinds of knowledge, New Zealand has adopted a new model called **Understand-Know-Do,** which is similar to the approach embraced by British Columbia, see Section 3.3 in this report. The brief graphic below (from the New Zealand Curriculum website) shows what it entails. The previous key competencies are now included under "Do".



Because of the concerns about variability in curriculum-making at the local level, an implementation pack and resources have been prepared to support schools and/or clusters of schools with the new perspectives in the refreshed curriculum, see link below.

Implementation Pack and Readiness Tool - 12 Sept 2023.pdf (curriculumrefresh-live-assetstorages3bucket-l5w0dsj7zmbm.s3.amazonaws.com)

3.1.3 Commentary on the New Zealand 2007 Journey

Some key points that are relevant to the 'lessons learned' focus of this report:

- The 2007 New Zealand Curriculum had a strong theoretical foundation for its key competency approach as well as a strong commitment to research and evaluation of the roll-out of the curriculum, both generally and with a specific focus on key competencies. This has allowed it to track the evolution of key competencies in the curriculum over 10-15 years, as evidenced in Table 2 in this report.
- The New Zealand curriculum "sets the direction" but schools have a great deal of autonomy, and responsibility, as curriculum makers and curriculum implementers. The balance between curriculum authorities and districts/schools in other jurisdictions may be different.
- Key competences were positioned in the 2007 curriculum documents in the following way:

  "*More complex than skills, the competencies draw also on knowledge, attitudes, and values in ways that lead to action. They are not separate or stand-alone. They are the key to learning in every learning area.* (The New Zealand Curriculum, 2007, p.12).

  It is tempting to conclude that New Zealand did adopt the position of 'name and hope', that is, naming the desired competencies and exhorting teachers to pick them up in their subject teaching, without any further advice on how they might be linked to their subject teaching. But that would not be entirely fair. Over the period, several resource packs were developed and were available on the New Zealand Curriculum website elaborating the meaning of key

competences, as well as pedagogical approaches, case studies from schools, and latterly (post-2011), self-audit tools for schools about integrating key competencies into learning areas. Also, the New Zealand Council of Educational Research conducted development projects with some schools and teachers (see Hipkins et al., *Key Competencies for the Future*, 2014). It is true that no explicit mapping of key competencies across subjects/learning areas was conducted at the level of the curriculum, even as direction and guidance.

- The main conclusion from the local evidence is that not enough elaboration and guidance was given to schools, **although some schools (beacon schools?) were very successful at working with the key competencies in the learning areas and beyond.**
- In terms of lessons learned, it would make sense to accept the lessons that New Zealand itself has learned and that are implicit in their refreshed curriculum especially with regard to articulating a closer relationship between their subject areas and their key competencies. They have now taken a more explicit stance on integrating key competencies, called 'weaving', and are beginning to map across all the subject areas of their new Understand-Know-Do model (that is work in progress, with only examples available on the website). It remains to be seen what impact this mapping might have on teachers' and schools' implementation of key competencies. Also, in terms of curriculum alignment with the concept of a key competency as built from 'knowledge, skills, dispositions and values', it is not clear if "Do" goes much beyond the notion of subject skills, and thus loses the motivational and habit forming expectations for learning normally associated with dispositions and values.
- One last comment – in the efforts to achieve integration and to accommodate concerns about knowledge, there is a risk that the ambitions of key competencies as **broader** learning goals and as a futures' orientation to student learning and education may get lost. I will come back to this point in the final section.

3.2 Scotland

3.2.1 The Curriculum: Scotland introduced a new Curriculum for Excellence (CfE) in 2010-2011, though it had gone through extensive consultation, discussion among stakeholders and piloting in schools since 2004. The ambition was to cover all phases of education from ages 3-18, a broad general education (early years, primary and lower secondary) and a senior phase, which was rolled out in 2013-2015.

The new curriculum represented a shift in several different ways from the previous and more prescriptive 5-14 years curriculum. The primary aim was to create a more student-centred curriculum. Specifically, in terms of broader learning goals, it identified the development of four student 'capacities' that are considered to serve a similar role in the curriculum as key competencies

- **Confident individuals**
- **Successful learners**
- **Responsible citizens**
- **Effective contributors**

with associated attributes. The terminology predated the growing usage of the term 'key competencies'. Skills for learning, skills for life and skills for work were also identified.

A second feature was the articulation in terms of learning outcomes in eight subject areas, described as experiences and outcomes (Es and Os), which sought to describe the desired learning not just as end results (outcomes) but also as desired experiences of students in achieving those outcomes. In their entirety, the Es and Os were expected to support the development of the Four Capacities. Schools and teachers were given more flexibility in choosing the content of the curriculum and teachers were positioned as curriculum-makes and agents of change. With regard to assessment, Scotland had already rolled out a national system of assessment for learning around 2002/2004, so the new curriculum was seen as an opportunity to integrate curriculum, pedagogy and assessment.

3.2.2 The Journey: A series of guidance documents, called Building the Curriculum (1-5) are available at Curriculum for Excellence documents | Curriculum for Excellence | Education Scotland.

The use of the term 'building' implies the new curriculum would be a 'work in progress' and additional documents have been added to the website for new developments (e.g., framework for assessment in 2011) and/or in response to practitioner requests for greater detail and clarification (e.g., benchmarks to give greater clarity to national standards and expectations in each learning/subject area at each level in 2017). Indeed the proliferation of guidance documents – however well-intended – has itself become an issue for the implementation, has caused confusion, and a sense of uncertainty

and anxiety among practitioners. As well as the 'official' documents on the Education Scotland curriculum website, local authorities and some individual schools produced additional local guidance (remembering that schools and teachers were positioned as curriculum makers). Critiques of the proliferation of documentation led to Education Scotland removing many items from its website, producing a 'tackling bureaucracy' toolkit, and issuing a statement for practitioners from the Chief Inspector of Education (Education Scotland, 2016) to clarify the position.

Research evidence on the progress and impact of the curriculum in schools, teachers and students is available largely from two sources – research conducted by Scottish Universities (e.g., Professor Mark Priestley and his colleagues, University of Stirling, University of Edinburgh) and reports commissioned by the Scottish Government to evaluate the impact of CfE with a view to improving it and prompted by additional challenges related to raising attainment and equity (OECD, 2015; OECD, 2021). In 2016, the Scottish Government also set up an international panel of experts to advise them on education policy, the International Council for Educational Advisors (ICEA), who have produced two reports so far (ICEA First Report, 2018; ICEA Second Report, 2020). The Chief Inspector's reports have also provided important feedback on the implementation of the new curriculum. There was no planned monitoring and/or external evaluation of the roll-out of CfE at a national level.

It is fair to say that over the timeframe since the introduction of CfE, there have been several other policy initiatives that have had an impact on schools and teachers, some more aligned to the aims and goals of the new curriculum than others. For example, the introduction of new qualifications (2014/2015) was intended to be aligned and to further the aims of CfE, but did have some unintended consequences, and the National Improvement Framework in 2016 was primarily about raising attainment in literacy and numeracy (following the publication of disappointing PISA results in 2015). As far as possible, the following discussion will focus on the Four Capacities, as that is the primary concern of this report but to give a better understanding, it has not been possible to avoid some consideration of other issues. A fuller account of the interactions between these developments in the context of curriculum enactment in Scotland can be found in Hume & Priestly (2021).

