

Camau i'r Dyfodol

Building practical understandings of Curriculum for Wales

Phase 2 Report: December 2023



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Audience and style

Audience Welsh Government, education system professionals in Wales.

Style It is anticipated that most readers will access this document on screen (either online or via laptop or PC). It is therefore presented using 10-point Swiss font for clarity on screen, particularly when enlarged using the zoom function.

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Executive summary

Background

Camau i'r Dyfodol (Steps to the Future) is a 3-year joint research project designed to support education professionals in Wales to advance practical understandings of progression in learning, a central aspect to the vision of the new Curriculum for Wales (CfW). The *Camau i'r Dyfodol* project is based on the principle that change led by those at the heart of an education system provides the best opportunity for sharing expertise, building professional confidence, and fostering a coherent approach to CfW across the system.

The project has four phases: this report discusses the Phase 2 findings (2022-23). Phase 1 explored understandings of progression in the education system and how these were being translated into practice (The *Camau i'r Dyfodol* Phase 1 project report can be accessed [here](#)). Phase 2 focused on building knowledge of learning progression with education partners in response to collectively identified priority areas.

This report shares our Phase 2 approaches and findings. It is intended for the Welsh Government and educational professionals involved in translating the new curriculum from policy into practice. It may also be of interest to the research and policy communities more widely.

Research aims and methods

Phase 2 of the project was guided by the following aims:

- To build knowledge and understanding of learning progression with education partners through the process of co-construction
- To support curriculum coherence in the system more broadly by creating co-constructed knowledge and resources

These aims were met through the work of a Co-Construction Group (CCG) which involved education professionals from each level of the system in Wales together with members of the *Camau i'r Dyfodol* project team. The co-construction group met through a series of in-person and online meetings during the 2022-23 school year to develop knowledge and understanding of learning progression and curriculum. This activity was supported by four National Network Conversations and on-going research summaries and inputs that were prepared in response to the developing thinking of the group. The work and thinking of the CCG led to a series of practical support materials that can be accessed [here](#).

Phase 2 used a qualitative interpretivist research design in which evidence was analysed in successive cycles to inform thinking. A range of evidence was gathered with the CCG including reflections and observations, group discussions, notes and materials developed by group members. This was complemented by an extensive review of literature on curriculum realisation, an exploration of Hwb case studies and discussions with international experts. This evidence allowed us to explore the following research questions:

1. What supports the development of shared understanding and knowledge of learning progression during curriculum realisation?
2. To what extent is the knowledge coherent across different parts of the education system?
3. How can education partners be supported to develop a knowledge base to support ongoing understanding of learner progression?
4. What supports sustainable change during curriculum realisation and how can these approaches account for local contexts while maintaining professional and system integrity?
5. How can what is learned from phase 2 support capacity building across the system?

Curriculum Model

During this phase, the CCG, in conversation with the *Camau i'r Dyfodol* project team and reinforced by conversations with our partners in Welsh Government, came to a general understanding of CfW as being most closely aligned with the process curriculum model. This was necessary for developing shared understandings of progression and assessment.

Key findings

Findings from our analysis of the **co-construction process** suggest that:

- CCG participants valued highly the opportunity to reflect, discuss, challenge and be challenged, and work with others to resolve those challenges. They noted that opportunities for colleagues across the system to engage in similar deep reflection and development, rather than adding more information to the system, is needed for sustainable curriculum realisation.
- During co-construction, former understandings of curriculum co-existed with partial new understandings. Research and theory were seen as important for sense-making, but required time and support.
- Understandings of progression can deepen over time through developing, evaluating, and sharing practical applications across the system.

Findings from our analysis of how practitioners and education partners were **realising the curriculum and building practical understandings of progression**, are that:

- CfW was acknowledged as a new way of thinking and there was general agreement that progression should not be reduced to 'tick boxes' and attainment data. A variety of approaches have been developed in practice, with some participants looking at progression more holistically, but others discussing 'measuring', 'tracking' and 'mapping' progression, which some saw as incompatible with CfW.
- Shared understandings of learning progression may be supported through professional conversations and the challenging of existing ideas within and between schools and across the wider system.
- Participants viewed CfW documentation and support materials as abundant, complex and, in places, unclear, which makes it challenging for practitioners to realise CfW in a way that is coherent across the system. This can lead to unhelpful practices being used to meet uncertain requirements for accountability.
- Participants noted the importance of efficient, clear and coherent messaging and guidance about CfW to facilitate a balance between top-down and bottom-up approaches to curriculum realisation. They highlighted the need for adequate professional learning opportunities, aligned with a coherent approach, to allow sufficient time for reflection, the development of knowledge, and practitioner enquiry.

Our **exploration of Hwb Case Studies** suggested that:

- Teachers have been given agency to realise CfW, and as a result, a range of unique, context-specific approaches have been developed across different sectors and schools. The case studies suggest that the starting point may be the four purposes, the AoLEs, or a more thematic approach. Whole-school planning is often values-focused and cross-curricular planning is a recurring theme, sometimes supported by staff restructuring.
- Although it is not always clear how progression is being conceptualised, there appears to be a shift towards more learner-centred approaches.

Findings from our review of the **research literature on curriculum realisation** are that:

- There is a risk that the practical 'translation' of a new curriculum can diverge from its original intent resulting in a gap which can be widened if there is significant misalignment between practitioners' existing beliefs and practices and the new curriculum.
- Teacher agency and empowerment are important factors in the dynamic and ongoing process of 21st-century curricula realisation. This requires teachers to have deep subject knowledge as well as knowledge and skills in curriculum design, supported through ongoing professional development, time and resources to reflect, create and collaborate with colleagues effectively.

- A careful balance must be struck between a top-down and a bottom-up approach to curriculum realisation: providing teachers with sufficient autonomy and ownership to develop effective local curricula, along with the expertise and clear direction necessary to allow that to be done with confidence.

Finally, our discussions with international **experts from Canada, New Zealand and Norway** revealed that:

- Curriculum realisation needs time and space, and will be messy. This may develop over stages as practitioners move from the 'letter' to the 'spirit' of the reform.
- An educational climate that encourages collaboration and openness to new ways of working is needed. Leaders working as learners alongside staff, listening to learner voice, and developing strong subject knowledge are helpful approaches.
- Tensions may exist between different policies and approaches in the system which can cause difficulties for curriculum realisation. Strong alignment and shared vision between policy makers, influencers, and enactors (practitioners) can reduce inconsistencies in curriculum realisation by practitioners. A balance must be found between 'tight' elements of policy which offer signposts and direction with 'loose' elements allowing for local variations.

Implications for practitioners and schools

- Understanding Curriculum for Wales as aligning most closely with a process curriculum model may offer some clarity for understanding the aims and design of CfW, which in turn can help schools and practitioners in building more coherent practical understandings of progression.
- Off-the-shelf approaches to curriculum, assessment, and pedagogy do not appear to be aligned with the goals of CfW. Coherence is not the same as consistency—having a common shared understanding of what CfW is can allow for variations in practice across different local contexts that still share a coherent approach for practitioners and learners. Furthermore, CfW aims for teachers to be curriculum designers rather than deliverers.
- Participants in our project stressed the importance of understanding the theoretical underpinnings of the curriculum for informing the development of approaches for local contexts that are coherent with CfW. Reform takes time to understand and changing practice is difficult, and trying a new strategy without understanding its purpose may be ineffective. Building understandings of CfW as a purpose-led process orientated curriculum may require practitioners to use new language when talking about progression in learning and education in Wales more widely, as well as new approaches to curriculum, assessment, and pedagogy.

- To help schools continue in their efforts to build an understanding of CfW and its implications for supporting progression in learning, schools and education partners are encouraged to engage with the [Camau i'r Dyfodol practical support materials](#) developed in Phase 2.

Implications for Middle Tier and Welsh Government

- Education partners and organisations across the system need to be aligned in their underlying understanding of CfW. Communicating this shared understanding from the top-down is needed for schools to then have clarity when engaging in bottom-up development of practical understandings of learning progression.
- Existing messaging and guidance on CfW must be efficient, clear and coherent. Additional information and guidance are not necessarily viewed as helpful by schools and practitioners.
- Structured opportunities need to be provided for practitioners and schools across the system to develop, reflect upon, and share their practice and approaches. These need to be shared not as an exact map of what to do, but as ways to make sense of how an understanding of CfW as a purpose-led process-orientated curriculum can be translated into practice.
- The development of trust among participants from different tiers of the education system is highlighted as a key element in the co-construction process. New approaches may need to be considered for how to re-frame accountability in ways that align with a process orientation.

- Building these understandings and coherence in curriculum realisation takes time and sense-making is not a singular event. Evaluations of practice and of curriculum development should be engaged with cautiously in order to offer practitioners a safe space to develop practice.
- Support materials, resources and professional learning should aim to be coherent with CfW as a purpose-led process-orientated curriculum.
- We gained insight into what types of supports may be needed to support co-construction more effectively. We also learned that practitioners and schools will need to practically apply, work through, and reflect upon the curriculum in their schools to make sense of the purpose-led process-orientated CfW. These approaches need to be supported carefully, for example, with teams of practitioners working through their practice within schools alongside one another as well as researchers and experts. These insights will feed into our next phase of research.

Implications for the *Camau i'r Dyfodol* project

- We learned that different forms of coherence and of deeper theoretical understanding are vital, at all levels, for successful realisation of CfW. This led to the development of materials to help introduce an understanding of the curriculum model which was deemed to be most closely aligned with CfW. In turn, the purpose-led process-orientated understanding of CfW sits as a foundation for building practical understandings of progression.
- The space the project and the CCG worked within was often filled with uncertainty and complexity, embodying the challenges and potential of the curriculum reform process. We also saw the benefits of using an iterative and reflective approach, which allowed us to uncover and start working through 'knots' in the process of building practical understandings of progression.

List of abbreviations

AoLE	Area of Learning and Experience
CCG	Co-Construction Group
CfW	Curriculum for Wales
NNC	National Network Conversation
UofG	University of Glasgow
UWTSD	University of Wales Trinity St David
WG	Welsh Government

Terms used in the report

Education partners:	All those involved in realising CfW including policy makers, teachers, and other education professionals.
Tier:	The Welsh education system is structured over three 'tiers': the Welsh Government occupy Tier 1 (including practitioner secondees to government); regional consortia, local authorities, Estyn, Qualifications Wales and HEIs occupy Tier 2 (referred to as 'middle tier'); and schools and settings occupy Tier 3.
The Four Purposes:	The four purposes of Curriculum for Wales are the shared vision for every child central to the curriculum and processes of learning. https://hwb.gov.wales/curriculum-for-wales/designing-your-curriculum/developing-a-vision-for-curriculum-design/#curriculum-design-and-the-four-purposes
Progression Code:	The Progression Code sets out mandatory requirements for school curricula with respect to progression. https://www.gov.wales/curriculum-wales-progression-code
Hwb:	The Welsh Government's online repository to support teaching and learning in Wales https://hwb.gov.wales/
Progression:	We refer to the CfW definition: 'Progression in learning is a process of developing and improving in skills and knowledge over time. This focuses on understanding what it means to make progress in a given area or discipline and how learners should deepen and broaden their knowledge and understanding, skills and capacities, and attributes and dispositions. This is key to them embodying the four purposes and to progressing into different pathways beyond school.' (Welsh Government, 2021, p.5). When we use the term 'progression' throughout the report we are talking about progression as it is used by participants and as it is used in Curriculum for Wales, and as shorthand for progression in learning.

1. Introduction

Camau i'r Dyfodol (Steps to the Future) is a 3-year joint research project designed to support education professionals in Wales to advance practical understandings of progression in learning, something that is central to the vision of Curriculum for Wales (CfW). The project contributes to the CfW change process by working with education professionals from across the system in Wales to consider how curriculum change can be facilitated sustainably going forward. What we learn will also contribute to national and international understandings of progression in learning and of educational change. The *Camau i'r Dyfodol* team involves researchers from University of Wales Trinity Saint David and the University of Glasgow working in collaboration with Welsh Government.

The research project has four phases: Phase 1 is an exploration of current understandings of progression in learning across the system and how these are being translated into practice. Phases 2 and 3 will involve working with education professionals to take forward areas relating to progression that they identify as priorities for practice. Phase 4 will focus on working with participants from across the system to identify what is needed to continue to build capacity among school professionals to sustain curriculum change beyond the life of the project. What is learned from each phase will be fed back into the Welsh education system as part of ongoing change processes and

will also contribute to national and international understandings of progression and curriculum change.

This report is the result of Phase 2 of the project (September 2022-August 2023). It is intended for the Welsh Government, who are funding the research, as well as education system participants involved in translating CfW from policy into practice. It may also be of interest to the research and policy communities more widely.

1.1 Research context

Curriculum for Wales commenced in September 2022. It is understood that curriculum development in the context of CfW is an iterative and ongoing process. It also builds upon the principle of subsidiarity, which aims to empower the teaching profession to be an active part in decision making rather than simply recipients of policy.

Curriculum for Wales has been designed to provide a broad and balanced education from ages 3-16, with mandatory Statements of What Matters setting out co-constructed broad statements of what matters in learning in each of six Areas of Learning and Experience (AoLEs). Central to CfW are four purposes that provide 'the starting point and aspiration for schools' curriculum design' (CfW, 2022, np). The four purposes of CfW are that every child will be 'supported to develop' as:

- ambitious, capable learners, ready to learn throughout their lives;

- enterprising, creative contributors, ready to play a full part in life and work;
- ethical, informed citizens of Wales and the world;
- healthy, confident individuals, ready to lead fulfilling lives as valued members of society (CfW, 2021, np).

Also central to the new curriculum vision is a clear focus on progression, and what it means for children and young people to grow and flourish within the new curriculum arrangements. Five Principles of Progression, set out in the [CfW Progression Code](#), are core to CfW and describe what progression means for every learner: increasing effectiveness, increasing breadth and depth of knowledge, deepening understanding of the ideas and disciplines within the areas, refinement and growing sophistication in the use and application of skills, and making connections and transferring learning into new contexts (Welsh Government, 2021, pp.6-7). These principles are designed to underpin progression across the six AoLEs. When we use the term 'progression' throughout this report we refer to progression as it is used by participants and as it is used in CfW, and as shorthand for progression in learning.

Another central principle of CfW is that assessment should be seen as 'an integral part of the learning process', supporting progression and putting learners 'at the heart' of assessment as 'active participants' (CfW, 2021, np).

Fundamentally, CfW requires a reconsideration of how learning happens and how learners progress in their learning. It also necessitates a review of established ways of working – a new vision for education in Wales which demands that the system does things differently where there is an educational case to do so. As the OECD notes (2020, p.64), translating CfW from policy to practice ‘means that teachers and school leaders are expected to become curriculum designers.’ Co-construction is central to processes of curriculum making. As part of ongoing co-construction, teachers have been working together in clusters and consortia and other networks to co-construct their understanding of progression and assessment.

The *Camau i'r Dyfodol* project was awarded its funding on the basis that it will play a key role in supporting understanding of progression within this context.

1.2 Ways of working in the project

The *Camau i'r Dyfodol* project is based on the principle that change led by those at the heart of an education system provides the best opportunity for sharing expertise, building professional confidence, and fostering a coherent approach to CfW across the system. To this end, the project team is working with a range of education professionals – teachers, middle-tier professionals, Estyn, Qualifications Wales, and education policy makers – to advance practical understandings of progression as the system moves to create sustainable changes to curriculum and practice. In the report we refer to this group as ‘education partners’ in the project and in the system working towards realisation of CfW.

The rationale for the project is therefore to work with practitioners to bring together complementary knowledges and experiences of education practice, theory, and research to support understanding of

progression and what it means for learners as they progress through their school careers. It will also facilitate thinking about i) what the changes mean for participants as they adapt their professional roles to the changes, and ii) what the changes mean for the system in terms of new ways of thinking about accountability and professional practice.

1.3 Report structure

This report describes the work undertaken in Phase 2 of *Camau i'r Dyfodol*, the resulting findings and their implications. The structure of this report is as follows:

- Section 2 describes the overall aims and questions guiding Phase 2 of the project, as well as our research design and activities within Phase 2.
- Section 3 explains how we define some concepts and ways of working to provide further context for our approach.
- Section 4 presents our findings related to a deeper understanding of the co-construction process with our educational partners that we worked with in Phase 2.
- Section 5 presents our findings relating to curriculum realisation and how educational partners were building understandings of learning progression in Phase 2.
- Section 6 presents an exploration of school practice case studies on Hwb.
- Section 7 provides an international perspective on how processes within Wales might be understood by reporting the findings from our literature review of studies on curriculum realisation.

- Section 8 provides a summary of international evidence obtained through conversations with experts.
- Section 9 concludes the report with a summary of the findings from Phase 2, as well as implications and key messages.

Note. A longer description of the context for the project is provided in the Phase 1 report. Note that elements of the introductory sections of Phase 1 and Phase 2 reports provide overviews of the project that are naturally very similar. The Phase 1 report is available here:

<https://eprints.gla.ac.uk/298263/1/298263Eng.pdf>

2. Phase 2 research design

2.1 Introduction to Phase 2

Phase 1 of the *Camau i'r Dyfodol* project aimed to understand where education professionals are in the change process and what professional contexts for change might support co-construction activity within and beyond the project. Phase 1 also aimed to develop the project's conceptual and theoretical grounding in relation to i) co-construction and ii) the relationships between curriculum, assessment, pedagogy, and progression. Finally, it aimed to work with participants to build trust in the process of co-construction as a way of working within *Camau i'r Dyfodol* going forward to the next phases.

The findings in Phase 1 suggested a desire across the system to create a shared and consistent understanding of progression in learning. Teachers and school leaders were working hard to co-construct understandings of progression within and between schools with support from middle-tier partners. However, unpacking the language of the Principles of Progression and 'translating' these to school settings is time consuming. There seemed to be tensions between autonomy for practitioners as curriculum-makers to create curricula locally, and consistency of understanding of the new curriculum across the system. Participants understood the scale of the challenge in changing

assessment culture from one that is accountability-driven to one that is learner-focused.

Regarding implications of Phase 1 for our project's approach to Phase 2, we learned that work is needed to conceptualise and better understand the interrelationship(s) between curriculum, assessment, and pedagogy in relation to progression as it is understood within CfW. We conceptualised co-construction as a learning activity and recognised the challenges of this process in terms of the need for intellectual and physical space to support learning activity to happen. We also learned that co-construction is an iterative process and authentic forms of it lead to knowledge creation rather than only exchange.

Phase 2 of the *Camau i'r Dyfodol* project is a knowledge building phase. Its purpose is to build knowledge of learning progression with educational partners in response to collectively identified priority areas through the process of co-construction. As part of this, education partners were invited to develop resources to enable others across the wider system to engage with this knowledge to support curricular realisation and professional development in their local contexts.

