CAMAU

Dilyniant Dysgu i Gymru | Learning Progression for Wales

Learning about Progression: CAMAU Research Report April 2018

Humanities

University of Glasgow

Llywodraeth Cymru
Welsh Government

Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

This research was co-funded by the Welsh Government

Learning about Progression –
Informing thinking about a Curriculum for Wales

The CAMAU team would like to thank the Professorial Advisers who supported their work: Richard Daugherty, Wynne Harlen, Jeremy Hodgen, Mererid Hopwood, Kay Livingston, Louis Volante, Nalda Wainwright and Dominic Wyse.

The CAMAU team would also like to thank the Welsh Government for the support which it has afforded the project.

In particular, the CAMAU team is grateful to members of the six AoLE (Area of Learning Experience) groups for the contributions made to the development of the thinking in this report.

Explanatory Foreword

Learning about Progression – A Research Resource Tailored to Meet your Needs

'Learning about Progression' is a suite of research-based resources designed to provide evidence to support the building of learning progression frameworks in Wales. 'Learning about Progression' seeks to deepen our understanding of current thinking about progression and to explore different purposes that progression frameworks can serve to improve children and young people's learning. These resources include consideration of how this evidence relates to current developments in Wales and derives a series of principles to serve as touchstones to make sure that, as practices begin to develop, they stay true to the original aspirations of *A Curriculum for Wales – A Curriculum for Life.* It also derives, from the review of evidence, a number of fundamental questions for all those involved in the development of progression frameworks to engage.

Within this suite of resources you will find

- **Reviews of research into progression in children and young people's learning**
  - research related to progression in learning generally and research on progression in learning specifically related to each of the six AoLEs
- **Reviews of policies on progression from other countries**
  - who have similar educational aspiration to Wales in each of the six AoLEs
- **A review and analysis of progression as it is emerging in Wales in *Successful Futures* and in *A Curriculum for Wales – A Curriculum for Life*.**

We hope that you will find 'Learning about Progression' a useful resource. We recognise that a range of audiences will want to make use of its contents for a range of purposes and thus present information from 'Learning about Progression' in different ways, leaving you to choose which form is most useful for your purpose.

1. **Learning about Progression: a comprehensive review of research and policy to support the development of Learning Progression Frameworks in Wales**

   The whole report, 'Learning about Progression' offers a **comprehensive overview of research and policy related to progression in learning in general and to progression in learning in all six AoLEs**.

2. **Diving into Research and Policy in an Area of Learning and Experience**

   For individuals or groups who are interested in finding our more about the **evidence as it relates to an individual Area of Learning and Experience (AoLE)**, a detailed report is provided for each AoLE derived from Section 2 of 'Learning about Progression'. These six reports offer an overview of research on progression, an in-depth analysis of evidence exploring how different countries have tackled progression in an individual AoLE and evidence from research on progression within the discipline. These reports are entitled *Learning about Progression: Expressive Arts, Learning about Progression: Science and Technology* etc. You are currently using this mode.

3. Learning about Progression: From Ideas to Action

If you want to identify key messages from 'Learning about Progression' and your major concern is how to **use** the ideas as you develop progression in your AoLE, then read '**Learning about Progression: From Ideas to Action'** as your first point of engagement. This provides

- **key messages** on progression relevant to all of the AoLEs
- **an analysis of how the evidence from international policy and research relates to policy advice on progression in Successful Futures and A Curriculum for Wales**
- principles that might act as a touchstone to promote a close alignment between ideas and action and
- information on the strategy used to **inform decision making** about the framework to be used to develop statements of progression.

'Learning about Progression: From Ideas to Action' is supported by

- **a series of PowerPoint slides to introduce key ideas to others**
- **Decision Tree Workshops**

The evidence emerging from 'Learning about Progression' indicated strongly that there were a number of decisions that AoLE groups had to take before embarking on the development of statements of progression. These related to the major questions derived from the research. Decision tree workshops were designed to support AoLE groups and others in that process.

Decision trees were used as the basis of workshop activities at AoLE meetings to support AoLE discussions. Each decision tree

- identified the decision to be taken
- offered evidence from the 'Learning about Progression' report (from research, policy and practice) to help inform discussions within each AoLE
- was consistent with the principle of subsidiarity and encouraged AoLE members to add to the evidence available
- provided a framework where each individual AoLE, having reflected on the evidence, agreed a decision proposal to be shared with the Coherence Group.

All proposals were reviewed to ensure that they were consistent with the vision *A Curriculum for Wales – A Curriculum for Life* and reflected what AoLE members believed would best serve young people in Wales.

Proposals from the six AoLEs were then submitted to the Coherence Group whose task was to reach agreement about which decisions had to be consistent across AoLEs to promote coherence across the system and where there could be flexibility for individual AoLEs. This would then inform the next stage of work of the AoLE groups.

Terminology within both the Welsh and English versions of this report reflects the range of current thinking about concepts of progression; this may lead to one term being employed with different but related senses and/or to one concept being referred to by different terms.

Introduction

The education system in Wales is in the process of transformation. Since the publication of *Successful Futures* (Donaldson, 2015) and the subsequent adoption of its recommendations in *A curriculum for Wales – a curriculum for life* (Welsh Government, 2015), a national strategy has been underway to build new curriculum, pedagogy and assessment arrangements to offer young people in Wales educational experiences that are fit for the 21st century. The creation of these new arrangements is the responsibility of all involved in education in Wales – communities, policy makers, practitioners and researchers – and is led by a network of Pioneer schools whose task it is to identify what matters in the curriculum and how progress might best be described and discerned. The Curriculum Pioneer schools are working in national groups related to each of the six Areas of Learning and Experience (AoLEs) – Expressive arts; Health and well-being; Humanities; Languages, literacy and communication; Mathematics and numeracy; and Science and technology. The CAMAU project, a collaboration between the University of Glasgow (UofG) and the University of Wales Trinity Saint David (UWTSD), funded by the Welsh Government and the UWTSD, seeks to support the Welsh education system in its task by providing evidence to address three main questions:

- How might curriculum, progression and assessment be described and developed in Wales to focus on learning and to promote better alignment between research, policy and practice?
- In what ways do models of curriculum progression relate to progression in learning emerging from evidence of learning and progression within schools and classrooms?
- To what extent is it possible to think of assessment as the use of evidence to enable future learning, as 'progression steps', rather than as a summary of past achievement? (And how might we avoid this focus leading to a narrowing of the curriculum?)

The focus of the CAMAU project is **progression**. It takes its starting point from *Successful Futures* (Donaldson, 2015) and *A Curriculum for Wales* (Welsh Government, 2015), builds on the work of the Progression and Assessment Group (Welsh Government, 2017) and on what the AoLE groups have identified as what matters. The project works with teachers, schools, researchers and policy makers (local, national and international) to bring different knowledge, skills and understandings together to explore how progression might best be described and developed in relation to the AoLEs and to investigate how progression steps might be most helpfully identified, described and used to support learning.