Early insights: One of the early insights on how CfE was being received in schools came from research interviews and online surveys with primary and secondary school teachers, some school principals and representatives from local authorities (Priestley & Minty, 2013). **This research was conducted in 2011**.Key findings were:

- There was widespread engagement by teachers in respect of pedagogy and assessment. Variable rates of progress were noted, with those who had been engaged in pilot projects

being more 'ready' to get going, while others had only begun to read the documentation. This variability existed both between schools and also between departments in the same schools.

- With regard to emerging changes in practice, the new curriculum had prompted teachers to reflect on their existing teaching and to be more open to experimentation with more active methods of learning and newer forms of assessment. To experiment in these ways, teachers spoke about needing confidence and support to avoid what one teacher described as "returning to the old ways" (p. 45).
- Perhaps the most striking finding was related to the importance of teacher beliefs and understandings related to CfE. Priestley and Minty drew a distinction between "first order engagement" and "second order engagement" with the ideas of the curriculum. In terms of first order engagement, teachers responded positively to the ideas and felt that it was consistent with their views on education; they thought the Four Capacities were great "hooks" for engaging students and so on. On a deeper level, teachers had different beliefs (often implicit and barely articulated) of what the core elements of the new curriculum actually were. Was it a new approach to teaching, learning and assessment, or was it about a different approach to subject content as well? So the philosophy of the curriculum could be at odds with teachers' beliefs in different ways – because of beliefs about the nature of learning (more transmission beliefs) or about the importance of subject knowledge (too much flexibility and choice).
- These different interpretations led to other tensions, between interdisciplinary learning and subject specialisms and between the importance of knowledge and skills in the curriculum. While the new curriculum aimed to break down boundaries between areas of knowledge and encourage cross-curricular links – and this was welcomed by some teachers – others (a minority of secondary teachers) were opposed to it and saw it as possible 'threat' to their own subject, or that it was inconsistent with preparing students to pass their exams.
- With regard to knowledge and skills, there was a perception among some teachers, both primary and secondary, that knowledge was disappearing from the curriculum in favour of skills. Such views tended to be expressed by those who held more transmission views of learning and knowledge, but not all. Even those who were generally positive about changes were also concerned that active learning and process outcomes (from the Es and Os) had moved too far and at the expense of content learning. Secondary teachers in particular were concerned that specialist subject knowledge was being "dumbed down", with high ability students' achievements at risk.

- Finally, teachers at all levels were concerned about assessment and the proposed changes to National Qualifications, which were to be implemented in 2014. There were also worries and anxieties and some misplaced and erroneous ideas, for example, that formative assessment would replace summative assessment in the new curriculum. Also, the CfE levels (standards) were considered too broad and too vague to be meaningful, and teachers doing interdisciplinary projects were concerned about how to assess them.
- The main conclusion from this early research was to be cautious about accepting at face value the positive picture that emerged from first order engagement, and the need for teachers to engage at a deeper level with the core CfE ideas, and to be supported by clearer exposition of policy, as well as more explicit and detailed processes of engagement.

Although it was still early days of implementation when this research was completed, it was prophetic in identifying the challenges that CfE would continue to face, for example, the lack of specificity in Es and Os, concerns about changes to assessment, and the relationship between skills and knowledge in the curriculum – to the extent that the purposes of including the Four Capacities as broader learning goals seems to have got somewhat lost in the discussions, at least from the picture emerging in this piece of research.

In their critique of CfE, Priestley and Minty (2013) had pointed to potential tensions in terms of the structural coherence of the curriculum in that it provides two alternative starting points for school-based curriculum planning – the Four Capacities, which they imply would be the more radical interpretation of the curriculum as something new and fresh – or the Experiences and Outcomes, which is more likely to lead to a continuation of existing practices. In those early stages it seemed that the Es and Os did dominate as the planning point. However, in a subsequent curriculum development project with teachers (Drew, Priestley & Michael, 2016), using the method of critical collaborative professional enquiry, when teachers were given more time and space to engage more deeply with the principles of the CfE, a different picture emerged. Teachers who participated in this project reported the creative energy released by going back to first principles to "what the curriculum was supposed to be about, the big ideas, the Four Capacities", and looking at the curriculum from "design principles, the origins of the curriculum, rather than the Es and Os". They reported that it refreshed their ways of thinking and allowed them to be more innovative and consider more possibilities. As a consequence, participating schools reported some changes to their planning processes or at least engaging in more extensive dialogue about possibilities.

In summary, these early insights from the impact of CfE in schools reveal that the reorientation of a curriculum toward key competencies/four capacities and the possibilities for new approaches to

curriculum design, associated changes in classroom practices and enhanced student learning do not happen automatically, even when a new curriculum is welcomed. Perhaps not surprisingly, schools and teachers start from what they already know and do, and assimilate curriculum developments into their current beliefs and practices. Without opportunities for deeper understanding and sense-making, the intended opportunities afforded by the new developments in the curriculum may get lost in the midst of other challenges. As we will see from the international reviews in the next sections, these themes continued to resonate further into the Scottish experience.

OECD Reviews and International Panel Reports 2015-2022: Two OECD reports have been commissioned by the Scottish Government to evaluate the progress of CfE with a view to improving it and prompted by additional challenges related to raising attainment and equity (OECD, 2015; OECD, 2021). Both reviews were conducted by expert panels, and consist of desk-based research on policy documents, curriculum documents and any other relevant research, a visit by the expert panel involving discussions with relevant stakeholders, as well as visits to schools. In 2016, the Scottish Government also set up an international panel of experts to advise them on education policy more broadly, the International Council for Educational Advisors (ICEA), who have produced two reports so far (ICEA First Report, 2018; ICEA Second Report, 2020). As might be expected, these four reports cover very similar ground, with the exception of the second ICEA report where the focus is primarily on the consequences of the COVID pandemic for schools and children's learning, so I will focus primarily on the recommendations from the OECD reports and the first ICEA report.

The recommendations from these reports are wide ranging, referring both to specific curriculum issues as well as to wider system related alignments, management and responsibilities. I will focus on observations and recommendations related to the Four Capacities and their interactions with school planning, teaching, learning and assessments, as they are more central to the purposes of the current report.

- All reports are very enthusiastic about the ambitions of the CfE, recognising it as a holistic approach to student learning and development. They report that it is applauded internationally as **a bold and progressive curriculum** that is forward looking and that has led the way for other jurisdictions. The OECD (2015) report noted that "A major challenge was to stay bold and to build on what had been achieved that is as persuasive to the general public as it is to the educational professionals" (OECD, 2015). The ICEA first report (2018) cautioned that the original aims of the CfE might assume less visibility in the face of other policy imperatives from the National Improvement Framework (focus on literacy, numeracy and closing the attainment gap).