We see Phase 2, and the subsequent research questions, as closely aligned to the overall project aims 2 and 3:

- To co-construct manageable approaches to sustainable change that account for local contexts and maintain professional and system integrity.

- To provide a coherent knowledge base for on-going understanding of learner progression that will be coherent across different parts of the education system and will support participants in exploring and developing expertise and new ways of thinking.

2.2 Phase 2 aims and research questions

Phase 2 of the project had the following aims:

- To build knowledge and understanding of learning progression with education partners through the process of co-construction
- To support curriculum coherence in the system more broadly by creating co-constructed knowledge and resources

The research aims informed the Phase 2 research questions. These research questions were developed collaboratively by the team and iteratively across the phase of research, following a reflective process (see Agee, 2009). The final questions we arrived at were:

What supports the development of shared understanding and knowledge of learning progression during curriculum realisation?

To what extent is the knowledge coherent across different parts of the education system?

How can education partners be supported to develop a knowledge base to support ongoing understanding of learner progression?

What supports sustainable change during curriculum realisation and how can these approaches account for local contexts while maintaining professional and system integrity?

How can what is learned from Phase 2 support capacity building across the system?

2.3 Research activities

Co-Construction Group and National Network Conversations

Following the completion of Phase 1, practitioners, educational partners, and researchers were convened to form a professional Co-Construction Group (CCG). This group identified and prioritised areas for enhancing practical understandings of learning progression. The aims for the CCG were to incorporate evidence from research, policy, and practice in order to devise approaches and resources to support practical understandings of progression in schools and settings across Wales.

The CCG self-organised into a number of sub-groups, and each sub-group focused on a particular priority area. The subgroups refined their priority areas over time throughout this phase of the project. These priority areas included practical understandings of learning progression, designing learning experiences to foster progression, and effectively articulating and communicating this progression.

The group met regularly across the 2022-2023 school year, both online and in-person, engaging in collaborative discussions to challenge each other's thinking and develop shared approaches and resources for practical application. There were six in-person workshop days held in Wales that brought education partners together, alongside

online twilight sessions between these in-person days. Additional practitioners from across Wales who expressed interest in the project formed a Connected Learning Partners group, and they were also invited to attend the twilight sessions to learn from and to help inform the work of the CCG.

As researchers, our understanding and perspectives evolved as we learned alongside others. Members of the *Camau i'r Dyfodol* team took reflective notes from these sessions, insight and thoughts were collected electronically during twilight sessions, and ongoing notes and work from the in-person workshops for the CCG was also collected. All of these formed important aspects of data collection.

During the final in-person workshop, we also carried out a recorded reflective conversation with each of the sub-groups. A semi-structured discussion protocol was carefully developed by members of the *Camau i'r Dyfodol* team. The purpose was to explore any 'knots' that the subgroup may have had to work through or that they think others may encounter when developing their own understandings of progression. The conversations also explored how the subgroup worked through these knots or where they were in terms of thinking through these, any resources they may have found helpful. In terms of their resource development, we explored how they would describe their resource, and how they would like others in the system to engage with their resource. The conversations were held in Welsh medium or English medium, and were recorded and transcribed.

The group's ongoing work and thought processes were shared and further enriched through broader discussions with the wider professional community. This was achieved through four different National Network Conversations (NNCs), conducted over the past year, which centred on building practical approaches to learning progression.

Additionally, engagement with the National Network provided our teams and CCG members with insights into the broader profession's developing understandings of learning progression in CfW.

In support of the CCG's activities, the *Camau i'r Dyfodol* team developed a series of online seminars, integral to the co-construction process. These seminars were crafted to support resource development that addressed consistency and coherence challenges in understandings of CfW, while maintaining flexibility across schools. The mediated discussions brought together practitioners, education partners, and researchers in a format designed to stimulate critical thinking, cultivate shared methodologies, and inform resources for practical application. The seminars focused on three key areas: process approach to curriculum and learning, process orientation in assessment, and process orientation in progression. The seminars not only benefited from but also contributed to the ongoing work of the group, aiding in the development of a comprehensive suite of resources to support the implementation of CfW.

Analysis of Co-Construction Group activities and National Network Conversations

Throughout this work, we used a participatory and iterative approach to knowledge building and to evidence gathering. Across different meetings such as workshops and twilight sessions, notes and resources plans, feedback, and observation notes from facilitators and researchers were collected. Ongoing analysis was carried out throughout the phase and provided insight into the developing understandings of the CCG, which helped inform approaches to use at subsequent workshops and twilight sessions.

Across the various activities, we collected a wide range of rich data to help address our research questions. These included transcripts of the reflective conversations at the end of the co-construction process (8 subgroup reflective conversations), notes and resource plans together with feedback from across all the subgroups, and participant observation notes. We also collected anonymised transcripts from the four NNCs.

The data was analysed using Braun and Clarke's (2012) Reflexive Thematic Analysis (RTA). Thematic Analysis (TA) refers to a group of methods that involves analysing repeated meanings across a data set and so enabling interpretation of what is being studied (Vaismoradi et al., 2013). Joffe (2011) highlights the importance of TA for enabling analysis of a range of data (including interviews, media content or images). RTA adds a more strongly reflexive approach to the analysis process than conventional TA. By reflexive, Braun and Clarke mean that the process highlights the researcher's active role in knowledge production and thus encourages the research team to embrace subjectivity and creativity as assets to the analysis process (Braun & Clarke, 2019). Acknowledging the centrality of the researchers to the process was important to the constructivist approach of the *Camau i'r Dyfodol* project and in keeping with the collaborative approach to curriculum reform in Wales.

Two separate RTAs were carried out on the data. One focused primarily on understanding the co-construction process (Section 4) and the second focused primarily on understanding how educational partners were realising CfW in terms of practical understandings of learning progression (Section 5). More specific details of the steps followed for RTA are provided in these sections.

Analysis of case studies of school practice

Schools have been engaging in a variety of different approaches to translate CfW from policy into practice. To share this practice with one another, some individual schools across Wales have provided focussed case studies of their practice on Hwb. Hwb is an online platform offered by Welsh Government which provides a space for teachers to share practice and materials with one another, and with pupils. In order to get a broader understanding of different approaches to CfW across the system, in addition to the those of the education partners we were working with in the CCG, and to complement our other analyses, we explored 44 case studies from a variety of primary and secondary schools across Wales. The purpose was to be descriptive in terms of exploring the approaches shared. A qualitative content analysis was carried out, which led to the identification of 4 themes to describe approaches used across these cases (see Section 6).

Literature review of curriculum realisation

During this phase of the project, we also carried out a comprehensive literature review, to extend the groundwork undertaken by the *Camau i'r Dyfodol* Phase 1, which initially informed our understanding of progression and assessment. This serves as a guide in the development of progression understanding within this phase of the project. A narrative literature review was carried out, exploring international research literature on curriculum reform, as well as more recent research that has been published on CfW, to better understand how curriculum realisation can be supported within Wales.

International evidence

Within this phase of the project, we also sought international evidence. By examining diverse educational perspectives from various countries and states, we aimed to enrich the understanding of education partners in Wales. A variety of approaches to collecting international evidence were considered and we arrived at recording conversations with educational experts internationally. The conversations were chosen for their engaging format and to ensure that relevant insight and input could be explored with the experts in a dyadic manner that would be specific and useful to our education partners in Wales. Preparatory discussions were held in advance to set the context for the conversations and to ensure the conversations, while providing insight into different international contexts, would also be linked to the ongoing efforts in Wales and with building practical understandings of progression. These recordings are complemented by an asynchronous question-and-answer (Q&A) session, allowing educational partners to seek further clarification from the experts. This approach facilitates a reflective consideration of international evidence within the specific contexts and experiences of Welsh practitioners.

The selection of topics and international experts for this phase involved input from project research leads, CCG members, and a representative from the Welsh Government. This collaborative effort led to the identification of relevant topics and experts whose work aligned with the CfW. Chosen experts provided insights into their national educational reforms and related research pertinent to Wales. Initial meetings with these experts helped orient them to the Welsh educational reform context and relevant research.

A semi-structured set of questions were prepared and shared in advance, ensuring well-informed and focused discussions. The interviews were recorded, followed by editing, transcription, and translation. As a result of this collaborative international evidence gathering process, we arrived at a series of published video recorded conversations that highlighted international evidence from three distinct educational environments. Alongside these are transcripts of these conversations, available in both English and Welsh languages. A written overview of this international evidence is provided within this report (Section 8).

2.4 Ethics and data management

Ethics approval for research activities undertaken during Phase 2 of the *Camau i'r Dyfodol* project was granted by the ethics committees of UWTSO (Application Reference: EC974 PG2) and UofG (Application Reference: 400210149). Consent was sought from participants across the phase. The project's Data Management Plan specifies the protocols and approaches used to ensure the data set is fully compliant in relation to processing, storage, and sharing of data.

3. Phase 2 key concepts and ways of working

3.1 Key concepts and approaches

What we mean by 'co-construction'

Drawing from different definitions found in the literature, we understand co-construction as a learning activity and process of knowledge construction that emerge through collaborative practices to develop new insights and ways of working.

Co-construction is understood as involving or requiring:

- a disposition to new (professional) learning that embraces flexible thinking and a willingness to change.
- the shared development of new knowledge through collaboration and cooperation. This involves working together through dialogue and negotiation to reach a shared position or approach that enables people to see beyond their individual context towards wider views (Hayward et al., 2020).
- the creation of mess and discomfort, particularly where existing ideas and practices are challenged and or rethought as a result of participating in the co-construction process.

What is meant by the idea of the project as a 'liminal space'

In our Phase 1 report, we used the concept of liminality to help describe how new knowledge can emerge in and through the co-construction process. Liminality, a concept originally from anthropology, has been used to describe a state of being that is *in between*, for example, the transition from childhood to adulthood (Turner, 1985).

It has been applied in education to help make visible what may happen when pre-existing ideas encounter new ways of thinking and become transformed into new understandings. Such liminal spaces can be symbolic, intellectual, and physical and tend to be characterised by messiness, and discomfort caused by problematic or 'nettlesome' knowledge (Sibbett and Thompson 2008) that can cause a temporary feeling of being "stuck" (Meyer & Land 2005) that dissipates once new forms of more stable knowledge emerge. A tool for thinking about thinking, liminality can help to foreground how key concepts are received and translated into understandings.

In a broader sense, we can conceive of the whole *Camau i'r Dyfodol* project as a liminal space from which new understandings will emerge, as teachers, researchers, policy makers and other stakeholders work alongside one another to co-construct meaning from CfW and our varied interpretations of it, both in theory and practice. Methodologically, this approach fits well with the project's emphasis on knowledge creation as a process that is collaborative, responsive and dialogic.

What we mean by 'knotworking'

To help conceptualise the learning that can take place within the liminal spaces, via co-construction, we also adopted the visual, theoretical metaphor of knotworking developed by Engeström (2007). Under this view, learning new ideas involves a process of 'negotiation and exchange' (2007, p.24), as participants find ways to work around differences in their ideas and practice to arrive at shared understandings.

This idea of knotworking is helpful because it foregrounds learning as an active process in which problematic or complex ideas that can cause participants to feel stuck (the knots) are 'unpicked' by all those involved in the co-constructed meaning-making process. In this way, new learning can emerge horizontally from discussions and negotiations, rather than vertically via hierarchical transmission structures (see Engeström, 2004). Once the knot or problem has been detangled, even partially, progress in co-construction can continue and is informed by the new ideas to have emerged via the knotworking process.

What we mean by 'curriculum coherence'

In this project, we understand curriculum coherence to involve:

- the sense of direction and purpose of the curriculum
- the synergy between approaches to instruction, goals of learning, and experiences of learning (Sullanmaa et al., 2019, p.247).

Sullanmaa et al. also suggest there are three 'complementary components' to support coherence and therefore pupil development:

- consistency in the intended direction of the curriculum
- an integrated approach to teaching and learning
- alignment between curriculum 'objectives', content, and assessments (2019, p.244).

3.2 Ways of working in Phase 2

Camau i'r Dyfodol Phase 2 has continued to embody sustainable approaches to change in the education system in Wales by supporting teachers and school leaders to become 'curriculum designers' in line with OECD expectations (OCED 2020, p.64) and national policy goals. Teachers have worked together in clusters and consortia and within other networks to co-construct their understanding of progression and assessment. These networks can help to sustain and support continued professional learning long after the project has been completed.

Co-construction and equity of voice are central to the design of the *Camau i'r Dyfodol* project. From the outset, we have emphasised the multiplicity of this work: the layers and levels of interpretation and engagement at play, and the fact that one singular 'correct' approach will not emerge. In line with the international evidence collected for this project, it is expected that local and regional contextual factors will shape responses to curriculum change and implementation.

The methods adopted by the research team reflect the project's commitment to 'giving voice' to multiple participants (Schenkels & Jacobs, 2018). The ways of working with teachers have been chosen to encourage dialogue and to promote the creation of spaces to support the dialogic co-construction of new understandings.

In addition, the project has adopted an iterative approach that has allowed researchers to respond to matters arising from the teacher-centred network activities and discussion groups. Rather than leave the data analysis until the end of the project, the process has been on-going to ensure the project responds to, and is guided by, understandings and new directions as they emerge. This allowed us to refine our methods based on ongoing feedback and insight from the educational partners, helped us to have a more nuanced understanding of the research problem, and allowed us to work in more responsive ways with the participants.

4. Understanding co-construction

4.1 Introduction

To achieve the aims of Phase 2, partners from across the education system were brought together with researchers from both universities in a CCG. Alongside face-to-face meetings of the CCG, online twilight sessions and NNCs brought others into these important conversations to share understandings of learner progression and curriculum realisation. Throughout these processes, conversations and other resources were gathered as evidence to help us to understand co-construction and how to support curriculum realisation.

Participants began their co-construction work by identifying priority areas they could work on that would help to clarify ideas around progression in practice. They split into subgroups, each of which was focused on one priority area. These priority areas were: supporting schools to develop a shared understanding of progression; creating reflective questions about curriculum and progression to support schools and practitioners to evaluate and review change; planning for disciplinary progression; supporting learners to discuss their progression; how to communicate progression to stakeholders; and understanding the learner journey through integral skills. The initial plan was for each group to produce a resource that might help others in the system to realise CfW.

As the subgroups worked on the resources, the time and space for thinking and discussion, together with the provision of requested information about curriculum design and development, led to shifts in thinking about resource production. It was the process of knowledge development and shared thinking that became important to the participants and which they wished to share with others at the end of the project. The focus shifted from producing resources to creating support materials to support sense-making and shared thinking about curriculum and progression.

A range of types of data were gathered across the co-construction activities: transcripts of the reflective conversations at the end of the co-construction process (8 subgroup reflective conversations), notes and resource plans together with feedback from across all the subgroups, and participant observation notes.

4.2 Analysis

For this analysis, the focus was around understanding the process of co-construction. These data were analysed using Braun and Clarke's (2012) Reflexive Thematic Analysis (RTA). The first stage in RTA is to transcribe the research data (Braun & Clarke, 2006). Following this step, researchers from the team collaborated on the RTA. As Byrne (2022) noted, multiple analysts are beneficial in a reflexive analysis process, for example, to sense-check ideas or explore assumptions about, or interpretations of, the data. However, core to reflexive TA is a 'reflective and thoughtful engagement' with the analytic process (Braun & Clarke, 2019, p. 594). Our combined reflexivity and prolonged engagement

with the analytic process supported 'a richer more nuanced reading of the data' (Braun & Clarke, 2019, p.594) and strengthened the transferability and dependability of our findings (Maher et al., 2018).

We used inductive coding as the next phase in the analysis. Deductive coding predefines codes before analysis has begun and can produce a 'less rich' analysis (Byrne, 2022, p.1397). In contrast inductive coding begins with reading and reading the transcripts and highlighting words or short phrases that are meaningful to the researcher and, where the data related to participants' voices, using participants' own words to generate initial codes was important. Ensuring participant voice in the analysis was important given the collaborative and inclusive ideals of the *Camau i'r Dyfodol* project which aimed to consider the voices of all stakeholders involved. As is common (Braun et al., 2019), the process of inductive coding evolved across the readings and codes were refined as we identified new patterns of meaning. Themes were then generated by considering how relevant codes could be sorted, collated, and combined to form an overarching theme (Nowell et al., 2017). Themes and codes were listed and organised on thematic maps to help us think about "the relationship between codes, between themes, and between different levels of themes" (Braun & Clarke, 2006, p. 89).

The themes identified through this analysis were:

- Coming together - seeing things differently and challenging thinking
- Making sense of complexity - the importance of time and space
- Sharing the process - 'the thinking is more important than the product'

Those themes and the data that generated them were used to answer two of the research questions for Phase 2:

- How can educational partners be supported to develop a knowledge base to support ongoing understanding of learner progression?
- What supports sustainable change during curriculum realisation and how can these approaches account for local contexts while maintaining professional and system integrity?

The themes are described below, followed by a summary in response to the research questions. In discussing the findings, all quotations are anonymised as fully as possible. The following participant identifiers are used only when it may be helpful to provide that context: Tier 1 representative (T1); middle-tier professional (MTP); and school professional (SP).

4.3 Theme 1: Coming together – seeing things differently and challenging thinking

During co-construction, being able to see how other participants from across the education sector were understanding the new curriculum and progression helped build confidence, support sense-making, challenge thinking, and encourage reflection about curriculum and progression. Participants emphasised the importance of dialogue, questioning, and feedback in the process of developing their materials and the thinking that underpinned these. They found it beneficial to work in their own subgroups and also to participate in full-day discussions with feedback from everyone in the CCG. Feedback on the process indicated that participants would have found it beneficial to mix up the subgroups more fully for some activities in order to experience a greater range of views and voices. However, some expressed concern over any associated risk of duplication in the materials. Participants noted challenges in knowing where to begin with thinking about the focus and purpose of any materials they created.

Hearing about and exploring different approaches to curriculum and progression in different schools, settings and local authorities provided what one participant called a 'different lens' through which participants could view their own practice. Others reflected in similar ways:

We've gone round and we've looked at what other groups have been doing and sharing what they're thinking, and then, for us, almost going away and then using that... to view our school and our setting.... And sometimes it's just giving us a little bit of certainty and that actually, yeah,

we do value that in the way we are doing it, we are happy with it. But I think it has prompted lots of conversations at our school level.

Because with regards to being in the secondary sector and leading on these aspects, obviously it's been really beneficial to get different perspectives and different inputs. But, yes, being able to take that back into the school and see it being implemented has been interesting.

I think it's been from day one, we've been like open and we've challenged each other and we've confronted different issues and we've all just accepted it. We've been a really good group to just be open and honest and reflective.