Progression matters. Since the seminal Black & Wiliam (1998) review highlighted the potential for formative assessment (or Assessment for Learning as it is sometimes called) to enhance learning, particularly amongst learners who found learning most challenging, countries internationally have sought to realise that potential in schools and classrooms. The way in which Assessment for Learning has spread has been compared to a 'research epidemic' that has 'feverishly spread into every discipline and professional field' (Steiner-Khamsi, 2004: 2). However, at best, the enactment of Assessment for Learning has been patchy (Hayward *et al*, 2006, Marshall & Drummond, 2006) and problems around the articulation of progression have been part of the problem. Wiliam & Thompson (2007) offer a framework to articulate the roles that key actors (teacher, peer and learner) play in the assessment process based on three key ideas: where the learning is going, where the learner is right now and how to get there. Implicit in this model is the centrality of progression. For example, for teachers to provide feedback that moves learners forward, they must have a conceptualisation of what matters next both for learning in the domain and for the learner. But self-

evident as that might seem, progression and its relationship to assessment and learning has proven to be a complex business. Indeed, in a recent article Baird *et al* (2017) argue that learning and assessment have been 'fields apart'. Recognising the inexorable relationship between learning and progression, Heritage (2008) argues that

> *'By its very nature, learning involves progression. To assist in its emergence, teachers need to understand the pathways along which students are expected to progress. These pathways or progressions ground both instruction and assessment. Yet, despite a plethora of standards and curricula, many teachers are unclear about how learning progresses in specific domains. This is an undesirable situation for teaching and learning, and one that particularly affects teachers' ability to engage in formative assessment.'* (p.2)

Internationally, there are areas of the curriculum where work has been done to build understandings of progression. Pellegrino (2017) argues that research undertaken on cognition and learning has led to the emergence of highly developed descriptions of progression in particular curricular areas (science, reading and mathematics) and that these can form a sound basis for assessment design (e.g. Bransford, Brown, Cocking, Donovan, & Pellegrino, 2000; Duschl *et al*, 2007; Kilpatrick, Swafford, & Findell 2001; Snow, Burns & Griffin, 1998). There are, however, other areas where work related to progression is far less well developed.

Progression as a concept is built in to *Successful Futures* through the identification of reference points (Progression Steps). The term 'reference point' is important. It establishes learning as an expedition, with stops, detours and spurts, rather than as a linear process. The progression frameworks will be central to the work of teachers and learners as they seek to enhance the learning of every young person in Wales and thus it is crucial that these frameworks are dependable. To address this challenge, the CAMAU project seeks to work with policy makers and practitioners to build progression frameworks that are, as far as is possible, evidence informed and supportive of assessment practices that are consistent with the 'spirit' rather than the 'letter' of assessment for learning (Earl, Volante & Katz, 2011; Marshall & Drummond, 2006).

Theoretically, the design of the CAMAU project builds on the work of Senge & Scharmer (2001) and on the empirically derived Integrity model of change (Hayward & Spencer, 2010). This model argues that for change to be meaningful and sustainable, project design must pay attention to three main areas:

- Educational integrity (a clear focus on improving learning)
- Personal and professional integrity (participants have a significant role in the construction of the programme, rather than being passive recipients of policy directives)
- Systemic integrity (coherence in development at all levels of the education system)

The CAMAU Project is designed in three phases. This first phase is concerned with the co-construction of an evidence-based Progression Framework. The second phase is designed to develop, review and learn from feedback on the draft Progression Framework and the third phase will trial, evaluate and review the Progression Framework in action. In all phases of this project teachers, pupils, policy makers and researchers are co-investigators with the shared aspiration of developing high quality, well-informed curriculum, pedagogy and assessment arrangements for Wales.

This report provides evidence on three specific aspects of the first phase of the CAMAU project:

- the review of how progression is described and structured within frameworks in other countries
- the review of progression in learning (in policy and research) and of evidence related to progression contextualised in each area of learning experience and
- initial work undertaken to explore teacher perceptions of progression in learning. (Evidence on teachers' and pupils' perceptions of progress will be collected throughout the CAMAU project and will be published in the final research report.)

Following this introduction that includes a description of methodology, Section 1 of the report identifies ideas about progression as they emerge in *Successful Futures* and then analyses these ideas using evidence from research on progression.

Section 2 is divided into six sub-sections, each devoted to one of the six Areas of Learning and Experience (AoLEs) identified in *Successful Futures* (Donaldson, 2015): Expressive arts; Health and well-being; Humanities; Languages, literacy and communication; Mathematics and numeracy; Science and technology. The evidence offered to each AoLE is in two parts. The first part is a review of how different countries have conceptualised and interpreted progression in that area of learning. The second part provides insights into evidence available from research on progression relevant to the specific AoLE.

Section 3 provides evidence of teachers' understandings of progression.

Section 4 draws together themes emerging from the different sources of evidence analysed and identifies decisions which require to be taken to allow the development of statements of learning progression within the AoLE.

This research report is intended to provide a dependable evidence base to inform thinking in the AoLE groups as ideas of progression are developed. The CAMAU project team throughout the project will work with AoLEs to use evidence from international curriculum and assessment documentation of how progression has been conceptualised in the research literature and in policy contexts similar to Wales. When AoLEs have identified what matters in the curriculum and have built initial models of progression, the CAMAU team will obtain and analyse empirical evidence from wider teachers' and learners' experiences of progression in schools and classrooms: evidence from teachers' perceptions of what is central to enable effective progression in their pupils' learning; and pupils' reflections of their own progression in learning. This sense checking of existing and expert models of progression is intended to promote curriculum, pedagogy and assessment arrangements in Wales that are grounded in teachers' and young people's actual experiences in learning. This work will be reported in the final CAMAU project report.

Methodology

The central purpose of the reviews of international policy and of research on progression is to provide dependable information to AoLE groups to support their thinking. Thus both the policy review and the review of research are focused and purposeful. Discussion with AoLE groups made it clear that to be useful, the reviews must be clearly focused, succinct and directly related to the task which the groups are being asked to undertake. In addition, the CAMAU project sits within the demands of a development programme operating to tight policy deadlines: all activities must be undertaken within a limited time-frame and with limited resources. This is not a situation peculiar to this project.