- There has been a consistent trend across the reports calling for clarification of definitions and refreshing the vision. For example, OECD (2015) noted that there was still confusion over whether the CfE was primarily perceived as a system reform or more specifically as a curriculum reform with consequences for pedagogy and assessment. They noted that further clarification was needed on **how the Four Capacities related to Es and Os** and recommended creating "a new narrative for CfE" (which was published in 2019, Scotland's Curriculum for Excellence (scotlandscurriculum.scot)). The first ICEA report also called for further development of the skills and attributes of the Four Capacities. The OECD (2021) went further and recommended that Scotland considers updating some of the core elements of the curriculum and their implications for practice, taking into account more recent educational developments and theoretical discussions. They point particularly to the work and products of the OECD's Learning Compass, discussions about **the key competencies and the role of knowledge**. They also recommended **defining indicators to help understand students' progress across all Four Capacities**, repeating the recommendation from the first OECD report for a wider set of metrics more fully aligned with the capacities.
- The OECD (2015) noted the proliferation of guidance documents referred to in an earlier section, and called for simplification and clarity. This recommendation resulted in a Statement for Practitioners from the Chief Inspector for Education Statement (2016), Curriculum for Excellence - A Statement for Practitioners from HM Chief Inspector of Education (August 2016) and the addition of the benchmarks to the website in 2017.
- There have been several recommendations about the need **to focus implementation more closely to teaching and learning**. For example, OECD (2015) noted the need to move beyond system management to "a new dynamic nearer to teaching and learning" (p. 10, executive summary). They noted implementation at variable speeds across schools and local authorities, and recommended "strengthening the middle", calling for networks and collaborations across schools and across local authorities (subsequently, 6 Regional Improvement Collaborations were created in 2018). The OECD (2021) report called for more dedicated time to help CfE at school level, supporting teachers for curriculum planning, monitoring assessment and moderation of assessment outcomes. More generally, the report pointed to the need to continually build curricular capacity at various levels in the system, using research to support curricular design around schools, exchanging collaborations between practitioners, experimentation, and collaboration between schools and universities.
- Specifically with regard **to transitions between different phases of education**, the OECD's second report noted discontinuities between the progress of CfE in the phase of Broad

General Education (early years, primary and lower secondary school) and during the Senior Phase. Overall, the report concluded that the CfE is considered to be more successful in the earlier phases than in the Senior Phase. Two recommendations are pertinent to transition. The first identified the need to "consolidate a common base of knowledge, skills and attitudes by the end of BGE", so that students can progress seamlessly through to the Senior Phase and the choices it offers. The second recommendation asked for adaptations to the Senior Phase "to match the vision of the CfE" – adaptation to both pedagogical and assessment practices and the structure of learning pathways to support the continuous development of the Four Capacities (OECD, 2021, recommendations in the executive summary). See below for a recent development on senior phase qualifications and assessment.

- Recommendations from all reports relate to the need for a more systemic review cycle with a planned timeframe, with a specific review agenda, and taking a long term approach to implementation.
- Finally, and worth noting – the second ICEA report (2020) pointed to challenges presented to schools and ways of learning by the COVID pandemic, particularly about the need for an increased focus on digital competence, self-directed learning, and the ability to teach outdoors, perhaps pointing to potential flexibility in the use of physical space and the school grounds.

Recent developments on qualifications, June 2023: Following the recommendations from the OECD's (2021) report for better alignment between the early phases of education and the Senior Phase, the Independent Review of Qualifications and Assessment (June 2023, The Hayward Report) recommends the creation of a new school leaving certificate, the Scottish Diploma of Achievement, to include three strands – a programme of learning (likely to be qualifications), project learning (demonstration of learning across subjects), and a personal pathway (a personal learning story). The timeframe for implementation stretches from 2024-2032 (not yet government policy).

3.2.3 Commentary on Scotland's Curriculum for Excellence Journey

Some key points that are relevant to the 'lessons learned' focus of this report:

- Although the Four Capacities were posited as the "purposes" of the new curriculum and central to the student-centred ambitions of the curriculum, they were under-theorised and were never sufficiently developed and elaborated upon to carry the powerful educational force initially intended, even after the refreshed CfE narrative. Their conceptualisation - and naming - predate theoretical definitions and debates about key competencies, and perhaps were not involved in these discussions until more recently.

- Consequently, the approach adopted did approximate very closely the 'name and hope' approach and the Four Capacities remained as broad aspirations for subject teaching rather than detailed planning. Statements on the CfE website outlining the relationship between the Four Capacities and the Experiences and Outcomes for each learning area say "*The experiences and outcomes for each curriculum area build in all the attributes and capabilities and so develop the four capacities."* However, the Es and Os do not make any explicit reference to the Four Capacities or do any tagging to show the potential connections.
- No national independent evaluation or monitoring of the roll-out of the curriculum was planned, and this gap was filled largely by the creation of expert panels. Thus, the evidence base consists mainly of smaller scale academic research reports representing specific research interests and topics, together with international reviews, panels and so on. That makes it difficult for curriculum authorities to get a good understanding of the complete picture. Both OECD reports noted this gap and recommended more systematic and cyclical review of the curriculum and the need for independent knowledge creation.
- Nevertheless, consistent research evidence has emerged about the importance of giving schools and teachers the time and space for sense-making and for "second order engagement" with the newer ideas and practices, and the importance of creating networks of schools for teacher professional development, for example, the Regional Collaborative Partnerships. This may be a better solution than issuing a proliferation of guidance which tended to contribute more confusion than light.
- Despite the complexity of the curriculum and assessment changes, shifting policy priorities, and the overabundance of advice from reports and panels, Scottish education has shown remarkable resilience in pursuing the more holistic educational vision and intention of the CfE, recognising the importance of assessment alignments, as evidenced by the recent reports on recommended changes to national qualifications and school leaving certification. Also, a clear recognition of the time this is likely to take is evident in the recommendations.

3.3 British Columbia

3.3.1 The Curriculum: British Columbia, a province in western Canada, introduced redesigned curriculum and assessment arrangements in a phased roll-out from 2016 (early years, primary and lower secondary) to 2019 (upper secondary and graduation programme). The inspiration for the new curriculum was the idea of an "educated citizen" which had been declared in an Education Act in the late 1980s as the main aim of education for British Columbian schools. The roll-out was preceded by extensive consultation and collaboration with stakeholder groups, including teacher groups who co-created some of the more detailed content. The curriculum is characterised as **a concept-based** and a **competency-based** curriculum, designed to address criticisms of earlier key competency approaches by bringing together subject content and competencies from the beginning. Considerable development work has been completed showing the relationships between the different curriculum elements and that work is readily available on the curriculum website, Curriculum Redesign | Building Student Success - B.C. Curriculum (gov.bc.ca)

There are three **Core Competencies** identified as important across all areas of the curriculum, with strands:

- **Communication** (communication; collaborating)
- **Thinking** (creative thinking; critical and reflective thinking)
- **Personal and Social Responsibility** (personal awareness and responsibility; social awareness and responsibility; positive personal and cultural identify)

There is considerable detail and elaboration for each of the core competencies describing attributes (facets), profiles for different grade levels, and likely connections between the core competencies, see example for creative thinking, Creative Thinking | Building Student Success - B.C. Curriculum (gov.bc.ca)

The curriculum for each subject area has been redesigned around a **Know-Do-Understand** model, where "**Know"** refers to the topics and knowledge to be learned at each grade level, "**Do"** refers to curricular competencies that are more subject specific but linked to the Core Competencies, and **"Understand"** refers to the Big Ideas, concepts or principles that students should understand at the end of a grade level and which contribute to future learning. The core elements of the curriculum are represented in the attached orientation guide to BC's Redesigned Curriculum BC's Redesigned Curriculum (gov.bc.ca) The graphic showing the relationship between the different elements of the curriculum is repeated for every grade level and every subject area on the website. Also available on the website are 'continuous views' of the Big Ideas, Content, and Curricular Competencies across grade levels for each subject area, essentially mapping out the expectations and progression in

learning for the whole curriculum, see link Continuous Views | Building Student Success - B.C. Curriculum (gov.bc.ca).