The mix of primary and secondary practitioners was valuable: a secondary participant said that the different perspectives helped them to 'look at the bigger picture' rather than see things from the perspective of one sector or one setting. It was also helpful to have opportunities to make connections across the system tiers. For example, one practitioner said it was helpful to have Estyn and Qualifications Wales at the meetings: 'it was really interesting listening to their perspectives and I think that helped to challenge our thinking. I found that really useful.'

Co-construction conversations also supported thinking between meetings. One secondary practitioner said that they had taken ideas back to develop them in their school: 'how [progress] looked... it's totally changed now... It's been these meetings and then taking the ideas back and in discussions within school, that's allowed us to develop it, fine tune and improve it.'

A primary practitioner noted that taking the thinking back had 'prompted lots of conversations at our school level'; another said that, as a group, they had wondered about helping others to shift their 'mindset' and 'encourage others to think differently'; yet another said that it was a 'personal aspiration' to join the project and 'acquire information about progression and assessment' so that at the end of the process they could share this with their school and cluster. However, time between meetings was not always easy to find. One primary practitioner noted the challenges of finding time at work to 'get your head around these documents and look through things', particularly in a leadership role where 'I haven't had time to get anything because you literally got sports and then half the class are out, so who's gonna take the other class? And you know, that's the reality of school, isn't it?'

Participants found it helpful to have inputs on research and theory. One practitioner said that 'having an understanding of the why' through developing theoretical knowledge was important; another said that the co-construction process had helped them to gain access to shared expertise to 'become more knowledgeable about curriculum.' The information on research and theory provided in the twilight sessions had been welcomed: these workshops discussed curriculum models, assessment and progression. One middle tier participant said the workshops had been 'fascinating' and reinforced what they had already been thinking and feeling about the new curriculum which 'provided reassurance'. Optional seminar sessions that covered theory and research on curriculum, pedagogy and assessment were offered as an additional online activity and were particularly well regarded. These had been developed in response to some participant requests to know more about research and theory but also to researcher observations that there was scope for some development of knowledge about curriculum

design and alignment. In the subgroups' reflective conversations about the process, participants said:

And I actually think the seminar sessions, I don't know what they were intended and planned at the outset of the project for, but I thought they were really valuable and we were glad of them.

Those seminars that followed that they were really good. I couldn't attend one and I was looking for the recording of it, but I couldn't find it, which is a shame because they were really excellent.

The optional seminars had accompanying resources for participants to take away and consider, and follow up if they wished to do so. These seminars had not been planned for initially, but the intention was always for the research and facilitation team to take a responsive approach to the co-construction process, providing inputs as requested or as required to support knowledge co-construction.

One key aspect of knowledge creation came with thinking and clarification about the nature of CfW. It was evident from the work and conversations of the co-construction subgroups that varying approaches to teaching, learning and curriculum design featured in the subgroups and also in local curriculum making. There was discussion about mastery learning, using the SOLO taxonomy, backwards design, use of learning objectives, taking a concept approach to the curriculum, or thematic approaches. What was striking was that these approaches are underpinned by different educational philosophies which influence how they are used in practice, and which are aligned with different curriculum models. This tension did not seem apparent in the subgroups principally because the model for curriculum design with which CfW was aligned was initially unclear to participants. Some participants mentioned having to 'embrace' or become

'comfortable' with the 'ambiguity' surrounding the curriculum and its realisation, while others were more concerned that the curriculum was in a 'vague state' or that teachers were 'having to think with such ambiguity and not even sure if what they're doing is right or wrong'. One middle tier participant noted that there are 'plenty of things already in the system which contradict each other. What we want is that consistent message'.

To support thinking, the first optional seminar explored different curriculum models or orientations, and the concept of alignment of each model with particular approaches to pedagogy and assessment. There was agreement amongst those attending that CfW aligned most closely with a process approach to curriculum design. Participants reflected on the impact of this thinking during the subgroup reflective conversations:

So for me the biggest change was that process orientation, because it allowed us to be able to frame that positively, to be able to be comfortable with the fact that that was backed in with a whole range of research - this isn't something we've invented, it provided a framework to articulate what Curriculum for Wales was and it also gave you some words that practically you could use.... So it kind of gives that bit of comfort to be able to say, right, OK, we're OK with this now we've got a bit of an orientation. We know where we're going now, we've got to make it practically responsive to the needs of that, that profession. So that's been a real learning curve I think. (MTP)

I think what's been useful from our point of view and going back to the, the question of [curriculum] orientations, that's been really, really useful because it's given us a framework to then have conversations with our stakeholders, and about expectations around things like resources and support for schools.' (T1)

'I think for me as well that process orientation was a shock. That was probably the biggest disruptor I think we've had... if I wanted more time to be spent on anything, it would be to discuss that process orientation.' (MTP)

I would say that document that we shared in Newport that, you know, the curriculum orientations. I think that was really invaluable. And I think that was almost like a lightbulb moment for a lot of... And it just really clarified where we were heading and our direction. So I would say that that was fantastic. (SP)

While this type of research-based input was helpful, some participants did note that it could be challenging. One practitioner said that 'there were several times where we felt we were drowning in lots of things.' Another said that some of the academic input was 'quite high level' which could feel 'tricky and challenging to access.' However, they noted that their group 'got to a point through discussion' where they were applying the theory and research 'to a practical perspective'. It was also important to balance inputs with time for group working. This was something that participants felt keenly, requesting more time for thinking in their groups. One participant said, 'there was a tipping point where I nearly walked... we all said privately to each other one lunchtime, we need to be able to sit as a group because we knew what we needed to do, but we weren't having time to do it'. Feedback from participants was used to provide a better balance for them between 'sitting and listening' and having time and space to create their materials.

4.4 Theme 2: Making sense of complexity – the importance of time and space

Radical shifts in thinking take time, and former understandings of curriculum co-existed with partial new understandings as the co-construction participants worked together:

There was a moment in Wrexham, where everyone shared their work... I was concerned about how much old thinking was still going on when you looked around the room, and that it kind of focused my mind even more that the group's work has to be different... It is part of the new curriculum. It's intrinsically linked to what the new curriculum's about... it doesn't just start with progression: it starts with the new curriculum and you need to understand the new curriculum before you start then understanding progression. (MTP)

One secondary practitioner discussed the importance of shifting understandings of progression during the co-construction journey from 'getting the learner from that lesson to that lesson to that lesson' to 'supporting our teachers to really understand the needs of the learners individually'.

Various shifts occurred across the subgroups either in thinking about progression in general or in terms of thinking about the materials they were creating. One group who began with a question about communicating progression in October, through discussion and reflection by November had come to new understandings of the complexities of what they had set out to do. One participant said they had to think through:

...what information do we need at a system level to answer the question, to understand the complexity of what we were trying to achieve? There were many discussions on the four purposes... and what do we hold that's valuable. We talked a lot about the competing ideas – exams, policy, learners - didn't we? Parental expectations, you know? We talked about progression of learning versus progression steps. That that was quite key, and our question evolved then, didn't it, to what examples of approaches do we need to give reassurance to external agencies, wasn't it, that learners are progressing?

Co-construction proved to be a space for sense-making as well as developing shared understandings and developing thinking. One subgroup noted a shift in thinking about progression from a more linear concept that might be broken into steps or stages to a more holistic view.

Time away from the workplace was also valued. One primary practitioner said that they 'jokingly' said that attending co-construction meetings was 'like my mental health and wellbeing day... because I just get to focus on one thing, and talk with very good like-minded people who are really invested in it'. This participant noted how difficult it can be to focus on one thing in depth during in-service days, and said that the important aspect of co-construction was that 'we've just had the time to really focus.' Another participant said that 'spending time really exploring... I think is really important.' Gaining 'headspace' enabled the depth of discussion needed to shift perspectives. One subgroup developed a resource focused on the idea of creating a 'safe psychological space' where all voices could contribute. As a starting point to creating shared understanding locally, these materials encouraged thinking about 'who is around the table? Who's missing? Who we might want to bring to that table.'

Time to explore differences in thinking was also important. One participant noted that some in their subgroup initially saw the different perspectives on progression as problematic, but this participant felt that difference indicated a 'healthier process' where discussion and working through different ideas could be enabled. Another said that it had been 'really helpful' not having the discussions and meetings in school, because people from beyond their school setting were present 'asking us the questions that keep deepening that thinking and understanding.'

One practitioner said that 'it takes time to make sense of complexity' and that professional understandings were 'continually growing and deepening'. Working with colleagues and having conversations led to comments that otherwise might not have been considered – this helped to change understandings. However, another practitioner said that it could feel challenging when progress was slow:

Sometimes there's been some points was like what have we achieved the whole day? And sometimes it's just been one really small thing... You know, do we both invest another full day in talking about it? And that's hard, isn't it?

That primary practitioner noted that it would have been easy for them and the other member of staff from their school not to attend because 'you know what, we've still got 200 reports to finish PDF-ing and proof reading'. However, the participant recognised the space and the thinking as 'such an important element that it is worth the investment'. Another participant commented that the discussions and time were valuable, but did not always lead to something tangible in the short term: 'at the end of the day, what is the school getting out of it?' Another said:

I kind of thought I'd start the CAMAU project and come back with loads of answers, but I've almost come back with more questions... So to sell that to my staff, like, yeah, what do you think about this and to make everybody take a breath and to stop and to think, and to consider these high-level questions when at the end there isn't even an answer necessarily, that's a really hard sell to time-pressed, stressed teachers.

There was also recognition in many groups that enabling time away from work involved what one participant called a 'massive commitment', and with that came expectations. A Welsh Government participant said that commitment 'to some extent, is quite high stakes for the practitioners, because, for example, a head or someone in the school is waiting to see what comes out of the money which has been invested in this.' Overall, then, the co-construction process provided time and space to support depth of thinking and challenge thinking and that was appreciated, but the difficulties of providing that time were also acknowledged.

4.5 Theme 3: Sharing the process – 'the thinking is more important than the product'

By the end of the co-construction period, co-construction participants agreed that producing materials became less important than the depth and quality of the thinking and shared knowledge they had been able to create during the co-construction process. At various points, groups worked through 'knots', supported by team facilitators during co-construction discussions. For example in the March CCG meeting knots were identified as: the need for greater coherence and clarity in terms of aligning curriculum with

teaching and learning approaches; how to evidence progression; the influence of different approaches and advice in the system, often from commercial sources; how to align with the curriculum framework but still be attuned to local contexts and settings; the differences between primary and secondary settings, given that pupils still have to sit GCSE exams and this could influence how progression is thought of at secondary level. At other points participants seemed to continue to work through 'knots' between meetings.

Participants said they did not want to use the word 'resource' to describe what they produced because they wanted to create something that helped practitioners in the system to experience a reflective process similar to the one they had shared through co-construction. The ideas of challenging thinking, of reflection, and evaluating approaches to curriculum realisation were important to the participants, and the support materials they created centred on reflective questions to support local realisation. Some participants were wary of creating additional information that might produce overload, and so created materials to support reflection. They also wanted their materials to provide a guide to curriculum documentation to make navigation more straightforward and encourage professional judgement in local settings based on essential elements of the curriculum framework. One subgroup had a disciplinary focus and initially worked to create a resource to support understanding of disciplinary progression. However, they later shifted their focus:

We've moved then when we met in January from the - what examples of approaches do we need? - which is very much our thinking then around our resource, you know we we're gonna help people and have some examples of how we've reported to parents, this, that and the other. And actually where we came to then was, no, it's the thinking that's more important rather than the product. It's the process, not the outcome and that became really apparent...

Another participant said that they wanted the materials their group produced to encourage 'school level, the questioning, the discussion that has gone on amongst this [co-construction] group'.

Overall, participants felt strongly that simply creating more informational resources could be counter-productive. As one participant said, the information about the curriculum that people need is already 'on the Hwb website'. Another thought that it was what people did with the materials the group produced that was the important thing rather just 'publishing a resource'. Other comments included:

It's this thinking and learning that's really needed, rather than putting more stuff in because you're balancing that with a profession that's saying to you, please don't give me any more. It's really tricky to know what to do that would help that doesn't just cause more overwhelming problems really.' (MTP)

...that we're kind of talking about and kind of pointing in the direction of saying, look, you need to think of these aspects, but in your setting, you need to go away, evaluate what you've got. Think about it. We're not gonna...

put them in the direction of 'this is how you do it'... We are saying, you need to kind of consider within your own school, in your own curriculum, and then have those discussions with your SLT, your staff... and then make your own decisions and move forward yourself.' (SP)

'I think as we've come towards the end of it and, you know, I think you can't separate the resource from the process that we've been through.' (T1)

Certainly, in my mind, [there was] a tension about what do we finish with? Do we finish with a product, an example, a case study? Or do we finish with a process that that professionals can engage in? (MTP)

Partly, the determination not to produce more 'resources' for the system related to comments that new ways of working should not involve 'off the shelf' products. However, the more important element was the sense of how important the collaborative process had been to encourage shared reflections and develop shared understandings of progression.

The materials ultimately produced by most subgroups focused on reflective questions that could be used locally to create a similar co-construction process to enable thinking not just on progression but on realising the curriculum. Some subgroups also focused on supporting navigation and sourcing information, for example one subgroup's materials aimed at 'removing the white noise' surrounding the curriculum. This group wanted to provide 'a process that will walk you through and signpost you to the key documents and some of the discussion around research that's been shared in the workshops.' These materials aimed to provide 'big, broad, practical guidance, if you like,

that pulls together some of the elements that are required to make a difference in the Curriculum for Wales.' One participant did note some frustration that each subgroup had 'followed very similar lines in the end' and described how they felt 'a bit isolated as a group', wishing that more 'like-minded' people had been able to join with them in creating their materials.

There was a strong sense of the importance to the co-construction process of the trust that had developed during across the range of participants from the different tiers. One participant said:

I don't think we can say that enough in terms of that trust that co-construction has given and I think those of us that have had the benefit of it, you're just not afraid to have the conversation with the different people that work with different sectors. But how we get that into the wider system to move away from the hierarchical bit and being afraid of certain players? I think we've got to be really quite mindful of that because otherwise we'll never have that lived co-construction and it just feels as if it's kind of consultation and that's really what we're trying to get away from.

One practitioner reported taking the thinking done in the CCG back to their settings to think 'how we can encourage others to think differently?'

4.6 Addressing the research questions

Shifts in thinking seemed to be facilitated by engaging in open discussions and exchanging ideas with professionals from across the system. The co-construction process can help to facilitate collaborative work and feedback on the materials the subgroups were producing. Participants highlighted the importance of sharing their reflections, thinking and experiences with others in order to gain new perspectives on the curriculum and what this meant for realising the curriculum in practice. Practitioners noted the importance of having time to engage in in-depth discussions because it takes time to make sense of complex change.

The data analysis allowed us to respond to the research questions as follows:

How can educational partners be supported to develop a knowledge base to support ongoing understanding of learner progression?

Space and time need to be provided for professional learning and for a co-construction process that facilitates and requires deep reflection, discussion and working through challenges and differences with colleagues across the system. A balance of experiences and knowledges is important in supporting understanding of curriculum alignment and coherence: without understanding of the curriculum, understanding of progression may be difficult to develop. Inputs from research and theory are therefore important to an understanding of curriculum and progression but these need to be balanced with practical considerations and time for collegiate dialogue. If sufficient space is provided for such dialogue, understanding of learner progression is likely to deepen over time as its practical applications are developed, evaluated, and shared.

What supports sustainable change during curriculum realisation and how can these approaches account for local contexts while maintaining professional and system integrity?

Sustainable change requires the time and space for everyone to engage fully and sufficiently deeply with a new curriculum. This might be challenging to provide on an ongoing basis, but is necessary to support the kinds of professional development, reflection and the depth of thought needed for the realisation of a new and very different curriculum. The thinking, exchange and negotiation processes enabled during co-construction were seen as critically important to making sense of the complexities of curriculum realisation. Participants therefore created materials to support the types of thinking they had engaged with during the co-construction process and beyond into their own practice. In this way, curriculum realisation can be situated authentically in the classrooms of schools and settings, and take full account of local contexts while maintaining system integrity.

Findings in brief

- The opportunity to reflect, discuss, challenge and be challenged, and work with others to resolve those challenges was highly valued by participants. The process was viewed as something that practitioners across the system will need to go through, rather than adding more information to the system.
- Former understandings of curriculum co-existed with partial new understandings as the co-construction participants worked together.
- Co-construction needs space, time, and a balance of experiences and knowledge. Insights from research and theory are important for the co-construction process but need to be balanced by practical considerations.
- Understandings of progression can deepen over time through developing, evaluating, and sharing practical applications across the system.
- Providing opportunities for colleagues across the system to engage in similar deep reflection and development is needed for sustainable curriculum realisation.

5. Understanding curriculum realisation: developing practical understandings of progression

5.1 Purpose and approach

A range of data was gathered across the activities involved in Phase 2 to help us understand curriculum realisation from participants' perspectives. These activities included discussions in the CCG, at face-to-face meetings or during online twilight sessions, and in NNCs. We used this data to explore the following Phase 2 research questions:

- What supports the development of shared understanding and knowledge of learning progression during curriculum realisation?
- To what extent is the knowledge coherent across different parts of the education system?
- How can education partners be supported to develop a knowledge base to support ongoing understanding of learner progression?

The understandings gained from this analysis will also inform Phase 3 of the *Camau i'r Dyfodol* project.

The data were analysed using Braun and Clarke's (2012) Reflexive Thematic Analysis (RTA) following the inductive coding process outlined in Section 4.2. We produced the following themes from the coding:

- The importance of diverse voices in realising the curriculum
- The journey to shared understanding
- Dealing with change and uncertainty

We then answered the research questions based on the findings from this analysis. In this way, participant voices were foregrounded in the process, rather than the research questions driving the analysis as would be the case with a deductive approach to coding. In discussing the findings, all quotations are anonymised as fully as possible. The following participant identifiers are used only when it may be helpful to provide that context: Tier 1 representative (T1); middle-tier professional (MTP); and school professional (SP) with sector (e.g. SP – Primary, SP – Secondary, SP – Special education). Additional information may also be provided by an indication of whether a quotation came from one of the Co-Construction Group (CCG) conversations (whether at a face-to-face meeting or during one of the group's online twilight sessions) or in one of the National Network Conversations (NNC) since the composition of CCG and NNC groups differed.

5.2 Theme 1: The importance of diverse voices in realising the curriculum

Participant reflections highlighted the importance of sharing understandings of CfW across a broad range of practitioners and other stakeholders (including listening to learners). Sharing experiences and expertise has helped practitioners, especially, to make connections with knowledge and practice and reflect on what this means for realising CfW in their own settings.

Participants spoke about the richness that diverse perspectives brought to understanding progression. They mentioned the importance of challenging each other's thinking and hearing different perspectives in network conversations and through cluster and school sharing of practice. Providing feedback to each other across different school sectors was considered to promote healthy networking and helpful dialogue among regions:

I think what's helped is having such a diverse group within the education sectors we work in... The examples with the special school... the idea now that progress means something different to every individual... Actually breaking down that idea of progress, that it's more than something academic. (SP – Secondary/ CCG).