Dependable Evidence Summaries

The methodology for the creation of dependable evidence summaries emerges from the recently developed EPPI (Evidence for Policy and Practice Information) protocol for a rapid review of existing evidence (O'Mara-Eves *et al.*, 2016). Rapid reviews have been commonly used in Health policy contexts to inform evidence-based practice. The Welsh Government has itself used the process in an educational context, e.g. in a review of the impact of poverty on attainment (Wilson, 2011). Rapid Reviews are contentious. They are seen by some as conforming to policy timelines at the cost of rigour in the literature or policy review. More recently, rapid evidence assessments have become more common in policy contexts and the method is referred to on a number of Government websites across the UK. The Department for International Development identifies three main uses for rapid evidence assessments:

> *'[They] provide a more structured and rigorous search and quality assessment of the evidence than a literature review but are not as exhaustive as a systematic review. They can be used to:*
>
> - *gain an overview of the density and quality of evidence on a particular issue*
> - *support programming decisions by providing evidence on key topics*
> - *support the commissioning of further research by identifying evidence gaps'*

(https://www.gov.uk/government/collections/rapid-evidence-assessments -- accessed 10/07/17)

These aims are consistent with the aspirations of the CAMAU project. The challenge is to provide evidence that is dependable within the constraints identified.

Grant *et al.* (2009) suggest that if Rapid Research Reviews (RRR) are to be dependable, they need to be rigorous and explicit about their methodology and acknowledge the concessions that have had to be made to breadth and depth. The need to synthesise evidence within a limited time frame with the specific intention of informing decision making processes lies at the heart of the increased use of RRRs. Khangura *et al* (2012) argue that, despite the rise in the popularity of this approach, very little has been published on appropriate methodologies. They rename RRRs as evidence summaries and propose a methodology to increase the means by which the validity, appropriateness and utility of the review might be discerned. The authors identify eight steps developed from their Knowledge to Action programme. These steps have been adapted in the CAMAU project as the framework for the

development of the Dependable Evidence Summaries, designed to inform the thinking of AoLE groups as they tackle the complex challenge of describing progression.

Table 1: Outline of eight steps informing Knowledge to Action evidence summary approach (Khangura et al, 2012)

Knowledge to Action step	Task
Step 1	Needs assessment
Step 2	Question development and refinement
Step 3	Proposal development and approval
Step 4	Systematic literature search
Step 5	Screening and selection of studies
Step 6	Narrative synthesis of included studies (including assignment of evidence level)
Step 7	Report production
Step 8	Ongoing follow-up and dialogue with knowledge users

The Evidence Summaries in the CAMAU project have been developed as part of a process of on-going discussion with the knowledge users – each of the AoLE groups.

Progression in International Policy and Practice

The countries involved in the international policy and practice review were identified in two ways. The first priority was to identify countries of particular interest to the individual AoLE group. Second, CAMAU team members sought to select countries with aspirations similar to those identified in *Successful Futures* where different approaches to descriptions of progression were illustrated. The analysis of policy in each country followed a three-stage process:

- eliciting information on curriculum design, 'what matters' in the curriculum and how progression is described
- making summary statements of the above
- analysing information from across countries

Table 2 on the next page provides the framework for responding to questions on progression. The complete protocol can be found as Appendix 1.

Recognising the difference between policy intention and policy enactment, the final stage of this policy review went beyond the analysis of policy documentation. As part of the work of the CAMAU project's National and International Advisory Group, leading researchers in selected review countries were invited to discuss the enactment of policy in their respective countries in order to provide insights into how ideas have played out in practice. These reflections on the implementation of policy and on lessons learned add depth and texture to the information available in policy

documentation and enhance the knowledge of policy-in-action afforded to CAMAU researchers by research publications.

Table 2

Country Information
Name of Country: Year the curriculum was written/published/updated: Website(s) where materials were found:
How is the curriculum structured? e.g. Is there a curriculum document as well as achievement outcomes or are these combined? Are there supporting materials for teachers? Is there one curriculum across all ages or is it split into primary and secondary? How many stages/levels/benchmarks are included? Are they aligned with specific years?
What components/subjects/themes related to the AoLE are covered in this country's curriculum? What seems to be missing?
How does the documentation define 'what matters' in this AoLE? Does this include content knowledge, competencies, skills, etc? What is the balance between knowledge and understanding, skills, attributes, and capabilities?
How is progression defined? Is it defined explicitly or implicitly? You may need to look beyond the statements themselves at the supporting documentation and introductions to the curriculum. Give some specific quotes or examples.
Are key progression points identified as expected standards for specified ages? Or as descriptions of knowledge, skills, capabilities needed for further progression in learning? Or is it some combination?
What form do statements of progression take? Are they detailed or broad? Are they in pupil-first person language or written for the teacher? Provide some examples.
To what extent does the curriculum for this AoLE seem to align with what is written in Successful Futures? Does it seem to align with Donaldson's vision for progression? Give some examples.
Is there anything else worth noting? E.g., Is there anything particularly unique, innovative, or useful about this curriculum? Are there any aspects of the AoLE that are included in cross-curricular aims? Was there anything within this portion of the curriculum that seems to have connections with any other AoLE?

Progression in Research Literature in the Context of Policy in Wales

The review of research literature in the context of policy in Wales was undertaken in three strands

- a review of *Successful Futures* to identify what had been written about progression
- a review of seminal papers on the concept of learning progression
- six separate reviews, one undertaken for each of individual AoLE.

Whilst much has been written on curriculum progression, far less is available on learning progression. Papers for the review were identified using three approaches:

- expert knowledge (including recommendations from CAMAU Professorial Consultants - internationally recognised experts in individual Areas of Learning Experience)
- search strategies
- reference snowballing.

As reviews for individual AoLEs were undertaken by several members within each AoLE team, detailed guidance was provided. Reviewers conducted independent searches using keywords, employing Ebscohost or a similar academic database. Key terms were contextualised in each AoLE, e.g. 'progression in mathematics'; keywords specific to particular domains were identified, e.g. in Health and well-being keywords included 'child development' and 'developing'. Texts published before 2000 were excluded unless identified by Professorial Advisors as seminal texts. Wales is a bilingual country. Where possible, eg, in LLC, the review included evidence from bilingual countries. However, we recognise that most of the evidence used to inform this report has been drawn from material published only in English, that the research has to a large extent considered practice in English speaking countries and that, with few exceptions, progression frameworks examined have been drawn from countries and states in which English is the sole or a major language of schooling. This limitation has to be recognised.

When lists of possible texts had been generated, titles and abstracts were reviewed to identify potentially relevant sources. Expanded or snowball searches were also carried out where authors cited within the original sources were investigated, either by following up on articles cited or by undertaking author searches within Ebscohost. In addition to recommendations made by Professorial Advisors, CAMAU researchers sought advice from colleagues in the University of Glasgow and in the University of Wales Trinity Saint David with specific expertise in a particular area. From this range of sources, a list of all papers considered was generated by each group and the screening processes that led to the final selection of papers to be reviewed were documented.