Another important addition to the new curriculum is the inclusion of Aboriginal Perspectives and Knowledge, acknowledging the historical and cultural diversity of the state, and the First People's Principles of Learning.

Alongside the consultations about the redesigned curriculum, discussions began about changes to the province-wide graduation requirements for students (the Dogwood Diploma). Where previously students took five provincial exams over the final three years of senior school, now they are required to take three provincial assessments, two in literacy and one in mathematic. As well as these province-wide changes, British Columbia has included a Careers Unit and a Career-Life Connections unit in their graduation certification, which includes a capstone project and a portfolio reflection on students' experiences and growth of their key competencies.

https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/curriculum/career-education/en_career-education_10-12_career-education-guide.pd

3.3.2 The Journey: Because of the recency and phased nature of the roll-out of the curriculum, to date, research evidence on progress and impact is sparse. What literature there is tends to focus on the processes and methods by which the curriculum was designed and created, the role of the Ministry of Education, the importance of key personnel, the participation of teachers as co-designers, and the challenges presented by previous poor relations between the Ministry of Education and the BC's Teachers' Federation (the teachers' union), see, for example, a conversation with Rod Allen, one of the key designers of the curriculum, https://www.edweek.org/leadership/opinion-british-columbias-curriculum-a-glimpse-of-the-future/2018/06

However, I will draw on two sources of systematic evidence that gives some insights into how the new curriculum is being welcomed both by external viewpoints and by local schools and teachers. The BC new curriculum is attracting a lot of international attention and was selected as a case study of a curriculum that supports 'holistic student development" by the Centre of Universal Education at the Brookings Institute (Peterson, 2023). The data for the case study consists of visits to British Columbia between 2013 and 2019, during the design phase and early implementation, where over 100 interviews were conducted with teachers, principals, ministry officials, students, and some parents, including some follow-up interviews in 2020 and 2022. The other source of data comes from surveys of teachers conducted by the BC Teachers' Federation on their experiences of the implementation of the curriculum so far (BCTF, 2019). Their intention is to repeat these surveys over five years. At this

initial stage of implementation, the case study data paints a more positive picture of how the curriculum is bedding down when compared to the data from the teachers' survey.

Key messages and findings from the Brookings Institute case study:

- In common with many commentaries on the BC curriculum, the case study draws attention to the positive benefits of wide and sustained engagement with stakeholders, and the collaborative nature of co-design with teachers, even in the face of teachers' earlier strike action (not directly related to the curriculum but with impact on its development).
- An important point was made about the use of language in describing the design and roll-out of the re-designed curriculum. Apparently, certain words were "banned" from the policy lexicon, such as "pilot" and "implementation", as they were considered to represent an overly top-down approach to curriculum redesign. Rather, the idea was that the new curriculum would manifest itself in a wide range of learning contexts, designed to meet the needs of the learner. "Creation" would be a better term to describe the process than "implementation". However, the case study noted that this way of thinking puts a particular responsibility on schools and teachers as designers of new practices. Alongside this, proponents of the reform rejected the idea of "scaling" as a model for sharing, preferring the idea of a "social diffusion" approach, relying on existing strong networks of teachers to spread innovative practice. And some funding was made available from the Ministry of Education to support K12 Innovation Partnerships.
- The case study reports on the impact of the new curriculum on the daily life of schools and classrooms, with pedagogy now more in line with developing the core competencies, for example, inquiry-based learning and project work spread over a more extended period of time.
- The views of the participants in the case study considered that the curriculum had bedded down more successfully in primary schools than in secondary schools. While the change was more incremental in primary schools it was more widespread, with most primary schools making use of the core competencies. Secondary schools expressed more frustration on the slow pace of change. Also, in some schools, unintended consequences emerged in students' choice of courses, when more innovative course designs either attracted fewer students, and thus became less viable, or were viewed as having lesser status. However, the impact of COVID seemed to confirm the importance of core competencies even in secondary schools and senior phases.
- Assessment was still viewed as "unfinished business", with differing views on whether the core competencies should be assessed summatively or not. Currently, teachers provide

comments on a new "report card" and students can self-assess, but the worry is that, if only literacy and numeracy are monitored province-wide, the core competences cannot really be considered as core.

- As of 2022, the parents and teachers interviewed supported the curriculum and the new graduation arrangements, with many welcoming the credit-bearing new courses on Aboriginal Perspectives, and noting that many schools were already teaching these prior to the formal requirement. The full impact of the changes to graduation certification remains to be seen.

Turning now to the BCTF 2019 survey, the findings paint a more statistical picture, and point to the challenges and demands of the roll-out of the new curriculum on teachers' workload, their need for more resources, and frustrations about the lack of clarity and alignment between curriculum and assessment/reporting procedures (which were not finalised at that stage). Specifically-

- Although most teachers (76%) felt that their school leaders see the curriculum redesign as a process, only 34% of teachers reported that they had opportunities to discuss the new curriculum with colleagues – in other words, more time and space was needed.
- With regard to engagement, about three-quarters (74%) said that they were using the new curriculum 'all' or 'most of the time', while the level of support for the curriculum was slightly lower.
- With regard to resources, many teachers reported that they are responsible for implementing the curriculum without adequate resources, with only one third rating their access to adequate resources as 'good' or 'very good'.
- Less than one third reported having received adequate in-service and professional development on student assessment of the Core Competencies in primary school, and this percentage was about a quarter at secondary level.
- The overall message from the survey can be summed up in a quotation from one teacher at the end of the report, "while I believe that the new curriculum is interesting and relevant, the workload required to change all topics in such a short period without extra planning time and resources has been overwhelming and exhausting" (p. 9).