Our understanding is continually growing and deepening... professional dialogue has been essential... you're not going to get that from just reading the progression code in isolation.' (SP – Primary/ CCG).

And I think conversation is the most important thing we can have at the moment, whether it's conversations with the pupils, conversations with staff within the school, and parents, and also bringing it back to those cluster conversations' (SP - Primary/ NNC).'

Participants also recognised the need for local contextualisation of practice: 'this idea may work in our school, it might not work in your school, but it's still good to talk about it... It's that working together with the cluster to use everybody's expertise...' (SP – Primary/ NNC).

Participants also recognised the need for schools to create curriculum locally for their own pupils rather than relying on 'off the shelf' resources. Discussion and dialogue supported this to happen, because engagement with the curriculum and what it means in practice required practitioners to reflect and revisit their understandings.

Participants had embraced their role as curriculum makers: at various points they discussed the need for practitioners and schools to develop their own thinking about CfW and progression, albeit based on conversations and shared ideas. For one participant, the new approach was about 'realising what might work for the school... 3 miles down the road... might be brilliant and seen as best practice but might not work for you....' (SP – Secondary/ CCG).

Another noted that it might be tempting to buy in products but doing that would mean 'the thinking behind the understanding of it isn't there, is it?... A shared understanding has to be there... so that process has to be in place before the product. But if you're just buying the product, the process hasn't happened (SP – Secondary / CCG).

Curriculum design was supported by discussion, evaluation, and questioning of what was most appropriate for each school and its learners. One special school participant in the CCG said they had 'gone over to a concept-led curriculum which has been really freeing' but 'challenging to pull people back from content all the time'.

Some NNC participants spoke about using a backwards design approach: 'What is it that you're wanting to the children to achieve? Looking at the baseline as to where they are now, and then planning the learning in the gap and then reassessing at the end to see that progression' (SP – Primary/ NNC).

There was also recognition that, whichever approach was used, learners' needs should be a key focus in curriculum making alongside a holistic view of progression and wellbeing particularly in light of the impact of the COVID-19 pandemic and the impact this has had on pupil learning and 'emotional needs' (MTP/ CCG).

5.3 Theme 2: The journey to shared understanding

The data gave a sense of an ongoing journey to shared understanding of CfW and progression. There was positivity about the changes and the new ways of thinking they had brought, but participants felt that practitioners, schools and settings are at different stages in the journey.

A different way of thinking: from 'ticking boxes' to a 'different language for progression'

CfW was acknowledged as involving a 'different way of thinking' (SP – Secondary / CCG) from Curriculum 2008, and a 'cultural change in education' (SP – Primary / CCG), both of which were welcomed. One said the change was 'refreshing... and freeing' (SP - Primary / CCG), another that the new curriculum was like 'going back to the essence of learning' (SP - Secondary/ CCG). Many participants felt that things were different and that the change was for the better. For example, words and phrases such as 'exciting', 'changing mindsets', 'putting trust

in teachers', 'allowing teachers time to explore' gave a sense of professional connection and engagement with the new ways of working.

Participants also welcomed the shift from a high accountability system to one based on greater professional responsibility and trust:

It's about encouraging staff to slow down... there's value in these conversations with our learners, and it's about I suppose removing that fear that they have around accountability because they're obsessed with coverage - I haven't covered this, I haven't covered that -... Just take a step back... that's a main message that we're trying to say is 'let's really look at that learner's progression'. As opposed to tick boxing that we've covered everything. (SP – Primary/ NNC).

Some noted positive experiences with Estyn during school visits. One participant in the CCG said that Estyn wanted to understand how children were making progress over time, speaking to learners and looking at their work and digital evidence of progression. Another noted that, previously, 'you'd want your best set of [exercise] books for Estyn' to evidence progression, but now they felt confident to show work in progress (SP – Primary / CCG).

Overall, there was recognition that learner progression should not now be reduced to tick boxes and attainment data. One participant in the CCG said, 'a child isn't a number now', and another said that the shift had been from 'seeing pupils as numbers or percentage points' to seeing them as people developing towards the four purposes.

Another participant said that 'it's celebrating progress for each one of them because, of course, behind each statistic there's a face, there's a name... it's knowing the learners more than just academically - knowing them as individuals - ...rather than just chasing that data, that level, that grade' (SP – Secondary/ CCG). Some participants were cautious about using the term 'assessment' because it could result in a concentration on measuring and producing data. Instead of assessment, one CCG group recommended 'capturing progress' as a way of focusing on learning rather than data. A secondary participant in the NNC said: 'It's got to be holistic. It's got to be fair, and it's got to be something in which every single kid feels valued and can achieve. So I think that's the really important thing for me about getting that progress right.'

There was also discussion of finding new language to talk about progression with learners and parents and between teachers in schools and settings. This language signalled a shift from 'reporting' progress to:

- supporting understanding of progression through conversations with learners;
- providing parents with a 'holistic' sense of progression in terms of increasing breadth and depth of learning;
- providing a more 'narrative' picture of progression, avoiding negative language ('satisfactory, room for improvement').

The twilight sessions also evidenced practitioners considering carefully 'what information reflects what we value about learner progress across the 3-16 curriculum' and what meaningful information on 'holistic progression' could be provided on progression to parents, pupils, and other system participants. There was also a strong sense of wanting pupils to feel pride in their achievements, and of encouraging learners to share their progress

with each other and with their carers and families. One participant summed this up: 'The children are just loving having people in to see what we get up to and share things' (SP – Primary/ NNC)

'We're all at different stages': working towards understanding curriculum and progression

Participant data from the CCG and NNC groups suggested that practitioners, schools and settings were at different places in their understandings of curriculum and progression. Conversations in different groups outlined similar thoughts:

And I think that, you know, everybody's been at different starting points, are still different starting points now and on their journey.' (SP – Special education/ CCG)

...so many settings are in a different stage of their journey with the curriculum' (SP – Primary / CCG)

I think the biggest thing as well, the journey we've had, is it's just become so clear to us that schools in Wales are at all at different levels in terms of understanding learner progression. (SP – Secondary / CCG)

Even within [our] school... I guarantee there are some staff there that are only just dipping their toe in, you know, however much work we've done with them. They have a... baseline understanding of the Curriculum for Wales. And then you've got some staff that are up here and are really driving it... (SP – Secondary / CCG)

Because we are all on different journeys, and the school next door might be in a very different place to where you are... It's a process... It's not dictated by anyone. So you can feel like you're taking two steps forward, and then three steps back some days. (SP – Primary / NNC)

Another participant spoke of joining the CCG to understand more about progression and assessment, but concluded that 'the reality is Curriculum in Wales hasn't got to that stage yet, not in my opinion anyway, it's still in a rather vague stage at the moment' (SP – Primary / CCG). A Tier 1 secondee in the CCG had felt 'very privileged to have been involved in this process for a long time' but felt quite 'vulnerable' about being 'unable to articulate what Curriculum for Wales is, but constantly saying, well, it's not that...'.

Participants needed knowledge of, and time to engage in, curriculum design. A primary participant in the CCG said: 'there's an assumption that all teachers and leaders now, I guess, have had the opportunity to fully engage with Curriculum for Wales and we know that not to be the case.'

Another mentioned schools still using products from previous ways of working: 'they'll still use resources like Oxford Tree, but they cannot develop their vision through grabbing products from anywhere.' (SP – Primary/ CCG). In addition, some participants mentioned the use of consultants to support curriculum design in schools. For example, one primary participant in the NNC explained that their school had employed consultants and that as a result they had adopted the 'rainbow' curriculum approach where colours are associated with progression. The participant said:

...having reflected on that, I think that just defies the whole point of having the 3 progression steps in primary. But I think people want something to be able to divide the AOLEs into so that we can make sure that we are progressing across classes and year groups. So I think it's what people feel they need, because they want tick boxes. (SP – Primary/ NNC)

Another two participants in the same NNC mentioned consultancy advice on using learning objectives. The first thought that 'by thinking of learning objectives, it breaks the progression sets down further into manageable bits rather than just using the descriptions of learning'. The second responded: 'our learning objectives are the things that we are measuring against at the moment. This is what we have taught in this lesson... have the children got it? What do they need to do next?'

Other participants spoke about 'trying things out' and a 'process of trying something' and then reflecting and evaluating. However, the concerns about this approach were summed up by another participant:

...people are talking about being on a rollercoaster and that can make you feel very insecure. And you're also mindful that these children... they've only got one chance at this. It's okay to trial and error, and it's okay to have these conversations... but it's not fair to them for us to be changing things along the way until we supposedly get it right. So you kind of got all of that going on in your mind. (SP – Primary/ NNC)

Another primary participant in the NNC shared a similar concern: 'we want exciting curriculums for the children, but we don't want to go 'Oh, it'll be there in 2, 3, 4, 5 years when all these children have gone, and left us.'

There were also different approaches to realising progression in practice. There was recognition in the CCG and NNCs that progression was not linear and that all learners would make progress at different rates and in individual ways. While some participants were looking at progression more holistically, there was also discussion of 'measuring' progression, 'tracking' progression, and 'mapping' progression. One NNC primary participant mentioned that their

cluster was working to group progression steps together to identify 'golden threads' in progression for each AoLE to promote some consistency across schools. Another spoke about their cluster creating concept maps for AoLEs to ensure consistency across schools. Another spoke of creating progression maps – again working with a consultant – to map out concepts into progression steps. There was felt to be a risk with seeing progression in this way: of 'falling back into exactly what we had before, which is level descriptors. We may as well just go back to that 2008 curriculum with descriptors' (SP – Primary/ NNC).

Across the data, two related aspects seemed important to the different understandings and the sense of 'trying things out': firstly, the curriculum is open to interpretation and is complex in design which made consistent understanding difficult; secondly, the levels of freedom to interpret curriculum and progression which made coherence of practice challenging. During co-construction discussions about the new curriculum being most aligned with a process approach to curriculum design, one participant said: 'this idea that the Curriculum for Wales is a process curriculum.... there's nothing to say that it's a process curriculum' (MTP/ CCG). A different middle tier participant in the CCG had a similar thought: '...you can interpret Curriculum for Wales through a product or content orientation if you're not aware of the process [approach]...' As another NNC participant said: 'it's all very open to interpretation and different teachers will interpret it differently'.

There were complexities in understanding how the different elements of CfW could be understood in relation to each other. One group in the November TS noted that it 'can be challenging to find a way in' to the curriculum framework and the interplay of its different elements. Other comments included:

...across the board, I think a lot of people are a bit confused about how the Principles of Progression can be linked into what they're actually doing with the descriptions of learning, and I don't think a lot of people have done an awful lot with it. (MTP/ NNC)

'And to be honest, you know, we've had conversations... about the complexity of this... I'm still battling with the multi layers within the curriculum. And it is brilliant, and it is really exciting, and an opportunity for us. But it is really complicated... are we looking at the Principles of Progression within each AoLE? Are we looking at the general Principles of Progression? Are we looking at the Descriptions of Learning, which also show us where progress for each pupil is made? How do you balance all of those - how do you make sure you've mapped them? That you covered them... in your content? (SP – Primary/ NNC)

We came across a line in the documentation that said that the integral skills underpin the purposes, so we spoke at length in two of our days early on about what does that mean? So if we don't explicitly teach the integral skills, can our children really realise the four purposes?' (MTP/ CCG)

Practitioners tended to speak about having a particular focus on specific elements of the curriculum before moving on to a more holistic approach. For example, an NCC secondary participant said 'we are trying to make sure we understand the Principles or Progression first... and it's no easy task.' A primary participant in the same NNC said: 'basically, we were told to focus on our Principles of Progression and to not focus on the statements of what matters at all. So to really kind of flip our focus... and to just go full on for purpose.'

Participants spoke about the challenges of creating consistency in the realisation process across schools and clusters. An NCC primary participant said that their cluster had received 'brilliant' support from the local authority, but that 'it's quite interesting to see how within our cluster of schools, the different approaches that are being taken by each of those schools. Some of the schools have sort of gone off on their own little tangent.' This concerned the participant in terms of primary-secondary transfer: '...we are feeding into the comprehensive school, and... the cohort of children... have had a completely different approach to their learning.' A CCG secondary participant in one said: 'Everybody's just had this freedom to explore this new curriculum and go about in their own way.'

5.4 Theme 3: Dealing with change and uncertainty

Practitioners discussed challenge and uncertainty alongside the positive elements of changing from a system in which they had felt de-professionalised to one based upon professional trust. They indicated that the new system requires a willingness to learn and become comfortable with not having definitive answers about learning and progression, but to accept that knowledge will build over time through iterative processes. Participants felt there was a need for greater clarity at system level to support curriculum realisation and felt that professional learning was important in supporting system change. It was also felt important to avoid information overload if practitioners are to access the resources they need.

Change is welcome but it's messy: 'You've got to sit with feeling uncomfortable'

Analysis of the data left no doubt that practitioners welcome the change in the education system:

You know, I think it's long overdue. I think it's something that we need to do as a nation, I think the experiences at school need to be radically different And I'm excited by that.' (MTP/ CCG)

As a practitioner and a parent... I really see the value of this and it is so, so needed, and it is exciting. And it is a gift.' (SP – Special education/ CCG)

One NCC primary practitioner said that the new approach represented a 'more well-rounded view of education and a more accurate reflection on what learning really is' rather than the narrow view of attainment the old curriculum promoted. Another felt that they were much more able to support learning: '...it's just really lovely that it's stage, not age at the moment. So in terms of giving that tailored education to the children, it's wonderful rather than "you're year 4, you must be able to jump through these hoops for me"' (SP – Primary/ NNC).

There was recognition from participants that system change on this scale was complex, and took time. However, there was a pervasive sense of change being messy and leading to a sense of discomfort. Some practitioners spoke of being out of their 'comfort zone', and of having to 'sit with feeling uncomfortable for quite a lot of the time'. Similar comments included:

...it's just very messy at the minute, and as a school leader that's hard. And, for us, it's about creating a climate for staff to support them when they make mistakes - because we're all going to be making mistakes - but it's about having the culture within school to say, 'right let's reflect on what we're going to keep, and what we're going to throw out and start again with' (SP – Primary/ NNC).

I think that's a sticking point for lots of people in schools, because they want... 'show me a good one', what's this going to look like? Because that's what we've had. And that's a leap of faith in some cases, to think well, there isn't something to show you - there isn't something tangible necessarily... you have to shift your thinking. And that feels like a bit of a high wire act in in in some cases' (MTP/ CCG).

Sometimes I think because change is messy and uncomfortable, we forget, we lose sight to the fact it is a gift, and I think we we're a time poor profession, aren't we? So yeah. It can be hard. (SP – Special education/ CCG).

Practitioners in one CCG conversation said that implementing new ideas requires time, thinking and 'bravery'. However, a participant in one of the NNCs did note that professional responses to change are not all the same: Some teachers in my experience... embrace this completely and have loved it, and others felt that it's really difficult... having this freedom and flexibility, and... bringing the curriculum alive.'

Participants also discussed the challenges of shifting from one very different system to another. One said that their thinking on progression had been 'embedded' in the previous system of 'linear progress, attainment, assessment, outcome' and that their thinking had been challenged in terms of what they were holding on to and had to move from (SP – Primary/ CCG).

Another said: 'I think the most challenging thing for my team is that we're not ticking boxes... The fear here, is that we don't want our standards to fall as a result of not ticking boxes.' (SP - Primary/ NNC). Time and space to think were consistently raised as vital to making sense of the complexity of change. One group in the October TS talked about the importance of 'slowing things down' and sharing information to consider what was working well and to engage in thinking critically about this.

Participants in the CCG's twilight session discussed the challenges of finding time and 'headspace' particularly while putting the curriculum into practice. Practitioner capacity for change was supported by providing time to think and make sense of the curriculum: 'spending time really exploring that, talking through that, I think is really important.' (SP – Primary/ CCG). Another said: 'what we see internally then is that anything where a change of mindset is needed, we need to invest a considerable amount of time on people, quite simply, to talk' SP – Secondary/CCG). However, as one primary practitioner in the CCG said, it was not just time that was needed but 'a psychological space', and creating that space was 'no mean feat'. They said: 'if you want to engage in curriculum design... there's lots of stuff out there to support you, but... there's lots of schools who don't engage and they don't want to because they are so time poor'.

The importance of system clarity and professional learning

There was discussion of the importance of clear messages and systems management to support curriculum change and recognition of the importance of professional learning in curriculum realisation. Overall, practitioners in the CCG indicated that 'clear understanding' was crucial to realising CfW, but there was recognition that the COVID-19

pandemic had slowed progress in terms of having space and time for thinking about progression.

During one twilight session, participants in the CCG raised the need for greater clarity of guidance 'at all levels of the system' to reduce 'overlap' and 'contradiction'. One participant felt that 'we almost needed a timetable so that everybody was working for the first six months on progression together... so everybody's talking about the same thing'. Another said:

There should have been a lot more work at this level before the curriculum was launched. You know, we're all working at it now - we're all doing the same thing in the same clusters. You know we have spent so many inset days, and so many twilight sessions, doing what... every other school is doing here. Well, surely it would have been better to get working parties together previous to the launch to do this work, to give us a little bit... of a framework that we could have used that would have set us on the journey much, much quicker... I know the pandemic has messed up everything... but you know, I think there could have been more work done earlier. (SP – Primary/ NNC)

A secondary participant said in an NNC that one of the 'frustrations' of the last '3 years plus' that they had been working on the new curriculum was the 'drip feed' of changes: 'here's the new change, here's a new idea, this is what progression is now.' This had led to their school and cluster having to 'constantly redo' their approaches: 'it's almost as if we would have needed this sort of conversation a while ago, on everybody working on the same idea of what the curriculum was?' (SP – Secondary/ NNC).

Participants welcomed the greater professional trust, but this needed to be balanced by clearer messaging in the system. One commented:

You know it is a great opportunity, but I think when we're all having these individual conversations in our own schools, in our own clusters... I think there could be a little bit more structure to it... I completely understand that every school needs to design its own curriculum, but I think there does need to be something... just to give us that structure that we can hang our own curriculums off... And the message that seems to keep coming back is co-construction within your own clusters. But every school - you know there's how many? What, 2,000 schools in Wales?... I think my fear is that I can see it wobbling, and just, you know, things are gonna crack. (SP – Primary/ NNC)

One primary practitioner in the CCG said that they did not think that 'system leadership' was in place 'to deliver Curriculum for Wales... the answer just seems to be put it on Hwb' (CCG). A secondary participant said that 'in the end it all boils down to the messages which are given above our heads on a national level.' There was concern in their leadership team that 'until these [messages] arrive we are always going to get everyone with their different perspectives and different mindset about the Curriculum for Wales' (SP – Secondary/ CCG).