The analysis of literature review is intended to address critical questions related to progression within a particular Area of Learning Experience. To illustrate this process *Table 3* on the next page offers an example from the review for the Health and well-being AoLE. The full protocol can be found in Appendix 2.

Table 3

Literature Review- Critical Questions
• What evidence exists that informs our understanding of progression in this domain?
• In what ways have researchers described how children develop their knowledge/ skills/ capacities in this area? In other words, how do they model progression? For example: – According to the literature, are the changes that children make qualitative jumps (with big steps at key moments) or more gradual sophistication (children seen to gradually add more of the same skills over time)? – Is progression linear or could children move backwards and forwards? – Do the researchers see children's progression as something that can be impacted on by the environment and open to change, or is it fixed? – Is there one path that children seem to take in this area, or are there multiple paths? Do the researchers acknowledge that children may have different paths based on the context in which they grow up/learn? – Are there different models of progression for the same topic and to what extent do they overlap, complement, or conflict?
• To what extent does the literature focus on how children develop in terms of their knowledge/understandings vs. behaviours/skills?
• To what extent is the progression that is described at a micro-level (for one lesson/unit) or at a macro-level (across multiple years)?
• What ages are covered when describing how pupils learn in this area? Which ages seem to be missing or receive less adequate attention?
• What is the theoretical background of the relevant literature (e.g., education, public health, psychology, etc.)? We may get some insight by looking at the journal it is published in.
• Importantly, what seems to be missing in this area? What do we still not know? Is there little research on this topic?

Building Dependable Evidence: Synthesising Sources

The evidence emerging from across the six AoLEs was then compared with the review of *Successful Futures* and the more general research evidence on progression. From this synthesis key themes were identified. These themes were then used as the evidence base to inform for the final section of this report, Learning about Progression: from ideas to action.

This central purpose of this research report, *Learning about Progression – Informing thinking about a Curriculum for Wales*, is to provide a dependable evidence base to inform the work of each AoLE. To

maximise the use of the evidence to inform action in AoLEs, the research report is available in a number of forms.

The full research report is available to all interested parties. In addition, a domain specific report has been developed for each individual AoLE. Each individualised report contains key points from:

- the introduction
- the review of *Successful Futures* and research evidence on progression as a concept
- the policy review and research review specific to the area of learning experience
- 'Decision Trees' as an enabling artefact to stimulate use of an extensive evidence base in practice: 'Decision Trees' structure evidence from the research report succinctly around key questions for use within AoLE workshops. Their purpose to promote better informed decision making.

The decision trees identify crucial questions to be addressed by each AoLE as they design a progression framework for the Welsh curriculum. Using evidence from the research report, they offer insights into how issues have been tackled in different countries and suggest some initial possible advantages and disadvantages related to each decision. They also identify relevant insights from research. Examples of decision trees can be found in Appendix 3.

Using the decision tree approach as a stimulus for discussion and negotiation, each AoLE group was invited to respond to each question, to consider evidence available from research and policy and to add insights from their own professional experience. Once the group had considered the evidence, they were invited to develop proposal to be considered by the cross-AoLE Coherence Group. The role of the Coherence Group was to consider proposals from each AoLE and to take decisions to promote consistency and coherence across the six AoLEs.

Evidence from Teachers and Learners

A central feature of the CAMAU methodology is to promote approaches to progression that are empirically informed by evidence from practice.

In line with the principles of partnership, subsidiarity and collaboration which underpin the CAMAU research project, teachers are co-researchers. While teacher participation in the curriculum development process was an expectation arising from their employment in pioneer schools, participation in related research was voluntary. Consequently, all teachers in the AoLE groups were asked and agreed to participate in this research in accordance with the ethics procedures of the two universities.

Between April and July 2017, collaborative research focused on the articulation of teachers' conceptualisation of learning progression. Evidence was generated through approaches which acted as prompts to support this articulation. The aim was to draw on teachers' practical experience to contribute to developing learning progression frameworks.

Four research questions were developed by the CAMAU team. These were designed firstly to explore evidence of teachers' understanding of progression in learning emerging from the data and secondly to consider the efficacy of different approaches to the collection of evidence of teachers' understandings of progression:

- What evidence on progression emerges from teachers' articulations of progression in learning in their classrooms?
- What are the characteristics of learning identified?
- What types of activities led to teachers articulating their understanding of progression most effectively?
- What sorts of group structures and size supported such activities?

Evidence related to the first two questions would directly inform the drafting of progression statements; evidence related to the latter two would inform later research into teacher views to further develop these statements and to offer insights into processes of sustainable change.

The CAMAU team developed three principal approaches to gathering evidence relevant to the first two questions. It was agreed that the approach(es) used in each AoLE would recognise the views of teacher participants and would be reviewed in the light of evidence related to the latter two questions. The CAMAU team adapted tasks to take account of the broad direction of developing thinking within each AoLE about what matters.

Approach One – Time1-Time(n) (see Newby, 2010)

Teachers were supported to articulate typical learner progress across a period of time; the number of stages (i.e. T1-T2, T1-T3) used was determined by the perceived requirements of each AoLE. The fundamental questions posed took the form of:

- T1 - Can you describe what, in general terms, you expect a learner to know, understand and be able to do at a start time (e.g. the beginning of the year)?
- T2 - Can you describe what, in general terms, you expect a learner to know, understand, and be able to do at an end time (e.g. the end of the year)?

A variant of this approach explored progression made by three individual young people in a class as they moved through a phase: one who finds little challenge in relation to expectations; one who generally achieves expectations; one who finds expectations challenging.

Approach Two – Evaluation of progression in other countries' frameworks

Teachers were asked to examine critically aspects of frameworks from other countries. This afforded opportunities for teachers to review, from a relatively disinterested stand-point, policy and practice and to articulate views on models of progression, broad progression steps and appropriate language.

Approach Three – CoRe (Content Representation) (see Eames et al. 2011; Loughran et al. 2004)

This approach involves identifying areas of knowledge or skill that seem central to learning in an AoLE and for each of these areas responding to questions such as:

- What do you intend young people to learn about this idea or skill?
- Why is it important for them to know this?
- What prior or related knowledge do learners have of this idea or skill?

- What difficulties / limitations may be associated with progression in developing this idea or skill?
- How do you ascertain learners' progression or difficulties in developing this idea or skill?

Findings from this early stage of teacher research are reported in Section 3.

Section 1: Progression – Welsh Policy and Research Insights

Progression in learning is crucial to the realisation of the aspirations of *Successful Futures* and it is essential that progression as developed across the AoLEs is well informed. As indicated in the Introduction, the evidence to promote well informed ideas of progression in learning comes from different sources. This section of the report reflects on two sources of evidence: evidence from policy – what *Successful Futures* says about progression – and evidence from research – an analysis of research on progression.