3.3.3 Commentary on BC's Redesigned Curriculum Journey so far…

Some key points that are relevant to the 'lessons learned' focus of this report:

- The design of BC's new curriculum has responded to the experiences of other jurisdictions as well as the theoretical discussions about key competencies and knowledge from the OECD's Learning Compass project. They have adopted an explicitly integrated or embedded approach, linking key competencies and subject learning, at the design stage rather than leaving it to curriculum enactment by schools and teachers.
- In their curriculum model, knowledge is described at two levels – Big Ideas and Content topics, and competencies also have two levels – Core and Curricular. The Big Ideas/Content topics distinction is aimed to communicate the priorities for learning within a subject area, and the Core/Curricular distinction is to help customise competencies into subject specific versions and make them more recognisable for teachers. While this might seem an ideal solution the risk is that the key competencies may become overly embedded and become more like subject skills rather than key competencies (see earlier comment on New Zealand's model). Also, BC's redesign is using different terminology and language for each curricular competence compared to their core competencies, with no mapping of the rationale or relationship between the two, that I am aware of.
- That said, elsewhere there are very full descriptions and articulation of the interconnections between different elements of the curriculum.
- With regard to assessment and alignment, steps were taken early on to begin changes to graduation requirements before the roll-out of the new curriculum, recognising the washback effects that higher stakes examinations have on any curriculum. There are still some concerns that the prominence of literacy and numeracy in the province wide graduation exams may distract from the importance of the core competences more generally. To balance that, credit bearing Careers Units, including a portfolio that includes reflections on the growth of core competencies by the end of schooling, are also included on the school leaving diploma.
- With regard to feedback about the implementation, there seems to be a heavy reliance on partnership models for sharing practice (social diffusion as a sharing model, use of existing strong teacher partnerships, and funded new partnerships). However, the evidence from the teachers' surveys is much less reassuring that this model is currently working well. I say this cautiously as there may be gaps in the evidence on this matter. Drawing on Scotland's experience, there may continue to be a need to "strengthen the middle", as recommended by the OECD's (2015) report for Scotland about the benefits of strong teacher networks and collaborations across schools and local authorities.

- From the information available, I can find no plans for province-wide monitoring or evaluation of the roll-out of the curriculum, beyond the surveys conducted by the teachers' federation, which is a big gap in becoming " a system that learns" (to use the phrase from New Zealand).

4 Key issues for curriculum designers and curriculum developers

4.1 Preliminary comments

Following on from the broad system perspective in Section 2 and the more detailed lens of the case studies in Section 3, this section adopts a mid-level perspective and draws together emerging issues that are of specific concern to curriculum designers and developers, like NCCA, as they are the primary audience for this report.

The first issue is **about the positioning of key competencies in relation to other parts of the curriculum,** the front-end vs the back-end issue experienced by New Zealand and the disconnection between the Four Capacities and the Experiences and Outcomes in Scotland. A related issue is the perception (real or imagined) that subject knowledge is being downgraded through the introduction of additional learning goals like key competencies.

The second issue is about **the further articulation and elaboration of attributes linked to key competencies** – how much detail do schools and teachers need to fully grasp the significance of key competencies and turn them into practical plans and lessons for their teaching? Conclusions from New Zealand seem to indicate that not enough guidance was provided to help teachers understand and integrate them into their subject teaching and even more so for Scottish teachers. On the other hand Scottish teachers then became overwhelmed with too much guidance, not on key competencies but on subject learning outcomes and benchmarks. It is too soon to know where British Columbia will land on either these dimensions. While their website certainly provides a lot of detailed and coherent guidance, feedback from teachers' surveys so far do not support that view, though there may be gaps between the timing of the survey and what is currently available on the website and related support materials.

Finally, there is the issue of **curriculum alignment** between the broader learning goals implied by key competencies, the associated pedagogies and their assessment. There is some confusion around schools/teachers' understanding as to whether these curriculum developments are about content of the curriculum and how it is specified, or about pedagogical change, or about changes to assessment practices, or all three. This was certainly true in Scotland where the framing of Experiences and Outcomes together presented a complicated picture. Also, reports from teachers who participated in the co-creation activities in British Columbia had some difficulties defining the boundaries of their responsibilities, perhaps due more to regulatory boundaries than substantive educational ones.

With regard to assessment, because of theoretical (and sometimes practical) disputes about whether it is desirable or possible to assess key competencies summatively (can you award a grade to creative thinking, and would that be desirable?), the general approach has been to locate assessment of key competencies within formative assessment, using teacher feedback, self and peer assessments against key competency-related criteria and rubrics, then summarising them into end-of year student 'report cards' or profiles. This puts additional demands on teachers' assessment literacy. Feedback from Scotland's and British Columbia's teachers report difficulties with clarity of assessment criteria and workload. Alongside this, the introduction of key competencies, especially at senior cycle level, shines a spotlight on whether school leaving certification is fit-for-purpose and can truly support the aims and aspirations of the broader learning goals that are represented by key competencies. Yet the imperatives of curriculum alignment say that it ought to. British Columbia and Scotland are certainly making an attempt to address this. The following sections will provide some discussion and reflection on these issues.

4.2 Positioning key competencies in a curriculum

Where to position key competencies in relation to subject teaching was considered theoretically as a key design challenge in the Main Report (Section, 2.4, p.11) and it has emerged as a real issue for jurisdictions. So it may be worthwhile reflecting on it once more.

NCCA has already settled on an integrated approach, informed by the wide Senior Cycle Review consultation exercise that emphasised the importance of **integrated** development to "help every student to become more enriched, engaged and competent, as they further develop their knowledge, skills, values and dispositions in an integrated way." (NCCA, 2022, p. 20). This integrated approach is variously described in other jurisdictions as "infusion" (Northern Ireland, CCEA, 2007) or as "weaving" in the newly refreshed version of the New Zealand curriculum (Chamberlain et al., 2021). These latter descriptions are intended to capture the feeling of creating something new and more significant that what had gone before, for example, the dictionary meaning of infusion implies that by adding one thing to another, it makes the new thing qualitatively different and with a new significance. Other jurisdictions, like British Columbia and New Zealand's refreshed approach, have gone beyond the metaphorical use of these terms and have created models that explicitly map the relationships between the different parts.

But even this approach may not be without criticism. Reid (2006)**,** drawing on his experience of earlier skills-based curriculum reforms in Australia and elsewhere, argued that the failure of previous reforms to have a serious impact on the curriculum and student learning was because the approach adopted was not a sufficient departure from what had gone before - essentially a subject-based curriculum,

what he calls the dominant curriculum model. He was particularly sceptical of relying on 'name and hope', that is, naming the desired competencies and exhorting teachers to pick them up in their subject teaching, without any further advice on how they might be linked to their subject teaching. Consequently they remain just broad aspirations for subject teaching. While Reid's comments were made in 2006, and in the context of his reflections on the success or otherwise of previous reforms (mostly on essential skills), the dilemma he posed with regard to getting the 'right' balance between subject content and key competencies, and which should be the starting point for creating teaching units and lesson plans, has not yet been entirely resolved, as is obvious from the research evidence from case studies. It looks like that is what happened to the Four Capacities in some schools in Scotland and with Key Competencies for some schools in New Zealand.

Even an 'embedded' approach, where the key competencies are integrated within the subjects or learning areas with guidance on where they might be best developed within that subject, can be limited because the competency becomes marginalised or invisible in the face of subject teaching imperatives. British Columbia's attempt at mapping and customising their core competencies into subject curricular competencies may be at risk in that regard, and the same can be said of New Zealand's refreshed approach. Additionally, the competencies can become fragmented across subjects, their overarching intention gets lost, and students fail to make connections between their experiences of practising the competency across different subjects and classroom experiences.