The data also suggested a need for greater clarity about how the accountability system was shifting and of what expectations stakeholders might have about progression. A middle tier CCG participant said there was a challenge in going 'from that accountable system... to a totally different system with not much in place, to be honest... We've had to create a lot of our own ways and means of how we're progressing...'

Practitioners recognised that the accountability system was shifting, but some spoke of the uncertainty over how to evidence progression. Practitioners were working to find qualitative approaches to assessing and communicating learner progress, but, as one CCG participant noted, it could be difficult to know what would give 'rich information to use as evidence.' One CCG subgroup wondered whether some forms of evidence would have more weight than others and discussed their uncertainty over what external stakeholders might ask for to evidence learner progression.

In terms of system change, there was recognition of the role that professional learning had in supporting curriculum realisation. One middle tier CCG participant noted the importance of professional learning to sharing and developing knowledge and expertise through dialogue. They spoke of professional learning as an important space where professionals from across schools and clusters could come together so that dialogue extended 'outside of our region, outside of our cluster.' One NNC primary participant mentioned that professional enquiry had been a powerful way of supporting their thinking. Another mentioned that their school had 'encouraged everyone to engage in action research [and] provided the time and space for that. So where they've got questions or concerns, they've been allowed time to read, and look into that to... see the best approaches.' One CCG practitioner in a special school said: 'So on a Monday afternoon we've had teacher development sessions every single afternoon for the spring term... that has been a really valuable space for us to have these conversations and for us to have this thinking time, really.' The entitlement to professional learning was important, but time for learning could be difficult to find, or learning opportunities happened outside of the school day making engagement challenging. Twilight sessions were particularly unhelpful: 'Twilight

shouldn't happen... You've got teachers going to school by 8:00 o'clock you know, working 8 to half 4 or 5 or whatever. And you know, by the way, stay for another two hours, it'll be good for you' (MTP/ CCG).

Avoiding information overload

Participants in CCG and NNC also mentioned information overload as creating challenges during realisation. Participants remarked on the quality and diversity of resource materials available but noted that accessing and utilising them was arduous and time-consuming. Several mentioned that there was helpful information on Hwb but that the amount of guidance was difficult to navigate and the quality of some resources was variable. One NNC primary participant spoke of 'going down rabbit holes' trying to find information that was relevant and useful on Hwb. Another said:

there's some really good stuff being produced by the Welsh Government on Hwb [but] there's an awful lot of it. It's not necessarily easy to locate and teachers are busy people anyway, so to ask them, then, in their own time maybe, or have a lunchtime or even in a staff meeting or INSET, to have the energy and inclination to go and find these documents, I think is asking too much of them. (MTP/ CCG)

There was recognition of the need to access and understand 'fundamental' elements of guidance like the progression code, and that aspects of the national resource were helpful in terms of thinking about evaluation and improvement.

However, there was also recognition that guidance could change and develop, and so it would be helpful if key elements could be signposted more clearly. It was the 'sheer mass' of resources (MTP/ CCG) that

made it difficult to 'navigate through lots of guidance' (SP – Primary / CCG) and difficult to see what would be most helpful. One CCG subgroup, who were working to clarify the place of disciplines in the curriculum, commented on how to support understandings:

...it's this thinking and learning that's really needed, rather than putting more stuff in because you're balancing that with a profession that's saying to you, please don't give me any more. It's really tricky to know what to do that would help that doesn't just cause more overwhelming problems really. (MTP/ CCG)

Overall, there was a sense that the 'really good stuff' was getting lost in the volume of resources available on Hwb, but also that making time to sift through the resources and information was challenging for busy practitioners. It could also be difficult to know what would be most helpful because 'we're all on a different journey' (SP – Primary / NNC).

5.5 Understanding curriculum realisation: answering the research questions

Across the three themes that arose from analysis of these data, there was evidence of significant culture change happening: of a shift from a performative system to one based on professional trust. The thematic findings suggest that, over time, practitioners are working hard to create meaningful change, developing a more complex sense of learner progression and responding to the challenges that large-scale educational change can present.

What supports the development of shared understanding and knowledge of learning progression during curriculum realisation?

Professional conversations across schools, clusters and the system support sharing of expertise and the ability to see local curriculum initiatives through different lenses as well as enabling the sharing of ideas and challenging of thinking. Avoiding information overload is important when busy professionals need to engage with curriculum frameworks and support documentation. Greater clarity about progression across the system should result from reducing overlap and contradiction within messaging and guidance, and from a better balance between top-down and bottom-up curriculum realisation. Curriculum documentation is complex in terms of relating the various elements to each other to create a holistic approach: interpretation of CfW seems to lead to progression being a dominant focus rather than a more holistic understanding of progression through curriculum, pedagogy and assessment. Clarity is also important for accountability: practitioners highlight uncertainty over what forms of communication about progression will be acceptable to stakeholders. This is leading to 'tracking' of progression, including a breaking down of progression steps into elements that can be tracked, which risks a return to the 'tick boxes' that practitioners are seeking to avoid.

To what extent is the knowledge coherent across different parts of the education system?

Professionals in the system are working to create coherence across schools and clusters. There is a shared sense in the system of the new curriculum requiring new ways of thinking about learning and learner progress, and of the need to rethink how progression is discussed with pupils, parents and stakeholders. However, variations in interpretations

and understandings of the curriculum framework and guidance are evident, and knowledge of approaches to curriculum design did not seem to feature in the data. There was a focus on 'trying' approaches to curriculum making, learning and teaching, and evaluating them, without clear underpinning rationales given for why these approaches aligned with CfW. Some participants were aware of external inputs seeming not to be consistent with the new system. The variation in interpretation and practice seems due to two elements: firstly, the curriculum is both complex and open to interpretation which makes consistent understanding difficult; secondly, the very high levels of freedom to interpret curriculum and progression locally make coherence of practice challenging across schools, clusters and the wider system.

How can educational partners be supported to develop a knowledge base to support ongoing understanding of learner progression?

Professional learning opportunities and practitioner enquiry can support the development of relevant practitioner knowledges. Time for deep thinking is important: while -in-service days are important, they do not provide sufficient scope for the depth of thinking and 'psychological space' required for developing knowledge of curriculum making and learner progression. Slowing down thinking, reflecting with colleagues, and exploring research close to practice through enquiry, were all noted as supporting developing knowledges. Twilight sessions are difficult to engage with at the end of a long school day, and might best be avoided. The greater clarity in curriculum and guidance documentation would also support of a more coherent and cohesive knowledge base.

Findings in brief

- CfW was acknowledged as a new way of thinking and there was general agreement that progression should not be reduced to 'tick boxes' and attainment data. A variety of approaches have been developed in practice, with some participants looking at progression more holistically, but others discussing 'measuring', 'tracking' and 'mapping' progression, which some saw as incompatible with CfW.
- The development of shared understanding of learning progression may be supported through professional conversations and the challenging of existing ideas within and between schools and across the wider system, leading to new ways of thinking and new practices.
- Participants viewed the current CfW documentation and support materials on Hwb as abundant, complex and, in places, unclear, which makes it challenging for practitioners to realise CfW in a way that is coherent across the system. This can lead to unhelpful practices to ensure that uncertain requirements for accountability are met.
- Messaging and guidance about CfW must be efficient, clear and coherent in order to facilitate the required balance between a top-down and a bottom-up approach to curriculum realisation.
- Accompanying this, adequate professional learning opportunities, aligned with a coherent approach, are needed to allow sufficient time for reflection, the development of knowledge, and practitioner enquiry.

6. Exploring school practice

6.1 Purpose and approach

Since the publication of CfW, teachers (particularly those participating in the National Professional Enquiry Project and Professional Learning Networks) have been actively sharing their efforts to realise the new curriculum. To complement the other strands of work in Phase 2, case studies were analysed to understand how schools within these initiatives were co-constructing understandings of learning progression. The focus was on examining how different approaches take into account local contexts and what insights these case studies provide to inform the broader goal of building capacity across the education system.

Qualitative content analysis of the case studies was chosen. As noted by Graneheim and Lundman (2004) qualitative content analysis can produce both descriptive and interpretative exploration of data. This case study is a descriptive analysis presented thematically.

Comprising 44 case studies shared by both primary and secondary schools across Wales, the data set included various media types such as texts, videos, interviews and PowerPoint slides. We used inductive coding and produced into four descriptive themes. Within each theme outlined below, examples of practice associated with each are provided from the anonymised case studies to exemplify the themes.

6.2 Theme 1: Reimagining the role of practitioners

The first theme relates to a reimagining of the role of staff members in schools to support a more effective implementation of CfW. Instead of relying on leadership teams, many schools have been keen to disperse the responsibility for school improvement amongst all staff. One primary setting focused on this specifically, with a more flexible approach to planning being created to allow staff the time they needed to develop the capacity to assume more whole-school responsibility. According to staff, this method helped to ensure consistency in teaching across the school. Perhaps more importantly, it was felt that pupils had come to see all staff as people who cared about their education. Relationships between staff were also believed to have improved, which in turn had led to collegiate support for professional development. This picture was mirrored in another primary school where meaningful peer lesson observations between staff and follow-up discussions had facilitated consistency.

A further way in which the roles of staff are evolving is in the establishment of research informed practice groups. In one secondary school, for example, every teacher was allocated to a group of three practitioners who worked together to develop a basic one-page improvement plan, established in line with a particular change model. The main aim here was for development to evolve as a process more personal to each practitioner. As such, the staff retitled 'Continuous Professional Development' as 'Continuous Professional Learning'.

One primary school was keen to encourage group research, developing 'Pods' of practitioners who taught similar stages. They suggested that this supported progression through allowing for stage-specific dialogue enabling staff to refine learning and teaching specifically to the needs of that stage.

Another primary school also established enquiry-based learning groups designed to encourage action research. Each of these groups was supported to identify lines of enquiry before venturing out of the school environment to explore new practice. As explained by senior staff, the initiative promoted an emphasis on the process of learning as opposed to focusing on outcomes.

6.3 Theme 2: Developing context-specific approaches to teaching and learning

The second theme relates to the development of context-specific approaches to teaching and learning created by schools in order to realise CfW. For example, in one school staff felt that they were sticking too firmly to half termly overviews which clashed with the values of a purpose-led curriculum. The head teacher noted that 'at best...we were fitting the new four purposes into old practices'. In response, the school created '50 things' - a list of 50 experiences that all children should have during their time at that school. To ensure authentic, context-relevant learning, children were involved in creating the list.

Similarly, to help avoid a curriculum planned backwards from GCSEs, one secondary school developed its own curriculum model based on three questions: What should we teach? Why should we teach it? How and when will this be best taught? As the school noted; 'If we do not know why a topic, lesson or unit is being taught then does it have a purpose? Working out the why then leads on to the what and how.' This school also felt that subject leaders had a pivotal role in curriculum design. They joined together to form curriculum groups dependent on the typical knowledge acquisition within a subject or discipline. As a result, the school reported deeper curriculum design expertise among their staff. They also reported on the use of 'critical friends' who engaged with the subject leader, asking probing questions about the curriculum at every stage of its design, implementation and evaluation. This was ensured that the curriculum was discussed, evaluated and amended as required.

Another secondary school had identified issues in practice which conflicted with the vision of CfW. Their learners lacked the independence to transfer skills between contexts, so the school set out to create a new way of teaching and a new programme designed to endorse life-long learning. In this programme, learners would study each of the six AoLEs on a half termly carousel of six lessons per fortnight. They would be taught by subject specialists from each of the six AoLEs in mixed-ability form classes rather than academic sets. Reflecting on its roll out, staff reported the development of more active, engaged learners, as well as staff developing a greater ability to adapt and apply new pedagogical practices in their classrooms that were better aligned with CfW.

Other schools relied on external support to create approaches to teaching and learning. One primary school was able to apply research information to their pedagogical model after participating in formative assessment action research projects following an external model. In addition, in 2019, all teaching staff from the school attended training in a particular drama-based approach involving the creation of a fictional world where learners assume the roles of experts in a designated field. Following a successful trial, this school developed a system of cross-class groups using the broad topic 'y byd mawr' ('the big world'). Learners were given the real-life context of helping a struggling local museum, before identifying areas of their own interest relating to this and then working in 'expert groups' to research their specific area.

The leadership team of another primary school took part in a collaborative project centred on raising levels of learners' aspirations and making learning more authentic. From this, the school developed skills and careers days to widen their learners' experiences to the context-specific world of work around them.

6.4 Theme 3: The importance of values and pupil voice

The third theme is one of leadership teams developing whole school approaches to planning based on values deemed most relevant to the needs of their learners. One primary school with over 50% of its cohort requiring additional support for learning decided that wellbeing should be the central driver of its policy and planning. Several initiatives resulted. One, the 'Grŵp Troi' Provision, was put in place to avoid learners with extensive needs being excluded from mainstream learning. These learners start and finish the day at a specialised base but then integrate into mainstream classes. Placement in classes is not necessarily dependent on chronological age— the learners will work in classes where the school finds that they learn best.

Another setting that focused on wellbeing linked this to better use of assessment. Using the CfW blog to inform thinking about how learner wellbeing and assessment are inextricably linked, the school ran an INSET day to reshape their staff's thinking about the importance of this. The school identified an over-emphasis on 'one-off' judgements and outcome and level descriptors, and an over-reliance on quantitative data in describing learner 'progress' for accountability purposes. Staff shifted to a growth mindset approach to support learner resilience as part of their rethinking of assessment.

Another value placed at the core of whole school planning is global citizenship, through the promotion of global goals. For example, in one primary school, staff merged UNCRC ideals, global goals, nurturing principals and building learning power skills to form a new 'Compassionate Curriculum'. Their aim was to always base learning on curiosity, with every activity across all stages starting with three questions: 'Why' are we curious about xyz? 'What' will we do and where will our curiosities lead us? 'How' will we enquire, discover and learn? This was designed to build rich, real-world learning experiences for all learners. Another primary school had a similar idea but, in this case, planning was based on 'Cynefin - to develop a sense of pride in learners' community and country, which is central to the four purposes. There was a whole school focus on the schools' own village, studied through each of the humanities, and from this came a content map covering all stages of learning. 'The introduction of the new humanities topic mapping', the leadership team reflected, 'empowered staff and learners with more opportunities to work top down, immersing children in their learning.

Pupil voice was also a main area of focus for some schools. In one primary school staff decided to ask the learners for input on what developing the four purposes would be like for them. Through learner activities, a superhero character endorsing the four purposes was developed.

6.5 Restructuring of the curriculum

The fourth theme concerned a restructuring of the curriculum, for example, through a cross-curricular approach to planning and timetabling. At one secondary school, the head of department approach was altered to one of directors of AoLEs to facilitate cross-curricular planning of learning. A 'master

theme' was created in each term so that learners felt their whole curriculum was connected. The learning was linked across 6 AoLE headings. Several positive impacts were reported: more authentic learning; staff learning from one another; greater depth of learning; and better pupil relationships with class teachers who saw pupils more often.

Another secondary school decided on a thematic approach to learning across the curriculum to enable greater collaboration. Curriculum subjects retained their identity, but thematic, cross-curricular collaboration was facilitated by providing opportunities for sharing plans within AoLEs and then through 'Teachmeets' - organised but informal meetings of practitioners from different AoLEs. Although initiated in 2018 this was reported as work in progress, and initial issues with thematic planning were highlighted: too many themes for the time available; poorer differentiation in classroom teaching; problematic transitions between progress steps. Some potential solutions to these were in the process of being implemented, for example: learners developing their own themes and questions of interest; providing more opportunities for learner decision-making along with discussion and the development of evaluative skills; and a greater focus on effective differentiation.

Another secondary school formulated an initiative to be implemented over a two-week period, based on freedom and a conceived need to remove 'rules' in order to facilitate autonomy. Ten cross-curricular lessons were planned within an AoLE based on a 'journey', with a 'showcase' planned for the end of this period giving freedom to use any form of learning or presentation of content. Several benefits of this were cited including collaboration between departments and an increase in both the creativity and confidence of learners. At time of writing the case study, an issue with the inability of some pupils

to deal with the lack of routine and set structure was noted. Staff at the school had plans to stagger the initiative for each AoLE in order to maintain some structure and not to overwhelm pupils.

6.6 Summary

The themes identified through this analysis of case studies highlight important efforts on the part of practitioners working across Wales to successfully realise CfW. The case studies reveal the engaging, collaborative, and creative approaches of schools across Wales. Approaches include reimagining the role of staff in schools in order to realise the curriculum, the development of unique, context specific approaches to teaching and learning created by schools for their learners, whole school approaches to planning based on context-specific values and pupil voice, and curriculum and timetable restructuring. These case studies suggest that schools are aiming for learning to become more authentic and more meaningful for children, and staff are being supported in altering their practice to allow for greater autonomy in supporting progression.

Our initial exploration of these cases gives insight into how schools have been engaging in bottom-up efforts to realise CfW. A variety of approaches has been used, taking into account local contexts, in keeping with CfW. These approaches may be focused on the four purposes, AoLEs, or a more thematic approach. Although it is not always clear how progression in conceptualised, there appears to be a shift towards more learner-centred approaches.

Findings in brief

- Beyond the work of *Camau i'r Dyfodol*, teachers are being given more agency to realise CfW, supported by professional development and opportunities for close-to-practice research.
- As a result, a range of unique, context-specific approaches have been developed across different sectors with a focus that varies across schools and settings. The starting point may be the four purposes or the AoLEs, or a more thematic approach may be taken. Whole-school planning is often values-focused and cross-curricular planning is a recurring theme, sometimes supported by staff restructuring.
- Although it is not always clear how progression is being conceptualised, there appears to be a shift towards more learner-centred approaches. Efforts are commonly focused on making learning more meaningful to the learner, and an increasing role is being given to pupil voice.

7. Review of curriculum realisation

7.1 Introduction

This review had three purposes:

- to understand more fully the challenges involved in realisation identified by system professionals in Phase 1;
- to inform the work of the Welsh Government to support system-level coherence;
- to inform the design of Phase 3 of the *Camau i'r Dyfodol* project.

The research question for the review was: *What does international literature tell us about curriculum reform and realisation?*

7.2 Methods

We used a narrative method to identify and synthesise key aspects of the research topic (Green et al., 2006) with a view to understanding these more fully (Tahirsilaj & Sundberg, 2020). The review process followed the steps outlined by Tahirsilaj and Sundberg (2020): selecting relevant databases, creating search terms, creating and applying inclusion criteria and exclusion criteria, analysing and synthesising the results of the searches.

We created search terms from the research question and input them to the following databases: Taylor and Francis Online, Science Direct and JSTOR. We then summarised the findings from 46 relevant articles in a matrix, and used inductive coding to organise the findings into three themes:

1. The importance of coherence and clarity for curriculum realisation.
2. Understanding realisation processes: 'translation' and interpretation, sensemaking, and enactment.
3. Supporting practitioners as curriculum makers.