Evidence from the Policy Context in Wales - Donaldson, Progression and Learning

The concept of progression is at the centre of the new curriculum in Wales. It structures, describes, and enables learning. Donaldson's use of the term represents a shift in discourse that aims to restructure the learning experience for pupils, from discrete and generalised stages of attainment, to a **learning continuum** of individual achievement. Within this new structure, each learner moves forward fluidly through statutory education from age 3 to age 16, guided as appropriate by reference points, supported and challenged according to his/her needs, and assessed in relation to the four purposes of the curriculum.

The four purposes describe what all children and young people should become and achieve through statutory education as well as how they are perceived and positioned as they experience the curriculum.

Recommendation 2 (p.23) states:

> *'The school curriculum should be designed to help all children and young people to develop in relation to clear and agreed purposes. The purposes should be constructed so that they can directly influence decisions about curriculum, pedagogy and assessment'.*

This follows the argument that:

> *'statements of curriculum purpose need to be formulated carefully so that they have integrity, are clear and direct and become central to subsequent engagement and development; in that way they can shape the curriculum and suffuse practice. Common understanding of **why** we are doing what we are doing is a powerful starting point from which to determine **what** it is we need to do and **how** we are going to do it.* (p.22, author's emphases)

The purposes tell us about how children should experience their curriculum day to day. Learners progress to become more ambitious, capable, enterprising, creative, ethical, informed, healthy, confident individuals. Progression is characterised in terms of depth, complexity, level of abstraction, accomplishment and skill, for disciplinary knowledge and wider competencies, and each child's learning continuum functions as a journey through the curriculum. This journey will include diversion, repetition, and reflection, as appropriate for each individual to make progress in learning. There is greater responsibility for teachers to ensure child-centred learning to ensure effective learning takes place, since the pace of each journey is set according to the requirements of the learner.

Discerning the progress being made by each child is fundamental to establishing learning. While the concept of progression shifts control of the curriculum into the hands of the schools, it also shifts assessment from generalised phases and stages, to a greater focus on the evaluation of learning from the perspective of the child: a shift from 's/he should' to 'I can'. This means all children and young people can travel on the same continuum, regardless of any Additional Learning Needs. In the new curriculum, assessment is purposeful and designed to support the progression of each child's learning: what does each child need in order to move forward, what difficulties might s/he have, what are the next steps and how might these next steps best be supported?

Assessment is the means by which teachers seek to discern progress and to identify what is most important for future learning. Progression, and therefore achievement, in Donaldson's terms is positive, beginning from the child or young person's point of departure. Progression describes a forward movement for each learner which is not necessarily linear and which does not end at a given age or stage. Throughout the Donaldson Review, learning is conceptualised as growth. Learners build on previous knowledge/skills/competencies/dispositions in a continuous journey across and within the Areas of Learning and Experience.

Learning is defined through the concept of progression, which is represented as a coherent continuum without separation or interruption. The continuity that the new curriculum places at the centre of learning describes a holistic approach to the development of the individual, including experiential learning that is valuable in and of itself. Learning is the end goal of the education system. The learner is at the heart of the process and a fundamental element of the curriculum is choice. Learners are encouraged to take responsibility for their own learning, to become pro-active, and teachers are encouraged to ensure learning is meaningful and 'authentic', so that it has real world relevance.

What Successful Futures says about Progression

The term progression occurs 116 times in Successful Futures. Additional Document 1 provides a list of each occasion when the word progression is used and an analysis of the different contexts for the idea of progression. In *Successful Futures* (2015) the four purposes provide 'coherence, progression and flow' to learning intentions (p.21). Significant emphasis is placed on manageability:

> *'Having common Areas of Learning and Experience from 3 to 16 should promote and underpin continuity and progression and help to make the structure easier to understand'* (p.39).

Successful Futures presents a clear vision for progression

1. Phases and key stages should be removed in order that progression can be continuous, increasing the potential for higher attainment by minimising transitions.
2. Progression in each Area of Learning and Experience should be based on a well-grounded, nationally described continuum of learning that flows from when a child enters education through to the end of statutory schooling at 16 and beyond.

3. Learning should be an expedition, with stops, detours and spurts rather than a straight line. Progression is a 'road map' for each and every child/young person's progress in learning though some children and young people will progress further than others.
4. Progression Steps will be described at five points in the learning continuum, relating broadly to expectations at ages 5, 8, 11, 14 and 16 (staging points for reference rather than universal expectations – but expectations should be high for all learners).
5. Progression Steps are made up of a number of achievement outcomes linked to what matters in the curriculum and linked to the four purposes ('I can' statements). Literacy, numeracy, digital competence and wider skills should be embedded as well as elements of the Cwricwlwm Cymreig.
6. Achievement Outcomes should not be a checklist of knowledge or skills and should incorporate effective pedagogy.
7. Achievement outcomes should inform next steps and be framed as broad expectations achievable over a period of time (approximately 3 years).
8. Achievement Outcomes should use 'I can', 'I have' (and 'I am ready to') statements to describe progression (not over specified or overly vague – this may vary across AoLEs).
9. Assessment (relevant and proportionate) should be focused on learning intentions and progression in relation to the four curriculum purposes and based upon the intentions set out in the Achievement Outcomes at each Progression Step within each Area of Learning and Experience. In each AoLE the Achievement Outcomes at each Progression Step will need to encapsulate the most important aspects of learning, take account of the ways in which children progress in different kinds of learning and recognise what they need to be able to know and do to move securely to the next stage.
10. Professional judgement is central to assessment (formative assessment with relevant summative information collected and used formatively within classrooms and schools).
11. Schools should use teacher assessment of progression systematically, together with other sources of evidence, to inform their self-evaluation for school improvement purposes.

The ideas presented in *Successful Futures* form the principles from which curriculum, progression and assessment in Wales should be developed and offer a touchstone against which emerging proposals can be evaluated.

Evidence from Research – an Analysis of Research on Progression

The inter-relationship of curriculum, assessment and pedagogy is recognised as being at the heart of learning. Yet, Wyse, Hayward & Pandya (2015), analysing the state of the field internationally, suggested that all too often research has focused on these as different fields leading to a lack of alignment in how curriculum, assessment and pedagogy are experienced in learning. This theme was developed by Wiliam (2017:1) who argued that theories of learning and theories of assessment lack connection because assessment and learning are trying to do different things and each field has been inward looking in identifying and addressing challenges. *Successful Futures* (2015) recognises the importance of promoting a strong relationship between curriculum, assessment and pedagogy. The policy states clearly that everything in education in Wales should be driven from the curriculum: the identification of what matters for a person to be considered educated. What matters in the curriculum in Wales is being identified by the Pioneer Schools in each AoLE. This research review

begins from that premise and explores how progression and assessment might emerge in relation to what matters.