Essentially, Reid advises that it should be acknowledged up front that opportunities for learning in the curriculum can be afforded from two directions: the key competencies and subject knowledge (however organised). These two directions have distinctive yet complementary roles. For Reid, the idea is "to teach through one part – knowledge – in order to develop the second part – key competencies/capabilities" (Reid, 2006, p. 54) what he called teaching through knowledge FOR capabilities (his word). In the dynamic interaction between the two parts, sometimes the subject content will provide the starting point and sometimes the key competency will provide it. So the choice of where to start planning should not be considered as curriculum incoherence but rather as providing teachers with a choice of planning points and subsequent teaching approaches, allowing for flexibility and creativity. A teacher is sometimes selecting subject content not just for it's importance in its own right but as an opportunity for competency development and practice. Other times, the selection of the subject matter is foregrounded and the competency development is more consequential than intentional. These choices are likely to have consequences for how a unit/task is designed, how it is taught, and for how it is assessed, with an emphasis on competency growth as well as on a deeper understanding of the topic, and/or on knowledge building.

Previously, Perkins (2014) identified that one of the fears of this approach was that the curriculum will be perceived as becoming "inverted", - with Big Know-How (his terminology for key competencies) displacing knowledge or downplaying its importance – a fear that has subsequently become more prominent, as the case studies show. However, he does point out that some serious choices do need to be made to get the balance right and that curriculum designers/schools/ teachers should not shy away from those choices. He concludes that, if key competences are taken seriously, then the curriculum should be "shaken and stirred "(p.220) in the sense of being recalibrated for the "lives learners are likely to lead" (p.220). The implication is that learners need to know how to build knowledge, and to apply knowledge, as well as to learn about established knowledge, and that key competency approaches are the route to achieving that. Perkins agrees with Reid, that there is little point of making the effort to redesign the curriculum if the dominant curriculum model (Reid's term) remains undisturbed.

With regard to the positioning of knowledge and key competencies in the curriculum Priestley and his colleagues in Scotland have written extensively about the perceptions of downgrading knowledge that have faced key competency curricula more generally. In order to check the 'accuracy' of these perceptions, Priestley and Sinnema (a colleague from New Zealand) have conducted a document analysis of references to 'knowledge' in both the CfE's Building the Curriculum documents and New Zealand 2007 curriculum documents (Priestley & Sinnema, 2014). They concluded that, at least from the point of view of the published curriculum documents, the accusation of 'downgrading' knowledge was more complicated than is sometimes suggested by critics. According to their analysis, knowledge remains fundamental to the aims, purposes and goals of both curricula, including the focus on disciplinary knowledge. The ambiguity arises in that knowledge is now just one of many purposes, and in that sense it could be argued that it is less important. Also, in both curricula, knowledge is less prescribed than in previous curricula and consists of statements of broader ideas and understandings, allowing teachers to choose specific topics to suit their context (more flexibility). However, this is often seen by teachers as being too vague.

In addition, Priestly and Sinnema argue that both curricula can be critiqued with regard to mixed messages about the positioning of knowledge in the curriculum. They point to some inconsistency in the use of language across policy and curriculum texts (e.g., knowledge, understanding, skills, capacities, capabilities, attitudes, attributes), giving the impression of lack of clarity not just about terminology but about curriculum intentions. This mixed messaging risked leaving schools and teachers uncertain about when and how they might prioritize the development of student knowledge. They pose some important questions about the criteria that schools/teachers might use in the selection of content that meet the purposes of the curriculum rather than for the 'wrong' reasons -

for narrow assessment purposes, to meet existing resources, of simply because 'we always did it like that'. These perspectives illustrate how important it is for schools and teachers to make full sense of why key competencies are being introduced into a curriculum, so that they can take advantage of the opportunities key competencies afford for enhancing student learning.

4.3 Curriculum Development and Articulation for Schools and Teachers

This section is less of a discussion of the pros and cons of detailed guidance and more of a menu of examples of what other curriculum authorities have done. In making decisions about which support materials to prioritise, as well as 'who does what' so there is clarity of task allocation, it will be important to take into account the historical context in which schools and teachers have been working, whether the previous curricula have been centralised and/or very prescribed, whether schools have had previous experience with key competencies or related concepts like key skills, and/or or whether schools are accustomed to having local autonomy. Many recent curriculum developments (e.g., Scotland) had the aim of increasing teacher agency and including teachers as curriculum makers, which did present challenges for some schools. In New Zealand too, the quality of local curriculum-making was variable, raising concerns about equity and pupil access to different kinds of learning, so getting the balance right will be important.

That said, curriculum authorities have put considerable effort into creating, and co-creating with teachers, guidance and explanations of key competencies, versions for ages and stages, case studies (narrative accounts and videos) of 'what it looks like in my classroom', as well as progress maps and learning continua to understand competency growth and so on. A useful summary of what curriculum developments might be needed for a competency approach comes from an International Bureau of Education's document (Kapita & Ji, 2017) reporting the Kenyan experience of moving in this direction, see below.

I have added some additional comments (in italics) from my own experience of working with the Curriculum Council for Examinations and Assessments (CCEA) in Northern Ireland prior to the roll-out of their Thinking Skills and Personal Capabilities Framework in 2007, and from my research on other country frameworks. Some of the key elements, with examples, are:

- *Designing a BIG PICTURE of the curriculum, showing how the different elements work together for ease of communication and ready reference. See examples*

  New Zealand The New Zealand Curriculum / Kia ora - NZ Curriculum Online (tki.org.nz)

  British Columbia Curriculum Overview | Building Student Success - B.C. Curriculum (gov.bc.ca)

  Northern Ireland The Big Picture of the Curriculum at Key Stage 3 | CCEA

Finland https://www.oph.fi/en/education-and-qualifications/national-core-curriculum-basic-education

- Developing competency descriptors for each of the desired key competencies; *and describing how the key competencies work together as a coherent whole.* Descriptors at the level of individual competencies are important so that teachers can grasp their internal anatomy but it is also important that there is an understanding that key competencies are intended to be interdependent and to work together.

  British Columbia Core Competencies | Building Student Success - B.C. Curriculum (gov.bc.ca)

  Northern Ireland https://uk.ccea.org.uk/downloads/docs/ccea-asset/General/Thinking%20Skills%20and%20Personal%20Capabilities%20for%20Key%20Stage%203.pdf

- Developing descriptors for different levels/ages and stages*; plus articulating the underlying principles of progression between them*. Not all frameworks take this position, for example, New Zealand 2007 curriculum worked more from case studies of 'what it looks like in my class' rather than from explicit level descriptors, though their refreshed curriculum in 2023 has moved deliberately in a progression direction. Because NCCA has separate skill/competency descriptors for each phase of education this may be more difficult in their case (see Main Report, Section 6, pp.46-56)

  British Columbia https://curriculum.gov.bc.ca/competencies/thinking/creative-thinking

  Victoria, Australia http://victoriancurriculum.vcaa.vic.edu.au/critical-and-creative-thinking/introduction/scope-and-sequence