Search terms returned some articles focused on curriculum reform in Wales. We discuss these separately in the final section. The review articles also gave important information on the recent international trend in curriculum reform that provides the context for the new curriculum in Wales. We explain this context before presenting the findings of the review.

7.3 Context for reform: the 21st Century Curriculum trend

Curriculum for Wales (CfW) can be understood as part of the 21st Century curriculum trend in education policy that has shifted curricula from a focus on academic subject knowledge to a focus on generic skills (Sinnema et al., 2020). These '21st Century skills' include creativity, critical thinking, problem-solving, collaboration, and 'technological fluency' (Sullivan et al., 2021, p.526). 21st Century Curricula also focus less on what learners should know and more on what they should become (Priestley & Sinnema, 2014). They are developmental in nature with a strong learner-centred (rather than subject-centred) focus (Sundby & Karseth, 2022).

The 21st Century Curriculum trend has been influenced by organisations like the OECD and UNESCO (de Almeida & Viana, 2022). It has shaped curriculum

making in countries such as Ireland (Dempsey et al., 2021), Scotland (Humes & Priestley, 2021), Finland (Eronen et al., 2019), Norway (Sundby & Karseth, 2022) and New Zealand (Poulton, 2020). 21st Century Curricula tend to position practitioners as facilitators of learning, who design curricula locally to suit the needs of their learners (Rød & Bæck, 2020; Poulton, 2020; Bradfield & Exley, 2020). This approach gives practitioners greater flexibility over teaching and learning than they would have with more prescriptive curriculum frameworks (Byrne and Prendergast 2020; Sinnema et al, 2020).

In keeping with the 21st Century Curriculum trend, CfW emphasises 'greater flexibility in educational decision-making' for schools and practitioners (Conn & Hutt, 2020, p.153), providing them with significant autonomy to develop curriculum locally. CfW is also developmental in nature, focused on learner progression driven by four purposes. These purposes centre on the development of individual capacities to: learn throughout life; play a 'full part' in life and work; become an ethical, informed citizen; and lead a 'fulfilling' life as a valued member of society (see Jones, 2023; Power et al, 2020). In addition, CfW takes an integrated approach to curriculum organisation based on six Areas of Learning and Experience rather than organisation by subjects (Jones, 2023; Kneen et al., 2020). CfW also reduces specification of curriculum content while encouraging active pedagogical approaches that situate learners at the heart of curriculum decision-making. CfW therefore shares key characteristics with the 21st Century Curriculum approach (see Sinnema et al., 2020; Hughes & Lewis, 2020).

The characteristics of the new Curriculum for Wales represent a significant shift in thinking about the purposes and nature of education in the system. Realisation of this less prescriptive type of curriculum requires a significant degree of what is called *sensemaking* (Sullanmaa et al., 2021). The literature review identified evidence of what might support curriculum realisation and what some of the challenges are with curriculum reform of this type. The evidence is presented below by theme.

7.4 Theme 1: The importance of coherence and clarity for curriculum realization

For curriculum reform and realisation, the curriculum framework must have both coherence and clarity: that is they must have internal consistency (coherence) in the documentation across the aims, purposes, content and pedagogic approaches and this should be expressed in clear and consistent language. There also needs to be coherence across the wider system in terms of how practitioners understand the curriculum given that practitioners and schools interpret a curriculum as they realise it in practice (Hardy, 2015).

The importance of coherence and clarity in curriculum design and frameworks

Curriculum coherence should be present from the outset of the curriculum design process to ensure 'alignment and continuity within and between the curriculum's... content, teaching methods and assessments' (Sullanmaa et al. 2018, p.212). Coherence is supported when the curriculum is grounded in theory (Humes & Priestley, 2021; Simmons & MacLean, 2018). Without a clear theoretical grounding a curriculum can become an 'uneasy mixture' of different models that then become

conceptually incoherent and difficult to realise in practice (Priestley & Humes, 2010, p.358). Competing discourses or ideas in a curriculum can leave schools and practitioners uncertain as to how to enact curriculum policy in practice (Hardley et al., 2021).

Clarity in the language and written style of curriculum documentation also supports system-wide understanding (Simmons & McLean 2018; Priestley et al., 2014), as does clarity and consistency in the information and resources produced to support realisation (Sullanmaa et al., 2021). As far as possible, clarity should be evident in a curriculum framework from the outset (Salonen-Hakomäki & Soini, 2023). Trying to achieve clarity in a curriculum framework by providing additional separate documentation or detail can lead to confusion (Salonen-Hakomäki & Soini, 2023). An abundance of curriculum documentation can be difficult to understand and navigate (Hardley et al., 2021) so having a clearly written single framework helps to avoid this (Humes & Priestley, 2021).

However, there is a balance to be struck between providing too much or too little detail in any curriculum framework (Salonen-Hakomäki & Soini, 2023; Sundby & Karseth, 2022). A degree of specification can provide the 'hold and support' that gives educators the confidence they need during curriculum realisation (Nieveen & Kuiper, 2012, p.366). However an excess of detail and over-prescription can jeopardize system-wide participative change by reducing practitioners' professional autonomy and agency, and their sense of ownership of the new curriculum (Salonen-Hakomäki & Soini, 2023; Hardy, 2015; Remillard & Heck, 2014). Too much prescription can be seen as restrictive (Remillard & Heck, 2014; Nieveen & Kuiper, 2012).

A less prescriptive curriculum that provides greater flexibility in decision-making may enable practitioners to create learning that more fully meets the needs of their pupils (Conn & Hutt, 2020; Rød & Bæck,

2020). However, it also requires high levels of local interpretation and 'significant investment' in terms of time, capacity building and collaborative activity to support practitioner sensemaking (Salonen-Hakomäki & Soini, 2023, p.11). Too little prescription in a curriculum brings risks of incoherence across the system if understandings are not shared and implementation is inconsistent (Sinnema et al., 2020). If a curriculum is not explicit enough there is a risk that practitioners may confine their teaching to what they think will be meaningful for their students and so limit the scope of learning the curriculum could offer (Sundby & Karseth, 2022).

Consequences of incoherence and lack of clarity for practitioners and the education system

Coherence and clarity are not simply abstract ideals but are prerequisites for effective curriculum realisation. Without them, realisation becomes difficult (Hardley et al., 2021; Priestley et al., 2014) and practitioner insecurity can result (Simmons & McLean, 2018). For example, Priestley and Sinnema (2014) discuss the confusion among practitioners in Scotland and New Zealand over their new curricula, such as uncertainty over the status of knowledge in the curriculum (New Zealand) and the purpose of the curriculum and its documentation (Scotland).

Hilt and Riese (2022, p.232) found that curriculum practitioners in Norway thought the new curriculum 'lacked coherence, with too many goals, [and] unclear progression'. Mellegård and Pettersen's (2016, p.92) research found that, where practitioners perceive a new curriculum to be vague, they can worry whether their interpretations are 'correct'.

Less prescriptive curriculum frameworks risk inconsistent understanding and realisation across a system (Sinnema et al., 2020), 'substantial variations' in how a curriculum is enacted (Alvunger & Wahlström, 2021, p.239) and significant differences between the intended curriculum and the one that students experience (Sinnema et al., 2020; Hume & Coll, 2010). Humes and Priestley (2021, p.183) refer to this as an 'implementation gap'. To mitigate this requires a balance between bottom-up curriculum making and top-down guidance, supporting coherent understandings of new curricula (Sullanmaa et al., 2021; Pietarinen et al., 2019). Where there is an implementation gap, some students may receive 'thoroughly impressive teaching' but others may not (Sinnema et al., 2020, p.184). Sinnema et al. (2020) highlight the 'troubling educational equity statistics in New Zealand' that have followed recent curriculum reform (Sinnema et al., 2020, p.184). Alvunger and Wahlström (2021) also highlight issues of equity and equivalence within and between schools in Sweden (in terms of resourcing, teaching approaches and assessment) arising from inconsistent realisation.

Supporting coherent curriculum realisation

Pietarinen et al. (2019, p.493) state that 'intentional, systematic, and coherent' approaches are most likely to support curriculum reform and realisation (p.493). Reform strategies that lack coherence can create 'chaos by bringing about a clash of innovations' which then produce 'isolated novel practices'. A balanced and effective approach to curriculum reform combines top-down change management strategies, such as clear curriculum direction and information, resources to support implementation, and capacity-building initiatives, with bottom-up approaches that include collaborative sensemaking, knowledge sharing, and collective decision-making (Sullanmaa et al., 2021).

Poulton's (2020) research highlights the importance of balancing top-down with bottom-up approaches to reform in terms of agency and ownership. Top-down approaches to curriculum reform 'often fail to foster ownership and commitment' from practitioners, but if levels of practitioner autonomy are too high it can cause 'confusion and ambiguity in curriculum decision-making (Poulton, 2020, p.35). Furthermore, shifting from a top-down, high prescription, approach to a bottom up one can leave practitioners unsure of the levels of autonomy that they have to make curricular decisions (Poulton, 2020).

Finland provides an interesting example of finding a balance between facilitating local ownership of curriculum and creating coherence with the intended curriculum reform (Pietarinen et al., 2019, p.502). To support coherent curriculum development and realisation, the Finnish Ministry of Education convened a central reform steering group to facilitate curriculum development (Salonen-Hakomäki & Soini, 2023). This group was guided firstly by an extensive feedback process involving practitioners and stakeholders and, secondly, by working with district-level steering groups that supported local sensemaking during curriculum reform (Anttila et al., 2023; Pietarinen et al., 2019). Important to the process of central curriculum making was the realisation that not all feedback could be acted upon: various ideas and goals were generated that 'could not all co-exist in the curriculum or in the society, and therefore required decision-making' and compromise in terms of what would be included to create a coherent curriculum (Salonen-Hakomäki & Soini, 2023, p.9). Local steering groups then played a pivotal role in balancing the promotion of local ownership of the curriculum while supporting alignment with the intended curriculum reform (Pietarinen et al., 2019).

While working to support shared understanding in this way is crucial, the initial phase of curriculum reform is critical for cultivating coherent comprehension of the new curriculum (Sullanmaa et al., 2021). This coherence is initially fostered through processes of knowledge sharing and sensemaking but Sullanmaa et al. (2021) found that the relationship between knowledge-sharing and coherent realisation became less significant after the first year of the reform. The early stages of curriculum realisation may therefore be the most important for nurturing a coherent understanding of a new curriculum.

The literature shows that coherence must be reflected across all parts of the education system when a new curriculum is introduced. For instance, curriculum reform may require new understandings of accountability, as was the case in Scotland, where Curriculum for Excellence (CfE) was perceived initially to clash with the Inspectorate's audit tool (MacKinnon, 2011, p.98): moving away from a high-accountability culture, requires moving from 'centrally-imposed indicators... to locally-owned questions and purposes in realising practice'. Perceived or actual tensions between autonomy and accountability need to be considered and addressed to support curriculum realisation (Wallace & Priestley, 2017).

7.5 Theme 2: Understanding realisation processes: 'translation', sensemaking, and enactment

Curriculum policy is not realised through a linear trajectory from policy to practice (Nordin & Sundberg, 2021).

A new curriculum is understood and contextualised by practitioners in their own classrooms and schools through processes of individual and collective interpretation (Nordin & Sundberg, 2021; Hume & Coll, 2010). Translation and sensemaking are essential for enactment, particularly when curriculum realisation depends on practitioners as curriculum-makers at local levels. In this case, curriculum change 'cannot be delivered to education, it is *a/ways* translated' (Salonen-Hakomäki & Soini, 2023, p.3, original emphasis).

Curriculum 'translation' and sensemaking

In the context of curriculum reform, 'translation' refers to the process where practitioners and stakeholders in the education system 'work on the reformed curriculum to understand it' and 'act accordingly' (Salonen-Hakomäki & Soini, 2023, p.2). Common understandings across a system are fundamental to the successful realisation of a curriculum, so the process of translation must be supported. In Norway, for example, Local Education Authorities (LEAs) played a significant role in facilitating the translation process. Nordholm (2016) studied one LEA that set up a project management group to work within existing education networks and schools in a collaborative approach to support curriculum translation. Whatever the approach, it is important for practitioners to feel confident to translate reform into the 'real world' of their schools and classrooms (Mellegård & Pettersen, 2016).

The translation process also involves individual and collective 'sensemaking' about the new curriculum among system professionals (Anttila et al., 2023; Sullanmaa et al., 2021). Dolfig et al. (2021, p.129) define sensemaking as a 'cognitive, and emotional process in which a person attempts to fit new aspects and demands into existing knowledge and beliefs', 'interpreting, adapting, and transforming policy messages' in the social context

of the settings in which they work (Pietarinen, 2019, p.493). Shared sensemaking is building a shared understanding of the meaning and significance of reform and its implications for schools, through dialogue and negotiations (Anttila, et al., 2023).

Without opportunities for shared sensemaking, there can be confusion over the new curriculum in a system (Humes & Priestley, 2021; Sinnema et al., 2020) and change may not be sustained (Pietarinen et al., 2019). It is important for successful curriculum reform that sensemaking is given due consideration and integrated effectively into the reform process, supported by opportunities for professional learning and development (Anttila et al., 2023; Dolfig et al., 2021). Collaborative practitioner enquiry was also found to support sensemaking in Finland (see Sinnema et al., 2020). Pietarinen et al.'s research (2019, p.502) suggests that 'profound system-wide change' of the type seen with curriculum reform requires innovative and transformative professional learning as an integral part of the change strategy to encourage collaborative sensemaking at national and local levels.

Curriculum enactment

Translation and sensemaking are part of the process of curriculum enactment. Remillard and Heck (2014) note that a curriculum can be thought of as existing in different forms: the formal (written) curriculum which is the curriculum as intended; the curriculum as enacted; and the curriculum as experienced by pupils. Highly prescriptive curricula can be implemented with little teacher autonomy and little change to the curriculum as intended, whereas less prescriptive curricula rely on practitioners' *enactment* of it since they will usually be required to create curriculum locally (Remillard & Heck, 2014). Enactment refers to the potentially 'messy' reality of translating curriculum policy into practice (Hardy, 2015, p.72), when professionals may interpret,

critique, receive and make sense of the curriculum as they translate it into their classroom practice (Hardy, 2015). Consequently, along with translation and sensemaking, enactment processes are important in shaping the curriculum as experienced by learners.

As noted above, curriculum clarity supports realisation. Where a curriculum framework is complex, it can be difficult to enact without sufficient explanation of what is core to pupil learning (Sundby & Karseth, 2022). However, facilitative leadership and guidance at the school level, as well as sufficient guidance at the policy level, can support enactment (Simmons & MacLean, 2018). It is also important to provide sufficient time for practitioners to come together locally to engage with curriculum development (Hardley et al., 2021). In addition, school-based initiatives, where practitioners have a central role in effecting change, may lead to more innovative enactment, particularly where collaborative approaches to curriculum design are used to enhance alignment with the curriculum as intended (Westbroek et al., 2019).

The importance of professional beliefs to enactment

Curriculum reform can lead practitioners to question their existing professional beliefs and practices (Anttila et al., 2023) or leads them to question their professional identities (Byrne & Prendergast, 2020). Research by Wallace and Priestley (2017) on the realisation of Curriculum for Excellence in Scotland found that practitioners tended to interpret the official curriculum in accordance with their own professional beliefs about teaching and learning alongside the needs of their pupils (p.324).

It can be difficult for practitioners to enact a curriculum where its underpinning philosophy and aims, together with what these mean for teaching and learning, do not fit with practitioners' professional beliefs about educational purposes and effective pedagogies (see Humes & Priestley, 2021; Bradfield & Exley, 2020).

Disconnects between professional beliefs and identity can cause anxiety (Byrne & Prendergast, 2020), as can the expectations placed upon practitioners to become curriculum-makers and agents of change (Mellegård & Pettersen, 2016; Priestley et al., 2014). Byrne and Prendergast's research on curriculum reform in Ireland leads them to conclude that curriculum reform will always bring a level of anxiety given practitioners' sense of professional responsibility towards learners. They advise that this must be addressed proactively by 'providing support structures to alleviate teachers' concerns' together with 'effective and sustained' professional development 'before, during and after any change period' (Byrne & Prendergast, 2020, p.301).

7.6 Theme 3: Supporting practitioners as curriculum-makers

The 21st Century Curriculum approach gives practitioners greater autonomy to create curriculum locally to suit the needs of learners. Importantly, this requires knowledge and skills relevant to curriculum design (Huizinga et al., 2019) and the confidence to apply them.

Supporting practitioner capacity, confidence and expertise

Mellegård and Pettersen (2016, p.191) note that, when policymakers put local implementation at the heart of curriculum reform, their aim is often to

'communicate their confidence in teachers'. However, this approach may lead to frustration if practitioners do not see themselves as curriculum-makers or feel they have the capacity to fulfil that role (Mellegård & Pettersen, 2016, p.191). Poulton (2020) and Sinnema et al. (2020) highlight that curriculum reform often assumes that schools and practitioners have the capacity and expertise to create curriculum locally. In reality, this capacity is variable (Sinnema et al., 2020).

Huizinga et al.'s (2019, p.121) study of practitioners as curriculum-makers in the Netherlands identified three gaps in knowledge: curriculum design expertise, pedagogical content knowledge and curricular consistency expertise. Practitioners in the Netherlands lacked confidence 'in their curriculum knowledge and design skills and struggle to fully utilise their curricular freedom' (Sinnema et al., 2020, p.186). Careful consideration should therefore be given to the skills and knowledge practitioners need to be able to 'engage in high quality and sustainable curriculum practices' (Poulton, 2020, p.37). This can be done through professional learning and development that builds curriculum design expertise (Huizinga et al., 2019; Pietarinen et al., 2019; Colmer et al., 2015) to support practitioners in 'learning the craft of the curriculum maker' (Dempsey et al., 2021, p.218).

Dolfing et al. (2021, p. 135) also highlight effective strategies to enhance practitioner professional development during curriculum change: active learning, collaboration, sharing experiences, reflection, activities focused on content knowledge and a close-to-practice focus. Colmer et al. (2015) found that collaborative professional development was an effective way of supporting curriculum realisation, particularly when it integrates practitioner learning with pedagogical practice and encourages critical reflection. The key here is to encourage 'transformative processes through which educators

re-examine their existing beliefs, leading to... changes in practice' (Colmer et al., 2015, p.271).

Collaborative curriculum-making can also support professional development during curriculum realisation (Voogt et al., 2015). Voogt et al. (2015) found that collaborative interaction between 'peers and experts' during the design process may 'deepen and challenge' practitioners' reflections about the intentions of the curriculum reform and its implications for practice (p.260). In the Netherlands, design teams were created in which practitioners worked with curriculum design experts (Westbroek et al., 2019). This work centred on curriculum analysis, design, development, implementation and evaluation activities (Huizinga et al., 2019, p.121). The process supported practitioners to be aware of the influence these activities had on internal and external consistency of the curriculum that the teams created (Huizinga et al., 2019, p.121). This type of collaborative activity can support alignment between the intended and enacted curriculum (see Westbroek et al, 2019, p.86).