Curriculum, Progression, Pedagogy and Assessment – a Coherent Whole

Built into every curriculum internationally is a notion of learning development but there are different ways in which this can be done. Some countries seek to describe outcomes in different areas of the curriculum through the specification of standards commonly related to ages and stages on development in schools. The aspiration is that by specifying standards, these will become teachers' expectations and student performance will improve. Yet concerns have been raised that many of the statements of standards do not provide the information necessary to achieve that aspiration and are not helpful in developing an understanding of where students are in relation to what might be regarded as desired goals (Heritage, 2008). This lack of clarity can lead to problems emerging between curriculum and learning, for example, teachers may find these statements of standards difficult to use for formative assessment purposes – where the learning is going, where the learner is right now and how to get there (Wiliam & Thompson, 2007). Learning progressions offer the potential to support learning more effectively as they offer teachers the opportunity to relate learning in their class to learning undertaken in previous and learning to be undertaken in future classes. They can make connections between prior and future learning and use information from formative assessment to discern where students' learning lies, allowing them to relate teaching more specifically to what matters and, crucially, to what matters next. Heritage (2008) suggests that '*Explicit learning progressions can provide the clarity that teachers need'.*

Heritage (2008:2) also suggests that greater attention should be paid to the different levels of specificity used to articulate the curriculum. Some curricula specify detailed objectives to be mastered at each grade in sequence. When the curriculum is described in this level of detail, its 'grain size', it may be difficult to see how these discrete objectives connect to bigger, organising concepts and learning can become little more than a checklist of things to be learned. Curricula organised around core concepts or 'big ideas' and sub-concepts offer better opportunities for a stronger relationship between assessment and learning goals: assessment for formative purposes. However, Heritage (ibid) argues that care also needs to be taken with this approach for too often 'big ideas' are not brought together as a coherent vision for the progressive acquisition of concepts and skills. Without a coherent vision the potential for teachers to have a broad overview of learning in a specific domain is restricted. Broadly speaking, learning progressions differ in the span of the progressions and the degree of granularity in their description. Some models present a learning progression as almost a unit of work, whilst others, such as spelling, span several years. Often, the shorter the span, the greater the detail and specificity.

The work of Black *et al.* (2011:74) develops the idea that having a coherent model of progression that is closely linked to assessment and pedagogy will effectively support learning. They conclude that progressions are essential to high quality learning and teaching.

> *'One essential ingredient for a teacher is to have in mind an underlying scheme of progression in the topic; such a scheme will guide the ways in which students' contributions are summarized and highlighted in the teacher's interventions and the orientation the teacher may provide by further suggestions, summaries, questions, and other activities.'*

Pellegrino *et al.* (2012) offer further insights into what is important in the assessment process, a process he describes as reasoning from evidence, and how assessment might relate to curriculum and pedagogy. He identifies three interconnected elements that should underpin any assessment and conceptualises these as an assessment triangle whose three sides are:

- a model of student cognition and learning in the assessment domain
- a set of assumptions and principles about the kinds of observations that will provide evidence of competences
- an interpretation for making sense of the evidence

Whilst all three elements are essential, in a later article (2017:361), Pellegrino argues that often the critical cognition component is missing. The focus of learning should be determined as far as possible by models that describe *'how people represent knowledge and develop competence in the domain of interest'*. This, he suggests, is a distinguishing feature of an evidence-based approach to assessment design, where the most important aspects of student achievement are identified, aspects which then become the focus for '*inferences'* and which should '*provides clues about the types of assessment tasks or situations that will elicit evidence to support those inferences'.*

Although most work on learning progressions has been carried out within domains, deeper understanding of what is important to improve learning may require work to be undertaken across domains. Some more recent studies have begun to explore learning progression across domains. An example of this is to be found in Wylie *et al* (2017 in press) where the researchers sought to build companion learning progressions in mathematics and language. They argue that analysing mathematics and language learning progressions together offers a more detailed and nuanced picture of progression to inform teaching and formative assessment. By focusing on both mathematical knowledge and the discursive skills required to share that understanding, the researchers moved thinking from right versus wrong to a deeper understanding of the ways in which pupils were developing competences in mathematics and language. The application of content and language progressions, they suggested, provided teachers with a deeper understanding of the interaction of mathematical knowledge and language proficiency.

What are Key Characteristics of Learning Progressions?

Mosher & Heritage (2017:1) define Learning Progressions as

> *'inferences or hypotheses describing the order of definable steps, stages, or levels that students' understanding and skill in a subject or discipline are likely to go through over time in response to instruction and experience as they reach the levels of understanding and skill that are the goals of instruction.... The inferences should be based on empirical evidence from student work, assessment performance, responses to clinical interviews, or other observations by teachers or researchers. They may describe likely steps or growth paths in the context of typical instruction, or they could describe what becomes possible with more effective instruction.'*

Learning progressions are pathways along which students are expected to progress. These pathways or progressions are the basis of teaching and assessment. Learning progressions can be conceptualised in different ways but as part of a review of a range of different approaches to learning progressions, Heritage (2008) identified certain common features.

- All models conceptualise progression as a continuum of increasing sophistication of understanding and skills as young people move from 'novice to expert'. (p.4)
- No definition contains references to grade or age level expectations, in contrast to many standards and curriculum models. Instead, learning is conceived as a sequence or continuum of increasing expertise.
- Learning progressions adopt a developmental view, inviting teachers to conceptualise learning as a process of increasing sophistication rather than as a body of content to be covered within specific grade levels.
- Progression also implies a sequence along which students move incrementally from novice to more expert performance. Implicit in *progression* is the notion of continuity and coherence. Learning is not seen as a series of discrete events, but rather as a trajectory of development that connects knowledge, concepts and skills within a domain.
- Learning progressions are accommodating. They recognise that students do not move forward at the same rate or with the same degree of depth and progression and see this as an expected part of learning.
- Learning progressions enable teachers to focus on important learning goals paying attention to what a student would learn rather than what a student would do (the learning activity). The learning goal is identified first and teaching, pedagogy and assessment are directed towards that goal. 'Consequently, the all too common practice of learning being activity driven rather than driven by the learning goal is avoided.' (p.5)
- Learning progressions are an important part of assessment to support learning. Clear connections between what comes before and after a point in the progression offers teachers a better opportunity to calibrate their teaching, to address misunderstandings or to develop skills as revealed by assessment, and to determine what important next steps would be to move the student forward from that point.