  Northern Ireland https://uk.ccea.org.uk/downloads/docs/ccea-asset/General/Thinking%20Skills%20and%20Personal%20Capabilities%20for%20Key%20Stage%203.pdf, see section on Progression and From-to Progress Maps in Appendix

  Continuous Views | Building Student Success - B.C. Curriculum (gov.bc.ca)

- *Clarifying how the key competencies can be identified and represented in subjects so that teachers can confidently recognise opportunities to apply key competencies in a range of contexts and can highlight their transversal value to students. (See below for an elaboration of this point.)*

  Northern Ireland TSPC Progression Maps at Key Stage 3 | CCEA

  British Columbia Building Student Success - B.C. Curriculum (gov.bc.ca)

- Developing suggested learning experiences that promote the achievement of the key competencies:

  Northern Ireland Developing and Embedding Thinking Skills and Personal Capabilities | CCEA

New Zealand Key competencies and effective pedagogy / Key competencies / Kia ora - NZ Curriculum Online (tki.org.nz)

Wales Curriculum for Wales - Hwb (gov.wales)

- Developing key inquiry questions that promote inquiry-based teaching to help differentiated instruction. *This is not typical in all countries, although most have worked with schools to create specific tasks and units.*
- *Developing materials for children with special-need;*

  Northern Ireland SEN Thinking Skills and Personal Capabilities Framework | CCEA
- Developing assessment rubrics for formative assessment at least, and also for summative assessment;

  Northern Ireland Using Rubrics to Support Planning and Assessment of the TS&PCs.pdf (ccea.org.uk)

  a-framework-for-classroom-assessment.pdf (gov.bc.ca)
- Developing information guides for parents and guardians, to help understanding of the changes and shifts of emphasis in a key competency approach.

  Australia The Australian Curriculum. An overview for parents.

In the development phase, if a jurisdiction is beginning with no previous experience of including key competencies in their curriculum, it is important to make a connection between what is currently mapped out for the subjects (probably knowledge and specific subject skills) and the new key competency descriptors, at least to identify where the gaps are. Subject skills are more likely to align with cognitive components of a key competency, at least with regard to 'thinking', while there are likely to be gaps with regard to any explicit reference to dispositions/attitudes and values, even in the cognitive domain. 'Working with others', and 'managing self and learning' competences tend not to have strong subject specific profiles and an audit of current subjects is likely to reveal bigger gaps, even more so for the new competencies being proposed for the Senior Cycle, 'cultivating wellbeing' and 'participating in society'.

Many jurisdictions set up subject development panels to develop key competency learning pathways and outcomes that focus on knowledge, skill, attitudes and values related to meaningful learning in each subject. While this is certainly a necessary first step, it is worthwhile repeating the point made by Reid re the 'embedded curriculum model' which is that, once identified within subjects, the overarching purpose of key competencies 'get lost'. In order to avoid this, it will be important to keep the subject perspective in constant dialogue with the overarching key competency framework. One way to do this is articulated by Reid's conceptualisation of notion of teaching through knowledge for

competencies. It will be interesting to see how the British Columbia curriculum manages this in relation to their Core Competencies and Curriculum Competencies. In a research paper that provides some insight into this, Storey (2017) traces the evolution of ideas and descriptions of Core Competencies with regard to social and emotional learning in the BC Ministry of Education papers during the development years. She notes shifts in emphases from the language and perspectives of the Core Competencies towards the Curricular Competencies, reflecting, in her view, the increasing dominance of the subject, and she fears that the original intentions and forward thinking of the Core Competencies will become diluted.

4.4 Curriculum Alignment

In Section 2 of this report, systems' thinking was identified as being crucial when introducing any curriculum reform or redevelopment. Successful implementation requires alignment between key players and stakeholders beyond curriculum authorities, schools, teachers and learners. These points were well made in the recommendations from policy reviews. However, there are some implementation imperatives that are specifically important for key competencies – how they are taught and how they are assessed. Key competency frameworks introduce new goals for learning and new considerations of how they should be taught and assessed are needed.

At its heart, a key competency curriculum perspective is about developing and teaching 'know-how' in its broadest sense, remembering that the key focus of key competency education is to enable young people **to act** in a specific context, to problem solve and to make decisions, not just to learn well (the original DeSeCo definition, Main Report, p. 10). Teaching and learning know-how is different than teaching and learning know-that. Know-how needs to be modelled by the teacher, and practiced by the students who need relevant feedback and opportunities for improvement – that's the learning trajectory for know-how, so explanation-based teaching, however good, will not be sufficient. They are unlikely to be learned 'spontaneously' and will need to be a focus for teaching. Remembering that the focus is on developing student agency and co-agency (Main Report, p. 12), tasks need to be sufficiently challenging and authentic to allow students to exercise and to practice the kinds of learning strategies that contribute to student agency – opportunities to use knowledge flexibly, using problem solving and thinking aids, collaborating on tasks, reviewing performance against criteria – allowing self-monitoring, agency and self-mastery to emerge. Students need to recognise that they are acquiring and gaining expertise in practicing these competencies, so that they develop the habit of doing so, and recognise their importance beyond the immediate context in which they were first encountered. This argument was previously developed in the Main Report (p. 41).

Finally, assessment needs to be congruent with at least the formative goals normally associated with key competency development. Several recent reviews have identified the range of methods currently being used to assess key competencies as well as some of the challenges. For example, Siarova et al (2017), in a review of European education, identified some of the key conditions that are conducive to their assessment – that the key competencies are operationalised as learning outcomes and the importance of teachers' assessment literacy and their capability to integrate assessment into their teaching. The European review also identified the range of assessment methods and approaches currently being used – some standardised testing (especially for literacy, numeracy and digital); performance-based assessment (tasks, scenarios, projects, portfolios) particularly important for more complex performances; as well as the use of self and peer assessments, especially if the key competencies are described in student friendly ways. The increasing relevance and use of technology was also noted. In their review of trends in assessment for the New Zealand Ministry of Education, Hipkins and Cameron (2018) also pointed to the appropriateness of performance-based approaches, reflecting the point that, as key competences are about developing students' capacity to act, to problem solve and to make decisions, then at least some element of performance should be included in their assessment. It is worth noting that British Columbia has included a Careers Unit and a Career-Life Connections unit in their graduation certification, which includes a capstone project and a portfolio reflection on their experiences and growth of key competencies.

https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/curriculum/career-education/en_career-education_10-12_career-education-guide.pdf

In Scotland, The Hayward Report, published in June, 2023, recommended the introduction of the Scottish Diploma of Achievement as a school leaving certification, to include three strands – programme of learning (likely to be qualifications), project learning (demonstration of learning across subjects), and personal pathway (a personal learning story). For now, this is a recommendation only and is not government policy.

It's Our Future - Independent Review of Qualifications and Assessment: report - gov.scot (www.gov.scot)

Finally, it should not be forgotten that, for some time now, key competencies have been the focus for standardised assessment in international surveys. Examples include problem solving (PISA, 2012), collaborative problem-solving (PISA, 2015), global competence (OECD, 2020), and social and emotional skills (OECD, 2021). The assessment of creative thinking was recently launched by the OECD, to be reported in 2024.