Practitioner agency and ownership

Practitioners need to feel a sense of agency and ownership in the process of curriculum reform (Kneen et al., 2023; Dempsey et al., 2021; Pietarinen et al., 2019; Wallace & Priestley, 2017). Agency as a concept relates to what practitioners feel they are able to do professionally (Wallace & Priestley, 2017) in terms of having 'the power to act, to affect matters, [and] to make decisions and choices' (Vahasantanen, in Poulton, 2020 p.38). Encouraging a sense of agency for curriculum change includes professional development to build knowledge and skills (Porcenaluk et al., 2023) but also time, physical resources, a collaborative culture in schools, and supportive leadership (see Kneen et al., 2023; Poulton 2020; Simmons & MacLean, 2018).

Kneen et al. (2023, pp. 261-262) write that a sense of agency depends on professional context and 'is determined through the interplay of such aspects as experiences, circumstances and relationships', concluding that 'structural and cultural' factors in schools are therefore vital to effective reform.

Alongside agency, practitioners' feelings of ownership can predict the success or otherwise of curriculum reform (Mikser et al., 2023, p.542). Ownership is a psychological state where practitioners feel that 'curriculum decision-making and implementation essentially belongs to them' (Mikser et al., 2023, p.543). Ruiz et al.'s (2023, p. 239) reflection on curriculum reform in Denmark suggests that it is 'essential' that those who are to achieve curriculum change 'have ownership not only of the need for change but also of the means to achieve it'. If not, change might be superficial and 'will not really affect the substance of what is desired and expected' (Ruiz et al., 2023, p.239). Involvement in collaborative curriculum design, as discussed above, is one way of encouraging ownership (Voogt et al., 2019), particularly when this approach is taken from the early stages of curriculum reform processes (Roblin & McKenney, 2019).

A balance between top-down and bottom-up approaches to curriculum reform are again important here. Poulton (2020, p. 35) writes that top-down approaches to curriculum reform 'often fail to foster ownership and commitment' from practitioners and school leaders. However, if levels of autonomy to interpret curriculum become too high it can cause 'confusion and ambiguity in curriculum decision-making' (p.35). Pietarninen et al. (2019) found that effective curriculum realisation requires a balance between facilitating local ownership of curriculum and creating coherence with the intended curriculum reform.

7.7 Understanding realisation in the context of Curriculum for Wales

The literature search returned articles specific to the reform process in Wales. We report on these in this section, because the focus of the review was to understand what international literature – that is, from systems other than Wales – suggest about reform processes.

Articles discussing the new Curriculum for Wales reported broadly positive findings from the early stages of the reform process. For example, the shift from a prescriptive curriculum is seen as beneficial by practitioners (Conn & Hutt, 2020) and change has 'fostered optimism' (Newton, 2020) and 'renewed hope' (Robinson, 2022). Chapman's (2020, p. 240) study found that practitioners had 'embraced' the opportunities presented by curriculum reform to create learning that was better suited to pupil needs. The change process is also recognised as involving genuine rather than contrived engagement from education system participants (Sinnema et al., 2020).

The organisation of the curriculum around Areas of Learning and Experience (AOLEs) was found to bring scope to 'create connections' between subject areas and develop more holistic and 'broadly defined' competencies in learners (Breeze et al., 2023, p.57). This more integrated approach also presents opportunities to 're-imagine' subject areas, particularly at secondary level (Aldous et al., 2022, p.257; see also Breeze et al., 2023).

The texts that relate specifically to CfW also highlight some challenges to curriculum realisation in Wales. For example, there are doubts about curriculum coherence (Gatley 2020; Lyakhova et al., 2019), particularly in terms of curriculum design (Gatley, 2020). Gatley (2020, p. 205) notes that it becomes difficult to justify approaches to pedagogy and content if the curriculum is unclear. In addition, the foregrounding of a skills-based curriculum centred on integrated AOLEs leaves the relationship of disciplinary knowledges to AOLEs uncertain (Robinson, 2022). Integration is also more difficult to realise in the secondary sector where curriculum is generally organised around subjects draw on disciplinary knowledges (Kneen et al., 2020).

There has also been some lack of clarity on the extent of flexibility and autonomy afforded to schools and practitioners in implementing CfW (Newton, 2020). In addition, the concept of subsidiarity is not well defined and may prove challenging because increasing the relevance of curriculum to local contexts could result in greater system variability (Newton, 2020). This variability risks producing inequity across schools and in the system, as does variability of approaches to curriculum design (Robinson, 2022). Robinson (2022) notes a range of approaches to curriculum design in Geography and its place in the Humanities AOLE. These include thematic approaches, 'big question' approaches, sequencing, disciplinary, multi-disciplinary, integrated and interdisciplinary approaches (Robinson, 2022, p.63). Robinson does suggest that 'one size does not fit all' (p.63), but the range of approaches being used risks the 'anything goes' approach that Sinnema et al. (2020) caution against. The range of approaches may also indicate that, as Conn and Hutt found, 'different ideas exist about the basic principles of reform' in the education system (2020, p.164).

7.8 Conclusion

The findings of the review suggest important prerequisites for effective curriculum reform. These include:

- Creating a clear and coherent curriculum framework, grounded in curriculum theory to support understanding of what the curriculum design means for realising the curriculum in practice.
- A balance between too much or too little explicit detail in the curriculum framework. Too much detail can curtail practitioner autonomy for local curriculum-making; too little can lead to practitioner uncertainty.
- Balancing top-down and bottom-up approaches to reform in order to provide enough direction to the reform process while also fostering ownership among practitioners and school leaders.
- Top-down approaches suggested as helpful in the review include effective change management strategies, sufficient resourcing, use of central and local reform steering groups, use of curriculum design teams, providing opportunities for collective sensemaking, and provision of ongoing professional learning.
- Bottom-up approaches included collaborative sensemaking, knowledge-sharing and decision-making supported by facilitative school leadership.

The review findings also provided examples of systems where reform processes had faced difficulties and where curriculum implementation created challenges. The main challenges were:

- The risk of an implementation gap, particularly with less prescriptive curriculum frameworks. This occurs where the curriculum as intended is different from the curriculum that teachers enact and that learners experience.
- Inconsistent realisation across a system can lead to varying approaches to curriculum-making and practice locally. This may make equity and equivalence difficult to achieve for learners across the system.
- Curriculum-making requires knowledge of curriculum analysis, design, development, implementation and evaluation. Practitioners may have knowledge gaps in these areas if they are shifting from a highly prescriptive curriculum to one with greater design freedom. Systems which build practitioners' capacity for curriculum-making through working with expert design teams have fostered local capacity building.

Curriculum reform is highly complex and challenges may be inevitable. However, the challenges identified through this review seem less likely where attention is given to the factors that are indicated as supporting successful curriculum reform.

Findings in brief

- CfW follows the 21st Century Curriculum trend in being a developmental, learner-centred, and skills-focussed curriculum that focuses less on what learners should know and more on what they should become.
- Successful realization of this type of curriculum requires clarity and coherence across essential documentation and coherent understandings across the education system.
- Successful realization requires a balance between a top-down and a bottom-up approach to implementation: sufficient direction balanced with practitioner autonomy, ownership and agency.
- For practitioners to engage confidently and effectively in curriculum translation, sensemaking and enactment, they need to be provided with curriculum-making knowledge and skills, time and the opportunity to work collaboratively with practitioner colleagues and curriculum experts.

8. International evidence

8.1 Introduction and approach

As a project, we draw together evidence from research, policy, and practice from Wales and internationally as part of the co-construction process. Insight into different ways of thinking from other countries and nation states was used to support the process of sense-making as educational professionals and educational partners in Wales realise CfW. To help support this evidence to be shared in an engaging way, we collected it as a series of recorded conversations.

We engaged in a careful process to identify topics and international experts for this phase of work. Input was sought from the project research leads, the CCG members, and from a member of Welsh Government to help identify topics and priorities for the recorded conversations. We simultaneously explored different potential international experts until we narrowed down to specific individuals. Our goals were to seek advice from three different national perspectives and from individuals whose work and expertise aligned with the vision of CfW.

Interviewees were selected from membership of the International Educational Assessment Network (IEAN). This network brings together research and policy experts from nations and states across the world that are similar in population to Wales. The international experts chosen, because they have current or recent experience of curriculum reforms similar to those in Wales, were from Canada, New Zealand and Norway.

Professor Christopher de Luca is Professor of Classroom Assessment and Associate Dean at the Queens University in Canada. He currently directs his university's School of Education Assessment and Evaluation Group, in which the research of faculty members and graduate students is based on the premise is that high-quality assessment and evaluation underpins meaningful, evidence-informed decision-making.

Prof Jenny Poskitt is Associate Professor in the Institute of Education at Massey University in New Zealand. Her experience ranges from primary teaching to research, roles in the Ministry of Education and various International Advisory positions. She has keen interests in assessment, professional learning, and the importance of relationships, communication and collaboration.

Prof Kari Smith is Professor of Education at the Department of Teacher Education, Norwegian University of Science and Technology. Her keenest interests are in truly understanding the pedagogy behind assessment, professional development and how we may best educate student teachers.

All conversations were carried out by Dr Jennifer Farrar, University of Glasgow and Co-I on the project. She asked her interviewees to describe their particular contexts and reforms, and to share their reflections on the process of implementing reforms such as those of CfW, especially those relating to progression in learning. Questions for the conversations were carefully co-designed by *Camau i'r Dyfodol* researchers. The conversations in their entirety have been shared online. Below is a summary of what was discussed.

8.2 Conversation with Prof Christopher de Luca, Canada

Canada has a standards-based curriculum, segmented around subjects and grade levels. Assessment is mainly the responsibility of classroom teachers, complemented by a large-scale assessment programme employing summative assessment mainly for public accountability purposes.

In 2010, the state of Ontario, Canada, introduced a new policy focused on assessment called 'Growing Success'. Rather than '*formative*' and '*summative*' assessment, this new policy focused on '*assessment for learning*' – assessment to support student learning rather than for gatekeeping or high-stakes purposes. It re-emphasised learning skills such as cooperation, independent learning and self-regulation as part of everyday classroom dialogue as well as being featured heavily in assessment, for example, in their prominence on a new style of report cards.

In implementing this new policy in Ontario, it took time for users to learn a new language of assessment and apply it to existing practice. Negotiation between existing practice and new ideas was promoted but not consistently achieved. For some teachers, excited by its implementation, this was an intuitive policy that gave clarity to existing practice. Those who favoured traditional pedagogy and depended more on summative assessment were instead resistant to what they saw as additional workload.

There was inconsistency in policy understanding and implementation but teachers were encouraged to expect this and embrace it. The new policy came from research in specific contexts, so universal execution was never seen as a possibility, and concepts were never expected to be static. It was understood that assessment for learning is most authentically endorsed when done so in an experimental fashion, free from pressure or strict expectations. Students were to be vocal players in the assessment process, in a feedback-rich learning environment designed to drive learning forward. The application of any new policy in assessment doesn't need to be procedural, but rather can be more of a model of developing new pedagogy focused on assessment for learning.

The accountability mandate in education is strong and intensifying, yet Canada was trying to promote a discourse and practice that runs counter to that. The new policy aimed to create an environment focused on the process of learning and not its products. This tension was clear in the system and in local cultures where policy was interpreted differently according to different priorities.

The reporting system in Canada is segmented according to curriculum disciplines, yet teachers are increasingly being encouraged to facilitate learning journeys that are enquiry driven and that integrate subjects around a focal area of interest for the learner. Teachers and other stakeholders continue to try to find ways of navigating and aligning these two ideas more closely.

Inherent conflicts are entrenched in the larger system and there are no quick fixes. The building of community, with teachers sharing practice and coming to common understandings, is helpful. Also helpful is the idea of a 'loose-tight' structure: 'tight' elements of policy implementation which give signposts and direction, and 'loose'

elements which allow for local variations in implementation and practice which are inevitable.

A multimodal and systematic approach has been taken to rolling out 'Growing Success'. This has included the practice of leaders working as learners alongside their staff, with shared responsibility for the development of new practice. An 'instructional rounds' approach has been used in which policy implementation is 'chunked': teachers would choose one new aspect with which to experiment in their own classroom, with a colleague observing and giving feedback on the new pedagogy. Teachers were using assessment for learning to learn about assessment for learning, creating opportunities for exactly the kind of rich dialogue being promoted in the new policy.

Prof de Luca has written about two elements of pedagogy - the 'letter', or the procedural adoption of any practice, and the 'spirit' which embodies the deeper purpose or authentic reasoning for the pedagogical approach. Research has found that teachers tend to implement any new policy in spaces between the letter and the spirit. A gradient of practice between the two has been developed to allow for thinking about how granular changes can lead to deeper implementation.

Progression persists as an area of focus in Canada. The use of formative assessment to build narratives of progression is encouraged, with formative assessment providing the evidence needed to describe progression. Learners are best suited to direct this, if empowered with the capacity to assess themselves and tell their own, authentic, stories of learning. This overcomes the issue of teachers claiming too much data and evidence to handle, file and use. Reggio Emilia schools use this approach to develop intricate visual learning stories about what's happening at the classroom level, but a wider adoption this approach requires a more integrated curriculum structure.

Dichotomic thinking between process and product should be discouraged. Teachers have tended to lean on the latter and summative assessment in ways that are too restrictive. Summative assessment can be just as rich a practice as formative and, with more integration, more collaboration and more open thinking, it can be more forward focused. Thinking about the kind of product that comes out of learning can also help us think about the process.

Beyond Ontario, British Columbia has recently embarked on a progression-based curriculum and some years ago the Prairies in the Manitoba area implemented an assessment policy document similar to Growing Success: 'Rethinking Classroom Assessment with a Purpose in Mind'. Launched almost two decades ago, the latter is an example of a longer life policy implementation which may highlight ways of addressing more persistent issues.

8.3 Conversation with Prof Jenny Poskitt, New Zealand

New Zealand's existing curriculum has been in place since 2007. It has an overarching vision of lifelong learning, promoting key competencies such as independent thinking and working, and working well with others across disciplines. It is presented as a guiding framework, and schools are encouraged to interpret it according to local needs. New Zealand also has a second curriculum which runs alongside the main one. Called 'Te Marautanga' it is designed to uphold cultural heritage and identity as part of the Maori community, with respecting others and fulfilling social obligations being deemed to be of the highest importance.

Currently, the first three years of secondary school are seen as preparation for examinations.

The National Certificate of Educational Achievement is the main qualification for secondary school students. It is available at three levels which most students work through between the ages of 15 and 18, using both internal and external assessment. There is moderation for internal assessment, supported by online professional learning and accessible standards to assess against.

New Zealand now has a new curriculum which it is hoped will be fully implemented by 2026. The first major change is a stronger emphasis on the country's history. The 1840 Treaty of Waitangi which promised partnership between the '*people of the land*' and the '*other*', to respect and honour of the Maori way of life, is becoming more intertwined in policy frameworks. A second focus is 'learning that can't be left to chance': core principles and areas of knowledge that must be taught before any more localised curriculum can be practised. This is supported by 'Common Practice Models' which are being developed to ensure greater consistency and quality of teaching and learning that is informed by research. The third focus is on broad learning progressions over time, along with more purposeful and better supported transitions between each stage of a learner's education.

Being consulted on all of these reforms is a group known as the 'Curriculum Voices Group' with 60 members drawn from researchers, teachers, learning providers, union members and youth groups, and includes representation from all cultures and from different localities. Through this group, teachers have felt heard and been involved in the creation of new practice, have a better understanding of new policy and so should be able to better effect its implementation.

However, there is tension between such a 'bottom-up' model for curriculum and progression, and the universal Common Practice Models. Whilst leaders try to facilitate implementation that is true to the ideals

of the new curriculum, one challenge is the fact that learners learn in different ways and have different capacities to learn in different areas, and this notion sits in conflict with ideas of common standards. The fragmented nature of culture across New Zealand deepens the tension as the curriculum is likely to be interpreted differently by different school leaders.

The new curriculum has received a mixed response. Fatigued teachers have spoken of feelings of displacement and resistance to new practice after the pandemic left them exhausted. More guidance and support have been offered but the iterative process of curriculum design means that the development of new practice based on how teachers respond to initial cues requires teachers in classrooms to work with little direction. A potential key to overcoming this is ensuring that teachers' subject knowledge is strong before any new practice is attempted. Strong subject knowledge requires professional learning that must be practised in more ways than isolated and prescribed sessions of input. It must happen through staff-to-staff dialogue and sharing, through observations, through mentorship, and through modelling of practice between classrooms. Networking with individuals with specific passions in niche areas is valuable, and collaboration between those from different contexts but with similar interests which can be facilitated by digital media.

Creating climates of support without criticism or intrusion from the media is also required, so that teachers feel safe in experimenting openly in their practice, regardless of its success. This requires that the instincts and creativity of teachers and their learners are valued at all levels in the system.

New Zealand seeks to strengthen links and connections between all involved in the policy development process – policy makers, the policy influencers, and the policy enactors (teachers) – so that there may be shared understanding to overcome

resistance to change and inconsistent or incorrect implementation by teachers. Schools should collaborate across regions, sharing skills and ideas, and experiences of different contexts. Everyone in the system should work to trust and understand each other, and this is facilitated by New Zealand's relatively small population. Strong human relationships allow for constructive criticism and open support.

Do not expect that curriculum change will be easy. There will be a plurality of views and ideas, but this is not to be avoided. The resolution of such conflicts will make the process just as valuable as the final product. Do not expect that the process will be fast. If time is not taken to consult all parties during policy development, and to ensure understanding of new policy, implementation will not be smooth or successful. Finally, do not expect perfection – education, by nature, is always changing, and so present perfection will not endure – but aim for excellence, and always do the best you can.

8.4 Conversation with Prof Kari Smith, Norway

The Norwegian education system was historically dominated by examinations but now looks quite different. The final three years of secondary education are not compulsory and, in those years, learners can choose either an academic route or vocational route.

The first seven years of school are gradeless, and for the first three years of secondary school it is teachers who grade learners, based on discussions and a wide range of types of evidence. There are national examinations at the end of secondary school. Some of these are taken by all learners. Others are taken by only 20% of learners, selected by lottery and notified two days before the examination is to be taken.

In addition to these examinations, teachers grade their learners in a holistic way, but if there is any disparity between teacher grades and examination outcomes the latter prevails. There appears to be a tendency for teachers to be overly influenced in their grading by performance on written tests, and the system is more convincing in theory than in practice.

Prof. Smith is currently involved in research that explores a new bottom-up process of assessment which supports schools in 'going gradeless'. In this approach, apart from end of year grades learners receive only formative feedback throughout the year. It appears to be 'high achievers' that miss grades the most.