Further key features of learning progressions are identified in the work of Duschl *et al* (2007) and Pellegrino (2017). Duschl *et al.* (2007) suggest that a distinctive feature of learning progressions is the evidence base from which they are developed. They define learning progressions as evidence based hypotheses about how students' understanding and ability to use core concepts and explanations become more sophisticated over time. These hypotheses represent the pathways that young people are likely to follow as they make progress. These pathways should be empirically tested to ensure that they relate closely to how most students experience progression and should be empirically evaluated to determine their efficacy to discern whether or not lead to better learning.

Pellegrino (2017) suggests that although learning progressions are not developmentally inevitable, they may be developmentally constrained. He suggests that numerous progression paths are possible and that progress rather than being linear may be more like 'ecological succession' (p.362). A learning progression offers one or more possible paths but 'does not represent a complete list of all possible paths'. In addition, at any point in the process, an individual may demonstrate thinking and/or practices that could be considered to be at different points on the path. Mosher & Heritage (2017) support this view, adding an optimistic view of learning progressions which suggests that there is a small number of likely paths, that the steps along the way are clearly distinguishable and that they represent understanding and related skills which are stable for reasonable periods of time. They also re-emphasise the complex nature of the progression concept, its non-linear pathways, its confusions and regressions as learner thinking develops over time to new levels of sophistication.

The inter-relationship between the learner and progression is further complicated by regressions that can occur in particular circumstances, e.g. stress or challenges that feel to them to be too great. This approach may align more closely with Bruner's spiral curriculum than any model of linear learning, building on the hypothesis that '*any subject can be taught effectively in some intellectually honest form to any child at any stage of development*' (Bruner, 1960*:* 33). Pellegrino (2017) argues that there is a clear connection between progress in learning and the quality of teaching to which the young person is exposed. High quality curriculum and pedagogy are essential for optimal progression as is the teacher's confidence in dealing with the complexities of differentiated instruction.

Learning Progressions and Audience

There is a further characteristic of Learning Progressions worthy of consideration: the audience. Many learning progressions are written primarily for teachers and tensions can arise if a single learning progression attempts to serve too many purposes. For example, Heritage (2008) draws attention to the problems that can arise if it is assumed that the same degree of granularity will serve both planning and assessment. The degree of granularity in a learning progression designed to ensure that teachers have an overview of progress from novice to expert is very different from the degree of granularity necessary to enable teachers to support learning formatively: the latter would require a far more detailed analysis of progress in learning. She proposes that a possible way to deal with this issue would be to have different learning progressions serving different purposes. An overview learning progression to offer a multi-year picture of the journey from novice to expert. These could then be linked to learning progressions related to each of the key building blocks of what matters in the curriculum. These more detailed learning progressions would support teachers in formative assessment whilst their relationship to the multi-year learning progression would allow them to locate their own work in the bigger learning picture. This could also be helpful in offering support to teachers who are working with young people whose learning is outside the range of normal expectations for the group or year with whom they are working.

Learning progressions can also be written in ways which provide a framework for learners to understand the learning journey they are on. Heritage (2008) argues for the importance of learners being aware of longer term goals and the relationship between those and their day to day progress. It is unquestionably desirable for students to know what the longer-term goal is or what the final product of the learning will be. Increased involvement in learning occurs when teachers share with the students what their longer-term goals are and enable them to participate in evaluating the degree to which they have met the goals. The changing role of the learner within social constructivist and sociocultural theories of learning is highlighted by Baird *et al.* (2014, 2017). Within these overlapping theories, there are common learner characteristics. Learners are active in the learning process, involved in self and peer assessment, in social processes and interactions where there is a changed 'contract' around learning. If the aspirations for this new relationship, this new contract between the learner and society, as articulated in Baird *et al.* (ibid) are to be fulfilled, there are implications for the level of transparency in curriculum, progression, pedagogy and assessment. Learners need deeper and more meaningful understandings of what matters in learning and a voice in what matters. They would have the right to understand the longer-term journey in the domain being studied and the responsibility to work with teachers and others to engage in learning

processes and, crucially, in assessment as part of learning. Learning progressions are a crucial part of this process.

Progression and Assessment

There is strong research evidence that approaches to formative assessment can and do improve learners' attainments (Black & Wiliam, 1998; Wiliam *et al.*, 2004). Black *et al.* (2011) suggest that these approaches are based on principles of learning well informed by cognitive research. They define the principles as

- *'Start from a learner's existing understanding.*
- *Involve the learner actively in the learning process.*
- *Develop the learner's overview, i.e. metacognition – this requires that students have a view of purpose, have an understanding of the criteria of quality of achievement, and self-assess.*
- *Emphasise the social aspects of learning (i.e. learning through discussion) as these make a unique contribution.'*

There are strong areas of overlap between this definition and Heritage's (2008) conceptualisation of formative assessment:

- eliciting evidence about learning to close the gap between current and desired performance (Pellegrino (2001) would describe this as drawing inferences);
- providing feedback to students; and
- involving students in the assessment and learning process.

Both definitions privilege the role of the learner in learning and assessment.

Black *et al*. (2011) make a strong case for the centrality of teacher assessment. They suggest that teachers' in-classroom assessments offer opportunities to achieve far better standards of validity than national or state tests. The evidence they generate is richer and more meaningful. However, they caution that significant professional development (2001:106) is necessary, for teachers' professional judgements to be both valid and reliable. The authors present five steps essential to the design and implementation of any learning exercise. The exercise must have strategic aims that involve understanding concepts and methods of a subject or developing reasoning skills. Teaching has to be planned, involving what the authors describe as choosing the tactics for realising the strategy in order to '*help build a picture of learners' existing understanding, especially with respect to the learner's location on the learning progression, so that the next challenge can be framed to take that understanding further'* (2001:77). The plan then has to be implemented, reviewed and summed up. The researchers argue for the importance of a curriculum as an evidence-based model of the paths through which learning typically proceeds used to inform both pedagogy and assessment. These 'road maps' they describe as central for all five steps outlined above. And they offer an example of a road map for the scientific concept 'atomic-molecular theory of macro properties'. Through this example, the authors suggest that we can create roadmaps by synthesising several sources of evidence (2011: 85)

- research results about common pupil misconceptions
- internal logic of the concepts involved
- indications from learning theory about difficulty of the types of thinking involved

- results from assessment items that indicate problems/possibilities with the topic sequence

They argue that, although previous qualitative studies on this topic provide rich understandings of progression of learning, they are limited by the specific contexts in which they were developed. They propose larger scale and longitudinal studies to deepen understanding of trajectories of change of individuals.