5 Summary and general reflections on lessons learned

5.1 The purpose of this report was to gather information about the experiences of other jurisdictions who had already introduced key competency approaches to their curricula. The review was undertaken **in the spirit of peer learning** while recognising that Ireland has considerable relevant experience in its own right which is recognised in many international reviews.

5.2 Two sources of evidence were accessed – research syntheses already completed by international agencies on the topic of implementation (OECD and EU), reported in Section 2, and detailed case studies on the implementation journeys from three different jurisdictions, built from available research evidence and other reports on the roll-out and impact of these curricula over different timelines, reported in Section 3. While the different sources paint pictures at different 'grain' sizes, together they **show a comprehensive picture** of what can be said currently about the achievements and challenges associated with curriculum redevelopment, including those relevant to key competencies.

5.3 The implications of some of **the broad policy recommendations** from the OECD and EU reports can be seen **more sharply in the case studies**. For example, the importance of developing a shared vision in consultation and in co-creating with stakeholders is exemplified in all three cases studies. All jurisdictions spent substantial amounts of time and effort on planning phases before the final national roll-out of the new curricula which was sometimes phased. All three jurisdictions ran pilot projects which were important for fine-tuning as well as building capacity. Nevertheless, deeper understanding of the curriculum and other-than-token changes to classroom practice take time to build and can be easily thrown off course through shifting policy priorities and other challenges. Evidence from the Scottish experience in particular confirms this. The EU report's recommendation "to develop and deepen practice" for school leaders and teachers needs to be listened to very carefully (see Section 5.7 for further development).

5.4 Many of the recommendations (see 2:2, p7-8) resonate closely with the **conducive conditions for successful implementation** already identified in **the Senior Cycle Advisory Report** (NCCA, 2022, chapter 3, p. 53) namely: having a shared purpose and vision; using research data and information; engaging with stakeholders; having a good communication plan; securing adequate resources; getting pacing and timing right; enhancing professional learning and development; and having policy alignment and coherence. While these conducive conditions have probably been known for some time, evidence from the case studies demonstrate that – **'when the tires hit the road'** - they may be much more difficult to manage in spite of knowing them well ('knowing about' is not necessarily 'being able to do'!).

5.5 Reflecting on the experiences of other jurisdictions, it is important to constantly keep the **purpose of introducing key competencies** into the curriculum to the foreground of discussions – the 'why' - especially in the face of challenges and frustrations. Their purpose is to introduce **broader learning goals**, not to dislodge other important learning goals such as subject knowledge and subject skills. That is not to underestimate the curriculum design challenges, or the teaching challenges, of balancing these important yet complementary learning goals. The case studies clearly show the tensions and how they have been resolved and continue to be resolved over different timelines. Getting the balance right is still a 'work in progress'. Keeping the purposes and intentions of including key competencies in the curriculum will be important for NCCA going forward.

5.6 Another recurring theme has to do with the **degree of articulation of key competencies** that is sufficient to allow schools and teachers to fully grasp their meaning, to translate them into classroom practice, while at the same respecting their professional autonomy and not overburdening them. Jurisdictions have different histories and traditions about how much articulation should be done centrally by curriculum authorities, how much by regional support services and clusters of schools, and how much can be expected of schools and teachers to be curriculum-makers. The general view is that there is **a need to move beyond "name and hope"**, but the question still remains about **how much**. There is the risk of becoming overly prescriptive, stifling teachers' professional judgements, and failing to create a curriculum that is responsive to students' needs and local interests. Key competencies in New Zealand were probably under-specified in the early stages of the 2007 curriculum, and British Columbia has probably gone largely in the opposite direction and engaged in extensive elaboration and mapping.

5.7 Finding an appropriate balance in articulating key competencies is complicated by the concurrent introduction, in some jurisdictions, of 'flexibility' in subject content and stating learning outcomes as broader rather than as specific requirements to accommodate this flexibility. Consequently, **jurisdictions can be faced with 'under-articulation' or 'over-articulation' challenges in two ways – for key competencies and for subject learning outcomes**. For example, Scotland experienced both of these challenges through under-articulation of their Four Capacities and, at least in the early stages, under-articulation of subject outcomes; they then experienced a proliferation of guidance from various sources, until settling on newer and more explicit benchmarks for subject outcomes. Going forward, it will be important for NCCA to understand and try to identify the separate influences of these two factors when articulating key competencies for the Senior Cycle.

5.8 Not surprisingly, the central role that teachers play in the successful introduction of any new ideas and concepts into a curriculum emerged again and again in both the research syntheses and the specific case studies. The evidence pointed to the importance **of giving teachers the time and**

'**dialogic space'** to get 'under the surface' of the ideas behind key competencies, **to engage in sense-making and to deepen their classroom practice**. In this regard, materials and resources are certainly important, but even more important seems to be **peer learning**, engaging in conversations about the curriculum with their fellow teachers, and with **other school networks and clusters.** British Columbia calls this the 'social diffusion' model of sharing practices, but it cannot be taken for granted and will probably need central orchestration to strengthen this 'middle' level of teacher support (see Scotland's example of Regional Collaborative Partnerships).

5.9 Many references are made to the importance of whole system alignment, but to keep the focus on key competencies, **aligning assessment needs particular mention, especially for the Senior Cycle.** Two of the example case studies have made, or are about to make, substantial changes to their school leaving certification to align more closely with their key competency focused curricula. British Columbia moved early and made modifications alongside the redesign of their curriculum. Scotland is just now moving towards embracing changes to their school leaving qualifications and is likely to introduce a diploma aligned more closely to the intentions of their CfE, but it has taken almost 20 years to reach this stage.

5.10 NCCA has distinct curriculum frameworks for different phases of education – early years, primary, junior cycle and senior cycle. While the focus for this report is on the senior cycle, it is important **to consider transitions and progression in student learning between the different phases.** Other jurisdictions have noted how discontinuities between phases can create barriers to successful implementation. In that regard, I will repeat a recommendation from the Main Report on this topic, "*To achieve and communicate more coherence about these frameworks, NCCA might need to create a more general statement, describing their position across the phases"(p. 55),* with regard to conceptualisation of similar-sounding but distinct concepts (key skills vs key competencies), the use of similar-but-different terminology and language at the different phases, and general expectations about progression in learning (Main Report, Section 6).

5.11 New Zealand has begun to use the phrase that it is **an educational 'system that learns**' and is open to learning. That case study shows how important research evaluation, systematic data and information were in order to monitor the impact and progress of the curriculum over time. Both the OECD reports for Scotland point to the need for systematic data and cyclical review of curricula so that systems can get a comprehensive picture of how a curriculum is faring. The current evaluation of the impact and implementation of the Framework for Junior Cycle is a good example on this point, though perhaps a more cyclical curriculum review cycle would also be a useful addition, and across the different phases of education.

5.12 A final point from the case studies. Introducing key competencies into a curriculum can be **more disruptive than anticipated**, as it raises many other important issues about priorities in education and student learning; teacher professionalism, workload and well-being; and the purposes of assessment and national qualifications. And in the case of New Zealand and British Columbia, it prompted deeper cultural questions and reflections about what kind of learning and cultural traditions should and should not be represented in a national curriculum.

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