The Norwegian government has mandated that the school curriculum is governed by competence goals based on nurturing the value of each individual. Teachers are therefore encouraged that standardized and prescribed abilities (such as identity and cultural plurality, critical thinking and respect for nature) should underpin all teaching. There appears to Prof Smith to be a tension between this approach and the government's legal requirement that every child has the right to formative assessment, and she is critical of it.

One recent change to the system in Norway has been a stronger focus on 'in-depth learning'. This is defined as the gradual development of knowledge and a lasting understanding of concepts, methods, and relationships within subjects and between subject areas. Implementation of this has been poor. Teachers appear to be taking a procedural approach but to lack the true understanding required to implement 'in-depth learning' conceptually and thus with any flexibility, adaptability, or success.

Reform will be most successful if conceptualised in three stages: securing a firm knowledge of the content of reform; ownership, in which users adapt that knowledge to their own context, making it work for their own students and with their own pedagogical stances; and the practical implementation of the 'spirit' of the policy which may take years to translate into practice. Commonly, too much time is spent on stage one and not enough on stages two or three which results in 'cosmetic practice'. This is likely to result if teachers are not given enough time to internalise and navigate new policy. Consequently, as much time as possible should be allowed for new policy implementation, along with a collaborative approach and action research that encourages experimentation and openness to new ways of working. Reforms should not be formally evaluated within a year or two of initial rollout to allow stages two and three to be given appropriate attention, and teachers need to be given this time. Immediate success should not be expected or desired: teachers should feel comfortable experimenting with their practice and should not be faced with pressures such as that associated with external inspection whilst doing so.

Teachers should pay close attention to what motivates individual learners to learn. They should apply theories of motivation and self-efficacy to their practice, when considering both their learners' and their own learning. They should seek to cultivate the idiosyncratic self, rather than only the knowing, academic self. They should nurture creativity and critical thinking to develop a true motivation for lifelong learning stronger than any created by pressure and examinations.

Teachers are encouraged to maintain a strong voice. To be passionate about their local contexts and making national, standardised guidelines work for the learners in their classes. To be critical of what is given from the top, and speak confidently

against what is incompatible with local practice.

Progression, and the assessment of progression, is in some ways universal regardless of context. However, it is who decides what constitutes a specific starting point (A) and end point (B) for any pupil that Prof. Smith questions. As she sees it, a curriculum is problematically made up of a very small, pre-decided fragment of a huge knowledge space. From this, goals are decided, and all learners are then required to progress along a continuum that is determined from the top down. The problem is that learners are unique and so assessment against one universal set of goals will give differing impressions of rate of progress for different learners. An alternative approach is one in which the quality of a learner's performance is compared to their previous performance, rather than by reference to their peers or against expected standards alone. Such 'ipsative assessment' allows the learner – alongside their teacher – to set their own challenges and celebrate their own successes, to experience progress regardless of whether they are above or below expected standards at that stage. Prof Smith believes that this approach to assessment makes learners more motivated and ambitious, and she recommends that the work of Tomlinson and his 3-dimensional assessment system is re-visited. What becomes possible through ipsative assessment is education that is closer to the ideals of *Bildung*: one that is more interested in self-cultivation than in knowing the self in relation to standardised competence goals.

Note. The recorded videos and transcripts of the *Camau i'r Dyfodol* [conversations with international experts](#) are available online.

Findings in brief

- First-hand, expert accounts of experiences of curriculum reform in Canada, New Zealand and Norway revealed insights that may be relevant to CfW realisation.
- Curriculum realisation needs time and space, and will be messy. This may develop over stages as practitioners move from the 'letter' of the reform to the 'spirit' of the reform. An educational climate that encourages collaboration and openness to new ways of working is needed.
- Strong alignment and shared vision between policy makers, policy influences, and policy enactors (practitioners) may help to reduce inconsistencies in curriculum realisation by practitioners.
- Tensions may exist between different policies and approaches in the system which can cause difficulties for curriculum realisation. A balance must be found between 'tight' elements of policy which offer signposts and direction with 'loose' elements allowing for local variations.
- Leaders working as learners alongside staff, listening to learner voice, and developing strong subject knowledge are helpful approaches.

9. Summary of findings

Camau i'r Dyfodol (Steps to the Future) is a 3-year joint research project designed to support education professionals in Wales to advance practical understandings of progression in learning. The project has four phases, and this report has shared the findings from Phase 2 of the project (September 2022 – August 2023). The aims of Phase 2 were to build knowledge and understanding of learning progression with educational partners through the process of co-construction, and to support curriculum coherence in the system by creating co-constructed knowledge and resources.

9.1 The process of resource development

One of the central activities of Phase 2 of the *Camau i'r Dyfodol* project was working with the CCG. Part of what the CCG did was to consider challenges as 'knots' to be unravelled. One challenge identified from evidence in Phase 1 of the *Camau i'r Dyfodol* project and the CCG in Phase 2 was that educational professionals in the system are understanding and realising CfW in very different ways. In practice, these different ways of understanding the curriculum are leading to different approaches to creating curriculum and different

approaches to teaching and learning. Each of these approaches align with different curriculum models. Because of this, we learned through the co-construction process that some of these align more fully than others with the approach to curriculum design, learning and teaching suggested by the CfW framework. In turn, this can impact differences in approaches to how CfW is being realised in practice, and more specific to our project, how learning progression is being understood and supported within Schools.

The discussions around the 'knot' of curricular coherence led to discussions around how much variation is tolerable within the system. As we learned through our findings, reform requires a new way of thinking, and it is important that school leaders and teachers develop a shared understanding of the new approaches underlying CfW, but this needs to be complemented with top-down clarity from the system on what CfW intends to be. Therefore, in this phase of the project, participants in the CCG, reinforced by conversations with our partners in Welsh Government, came to a general understanding of CfW as being most closely aligned with the curriculum model of a process orientation. This model was explored within the CCG, supported by seminars, but it will continue to take time for educational partners across the system to understand the complex ideas being introduced by CfW. As we also learned from our international research evidence, this is not unique to Wales, and major educational reform in any country, such as that required by CfW, may take years of 'sense-making'.

To support this process of sense-making, a set of resources was developed, drawing together the work of the CCG, the resources and inputs created by each of the subgroups, and informed by our wider conversations and complementary research carried out during Phases 1 and 2 of the project. These [Camau i'r Dyfodol practical support materials](#) are available online.

The resources require educational partners to work through the ideas themselves and develop practice within their contexts. Our findings suggest this is critical—both published research and our conversations with teachers and educational partners in Wales suggest that an 'off-the-shelf' approach to learning progression would be unsuccessful for curriculum reform. Having a strong theoretical basis underlying practice may be the critical piece to finding the balance between the national curriculum and local flexibility. When informed by a shared understanding of the purpose of the curriculum and a shared understanding of what this means for learning progression, then different approaches and strategies used across different settings will have a more coherent basis. In turn, this helps ensure that there can be differences across local contexts while still offering equity of educational experiences for learners.

9.2 Addressing the Phase 2 research questions

There were five research questions designed for Phase 2 (see section 2.2). Below, we summarise how our findings collectively address these questions.

What supports the development of shared understanding and knowledge of learning progression during curriculum realisation?

Our analysis of the data from the CCG activities and conversations, as well as the NNCs, suggests that developing a shared understanding of learning progression needs to be facilitated through discussions and 'knotworking' with professionals from across the system to see local curriculum initiatives through different lenses. The nature of this space matters, since simply exchanging ideas does not necessarily lead to shared understanding. Without first understanding the curriculum, understanding of progression may be difficult to develop. Participants indicated that this understanding is supported by inputs from research and theory, but needs to be balanced with practical considerations and time for collegiate dialogue. Understanding and knowledge of learner progression can deepen over time as its practical applications are collaboratively developed, evaluated, and shared.

There is a need to balance teacher-led bottom-up approaches with top-down system support, as both are critical for developing a shared understanding and knowledge of learning progression. It was suggested that there is a need to reduce overlap and contradiction in messaging and guidance. Interpretation of the curriculum seems to lead to progression being a dominant focus, a 'thing' on its own, rather than part of a more holistic understanding of progression through

curriculum, pedagogy and assessment. Clarity is also important in terms of accountability and what forms of communication about progression will be acceptable to stakeholders. Lack of clarity and concern over accountability is leading to approaches such as breaking down progression steps into elements that can be tracked, which could risk a return to the 'tick boxes' that practitioners are seeking to avoid.

To what extent is the knowledge coherent across different parts of the education system?

There is a shared sense in the system of the new curriculum requiring new ways of thinking about learning and learner progress, and of the need to rethink how progression is discussed with pupils, parents and stakeholders. Through our analysis of the CCG data and the NNCs, we learned that professionals in the system are working to create coherence across schools and clusters. Additionally, schools in the case studies explored from Hwb suggest that schools have been shifting towards a variety of learner-centred approaches, including reimagining the role of staff members, developing context-specific models, developing school leadership and values, restructuring their curriculum, and involving pupil voice in planning.

However, our findings also showed that CfW was being understood in different ways, across the system and across members of the CCG. Variations in interpretations and understandings of the curriculum framework and guidance became evident, and knowledge of approaches to curriculum design did not seem to feature strongly in the data. Additionally, the school case studies that were analysed suggests that schools are approaching CfW through different angles (some starting with the 4 purposes, some starting with AoLEs, some with

themes). Furthermore, some participants viewed external inputs as inconsistent with the new CfW.

The variation in interpretation and practice seems due to two elements. Firstly, the curriculum was reported to be both complex and open to interpretation which makes consistent understanding difficult; secondly, the freedom to interpret curriculum and progression locally makes coherence of practice challenging across the system. These underlying differences in how the curriculum itself is understood can lead to different approaches for supporting progression.

How can educational partners be supported to develop a knowledge base to support ongoing understanding of learner progression?

Through our work with the CCG and listening to broader conversations through the NNC, there seemed to be a lack of confidence and clear rationale for why particular approaches align, or fail to align, with CfW. To support understanding, participants suggested that sustained professional learning is important. Inservice days are helpful but may not always provide sufficient scope for the depth of thinking and 'psychological space' required for developing knowledge of curriculum making and learner progression. Slowing down thinking, reflecting with colleagues, and exploring research close to practice through enquiry were all noted as helpful for developing this knowledge base. As noted elsewhere, greater clarity and coherence in the guidance that is shared would also provide a basis for supporting ongoing understanding of learner progression.

CfW suggests a developmental, purpose-led, and integrated approach to curriculum. To help inform our understanding of how educational partners and practitioners in Wales can be supported in their curriculum realisation, our literature review suggested that shared sense-making can be supported through offering clarity about the theoretical grounding of the curriculum. Additionally, providing clear communication in the system, and supporting coherence within individual thinking as well as coherence between their thinking and that of other educational partners, may all be important in supporting practitioners to develop a knowledge base for practitioners to 'translate' their new understandings into practices within schools. The literature further suggests that professional learning which is close to practice and builds confidence, expertise, and agency can support teachers during curriculum realisation.

Complementing this, the international evidence also provided a helpful frame for thinking about how new educational policies may be translated into practice by teachers. Teachers may work in spaces between the letter of the policy, the procedural adoption of a practice, and the spirit of the policy, which is embodying the deeper purpose or authentic reasoning for the pedagogical approach. Therefore, to support the 'spirit' of CfW and develop a shared understanding of learning progression in Wales, the profession will need to shift from the 'letter' of CfW (eg, trying to 'show progression' because it is required) towards developing an informed and shared understanding of why particular approaches are used to support progression. To develop this knowledge base of progression, our international evidence further suggests that strong subject knowledge is needed, and this requires deep professional learning rather than only prescribed sessions of input, similar to what

our participants shared as well. Additionally, teachers need sufficient time to shift towards learner-centred practices of assessment that support progression.

What supports sustainable change during curriculum realisation and how can these approaches account for local contexts while maintaining professional and system integrity?

Our evidence suggests that CfW has been embraced positively by practitioners and offers an opportunity to reimagine practice. However, the literature review strongly suggests that balancing local autonomy and national consistency is a critical challenge in curriculum reform across the world. Policymakers may perceive increased pedagogical freedom as empowering, while teachers may view it as an added demand. The challenge of localising the national curriculum highlights the need for careful consideration of the skillsets required by teachers to engage in high-quality and sustainable curriculum design.

Our analysis of the data from the co-construction activities suggests that sustainable change in Wales requires the time and space, in an ongoing basis, for everyone to engage fully and sufficiently deeply with the new curriculum. The thinking, exchange and negotiation processes enabled during co-construction were seen by our participants as important to making sense of the complexities of curriculum realisation. Ongoing professional development, reflection and depth of thought are needed for the realisation of a new and very different curriculum. Our conversations with international experts further suggest that sustainable change requires ongoing networking for teacher professionals, climates of support, and shared understanding between policy makers, policy influencers, and policy enactors.

Resources that came from the co-constructed activities of teachers, such as the [Camau i'r Dyfodol set of resources and materials](#) developed in Phase 2, or through case studies of practice such as the ones we explored, aim to help curriculum realisation to be situated in the classrooms of schools and settings in order to account for local contexts.

How can what is learned from Phase 2 support capacity building across the system?

In this phase of the project, participants in the CCG, reinforced by conversations with our partners in Welsh Government, came to a general understanding of CfW as being most closely aligned with a process orientation. A shared understanding of the underlying orientation of CfW helps to provide a coherent foundation upon which to build practical understandings of progression. To support capacity building across the system, [Camau i'r Dyfodol practical support materials](#) were developed from the work and thinking of those involved in the second phase of project. These set of resources were created for use by individuals, schools and clusters to support a deeper understanding of CfW as a purpose-led process-orientated curriculum and to support approaches to progression in curriculum design. Our aim is that engagement with this resource can provide a 'touchstone' to help build capacity across the wider system.

The literature review on curriculum realisation highlighted the importance of sustained support, ongoing professional development, resources, and time for collaborative curriculum design as powerful avenues for professional learning and building capacity across the system. We also learned from the international evidence that capacity building takes time and benefits from space to develop practice in schools without external pressures of evaluation. Practitioners may need to first be supported to develop a knowledge of the content of the reform, then adapt it to their own context and pedagogical stances, and then finally engage in practical translation of the 'spirit' of the reform. Building on the literature review and the participant findings, the concept of design teams may be a helpful way forward to work with practitioners to support curriculum making within local contexts.

9.3 Key messages and implications

Implications for practitioners and schools

- Practitioners are working in a variety of ways to make sense of progression in learning, and this can be recognised as both a challenge for coherence in curriculum realisation and an opportunity for developing more robust practical understandings of progression.
- There was evidence among some participants in our project of a shift in understanding progression as a linear concept to a more holistic approach to progression through curriculum, assessment, and pedagogy.
- One of the largest 'knots' that practitioners collectively grappled with in this phase was incoherence in understandings and approaches across the system. During this phase, the CCG, in conversation with the *Camau i'r Dyfodol* project team and reinforced by conversations with our partners in Welsh Government, came to a general understanding of CfW as being most closely aligned with the **process orientation** curriculum model. An understanding of this may offer some clarity for understanding the aims and design of CfW, which in turn can help schools and practitioners in building more coherent practical understandings of progression.
- Importantly, we learned in this phase that off-the-shelf approaches to curriculum, assessment, and pedagogy do not appear to be aligned with the goals of CfW. Coherence is not the same as consistency—having a common shared understanding of what CfW is can allow for variations in practice across different local contexts that still share a coherent approach for practitioners and learners. Furthermore, CfW aims for teachers to be curriculum designers rather than deliverers.
- Participants in our project stressed the importance of understanding the theoretical underpinnings of the curriculum for informing the development of approaches for local contexts that are coherent with CfW. Reform takes time to understand and changing practice is difficult, and trying a new strategy without understanding its purpose may be ineffective. Building understandings of CfW as a purpose-led process orientated curriculum may require practitioners to use new language when talking about progression in learning and education in Wales more widely, as well as new approaches to curriculum, assessment, and pedagogy.
- To help schools continue in their efforts to build an understanding of CfW and its implications for supporting progression in learning, schools and education partners are encouraged to engage with the [Camau i'r Dyfodol practical support materials](#) developed in Phase 2.
- In order to make the most of this resource, practitioners may need to go through the process of co-construction themselves within their own schools.

Implications for Middle Tier and Welsh Government

- Within this phase, curricular coherence was deemed important. All education partners and organisations across the system need to be aligned in their underlying understanding of CfW. Communicating this shared understanding from the top-down is needed for schools to then have clarity when engaging in bottom-up development of practical understandings of learning progression.
- Existing messaging and guidance on CfW must be efficient, clear and coherent. Additional information and guidance are not necessarily viewed as helpful by schools and practitioners. They feel challenged to 'cut through the noise' regarding the amount of information already available to them.
- Structured opportunities need to be provided for practitioners and schools across the system to develop, reflect upon, and share their practice and approaches. These need to be shared not as an exact map of what to do, but as ways to make sense of how an understanding of CfW as a purpose-led process-orientated curriculum can be translated into practice.
- The development of trust among participants from different tiers of the education system is highlighted as a key element in the co-construction process. New approaches may need to be considered for how to re-frame accountability in ways that align with a process orientation.
- Building these understandings and coherence in curriculum realisation takes time and sense-making is not a singular event. Evaluations of practice and of curriculum development should be engaged with cautiously in order to offer practitioners a safe space to develop practice.

- To support shared understandings and coherence in curriculum realisation, support materials, resources and professional learning should aim to be coherent with CfW as a purpose-led process-orientated curriculum.

Implications for the *Camau i'r Dyfodol* project

- We learned about the vital roles of different forms of coherence and of deeper theoretical understanding that are needed, at all levels, for successful realisation of CfW. This led to the development of materials to help introduce an understanding of the curriculum model which was deemed to be most closely aligned with CfW. In turn, the purpose-led process-orientated understanding of CfW sits as a foundation for building practical understandings of progression.
- We found the concepts of co-construction and liminal space, introduced in Phase 1, to be fully active within Phase 2. The space the project and the CCG worked within was often filled with uncertainty and complexity, embodying the challenges and potential of the curriculum reform process. We also saw the benefits of using an iterative and reflective approach, which allowed us to uncover and start working through 'knots' in the process of building practical understandings of progression.
- On a practical level, we have continued to gain insight into what types of supports are needed for complex thinking, approaches for how educational partners can effectively group together, and even the timing of when practitioners should be gathered together, which will all feed into our next phase of research.

- We learned through various forms of evidence collated across this phase that practitioners and schools will need to practically apply, work through, and reflect upon the curriculum in their schools to make sense of the purpose-led process-orientated CfW. These approaches need to be supported carefully, for example, with teams of practitioners working through their practice within schools alongside one another as well as researchers and experts. This has helped to inform our upcoming approach to Phase 3 in the project.

10. References

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