Black *et al*. (2011) argue that progression is needed for formative assessment:

> *'(a) to formulate a task or test so that the responses can provide evidence of learning progression, (b) to formulate helpful comments, tailored to the individual needs of each student, and (c) to give clear guidance on how to improve, all require a clear road map, that is, a view of the learning aim and of the steps along the route, or routes, that the student needs to take to get closer to the aim in light of his or her position en route.*' (p. 75)

Pellegrino (2014, 2017) supports this view. He suggests that learning progressions are helpful ways to think about the assessment of student learning. Like Black *et al* (2011), he argues that learning progressions should contain multiple elements, including *Learning Performances.* These he describes as

> '*the kinds of tasks students at a particular level of achievement would be capable of performing. They provide specifications for the development of assessments by which students would demonstrate their knowledge and understanding. Such assessments allow one to observe and infer students' levels of competence for major constructs that are the target of instruction and assessment within and across grade levels. Thus, an adequately specified learning progression should include an approach to assessment, as assessments are integral to learning progression development, validation, and use'* (2017:362).

He also concludes (Pellegrino, 2017:363) that when detailed maps of learning progression exist at grain sizes to support teaching and assessment, these will form a conceptual base that can be used as evidence of longer term growth and change, evidence currently collected through large-scale assessments. This will improve the validity of the assessment because there is a clearer idea of the construct being measured and the level at which student learning and performance is understood.

In conclusion

There is recognition in both policy in Wales and research of the importance of learning being articulated progressively. Although in Successful Futures (2015) this is described as a *learning continuum* and in research as a learning progression, these terms share many common characteristics. For example,

- Curriculum, assessment and pedagogy should be seen as an integrated whole
- Progression should be continuous
- Progression is not linear
- The journey from the point a young person transitions into the curriculum until the point where the young person transitions into life beyond school education should be sufficiently clear to allow both teachers and learners to make sense of how day to day activities relate to the learning journey over time.

- Assessment for learning has the potential to enhance young people's learning but there are a number of areas to be considered as part of curriculum and assessment innovation if this potential is to be realised

The key messages emerging from the review of all the evidence sources examined in this research report and possible implications for how evidence from policy and research might influence emerging practice are considered in the next section of this report.

Humanities: Review of Frameworks

This report synthesises findings from an examination of national examples of curricular progression in the Humanities. The following factors informed our country selection:

- the curriculum includes a model of progression
- recommendations from professorial consultants
- curricular materials provided in English, and when possible, bilingual contexts.

The following countries/regions were examined: Alberta (Canada), Australia, British Columbia (Canada), New Zealand, Northern Ireland, Ontario (Canada), Scotland and Singapore.

This report is organised into the following sections synthesising findings on:

- how the curriculum is structured
- what matters in the Humanities area
- how progression is conceptualised
- the form and wording of progression statements
- a note about religious education.

Weblinks to further information for each country are provided in Additional Document 4.

Structure of the Curriculum Frameworks

The countries that we reviewed differ in how their curricula are structured, including in the labels used, in whether there are separate frameworks for different stages of schooling, in the number of levels of progression and in whether there are learning outcomes specified for each year or grade, and in the extent to which different Humanities subjects are taught separately or as one learning area.

One element of the curriculum structure with implications for learning progression is the number of levels included in the Humanities curriculum and whether the levels and their associated learning outcomes are specified for each grade or age. New Zealand, Northern Ireland, and Scotland do not have levels tied to specific grade levels. New Zealand has 8 levels, called stages, and each stage covers several years with a clear recognition that some pupils may attain stages earlier or later than expected. Northern Ireland and Scotland both have a total of 5 broad levels spanning early years through to the end of compulsory schooling. Scotland's documentation makes it very clear that students do not need to be at a certain age within a certain level, while Northern Ireland's stages seems to be more closely tied to ages. On the other hand, Ontario, Alberta, Australia and British Columbia specify learning outcomes for each grade or year level. Arguably, when learning objectives are tied to a grade or age then there is a risk of pressure to cover a particular set of standards by a particular time, rather than concentrating on student learning.

A second distinction is in the extent to which there is a separate curriculum for primary and secondary levels. Scotland has one curriculum that spans all levels of schooling with no clear division between primary and secondary. Ontario, Australia, Alberta, Northern Ireland, Singapore and British Columbia have separate elementary and secondary Humanities curriculum. For example, Northern

Ireland has the *World Around Us* at foundation and key stage 1 and 2, and *Environment and Society* at key stage 3 and 4. In British Columbia, there is one Social Studies curriculum from Kindergarten through grade 9 which is currently transitioning in to a new curriculum for secondary level (10-12). The curriculum emphasises acquiring and developing key disciplinary thinking skills built around six major historical and geographical thinking concepts: significance, evidence, continuity and change, cause and consequence, perspective and ethical judgement. Students are expected to study key topics including Canadian society and identity, Canadian history, world history, Canadian and world geography, Canadian politics and government as well as major economic systems. In Singapore the humanities are taught through *Social Studies* (geography and history) and *Civics and Moral Education* (incorporating religious education*)* in primary schools and through specific subjects in secondary schools for example Geography. There are also two distinct curriculums for each subject in secondary, for example Lower Secondary History and Upper Secondary History (British Columbia Government, 2016/2017). New Zealand provides a combination where subject specificity emerges around level 6 out of 8; however, New Zealand's curriculum is presented in a coherent way as part of one overall learning area with achievement outcomes listed in one location for all levels. Having separate curricula and/or assessment guidelines for different stages of schooling may have implications for learners' transition into secondary school and for the extent to which the separate curricula complement one another.

Countries also differ in the extent to which the learning outcomes cover the entire Humanities area or are subject specific. Where subject specificity exists, it often emerges in secondary school. New Zealand has a single Social Studies learning area through levels 1-5, and then separate subjects of Geography, History, Sociology, and Economics through levels 6-8. Australia adopts the same approach as: the area is called Humanities until year 8 and thereafter separated into separate subjects of History, Civics and Citizenship, and Economics and Business. Northern Ireland uses common theme names for the learning area, although within the last key stage there are separate guidance documents for history and geography. Ontario stands out as having a curriculum that increases in fragmentation at multiple levels. There is a single subject called Social Studies for grades 1-6; this is split into History and Geography in grades 7-8; and then further split into Economics, Geography, History, Law, and Politics (within an umbrella area called *Canadian and World Studies*) by grade 12. At the secondary level there is also a Business subject and a separate learning area called *Social Sciences and Humanities* that includes equity studies, family studies, general social sciences, philosophy, and world religions. The proposed secondary draft curriculum in British Columbia (to be implemented in 2018/19) also has a single subject called Social Studies for grade 10-12, although in grade 12 there are separate learning areas such as Genocide Studies, Asia Studies, Social Justice, Law, and Comparative World Religions. Religious education, included in Humanities within Wales, is a separate learning area in Scotland and Northern Ireland and not included as a major learning area in Australia, Alberta, New Zealand and Singapore**.** In Singapore, for example, Civics and Moral education was introduced in 1991 to replace religious knowledge and is no longer a compulsory subject. However, the Civics and Moral education syllabus strengthens inter-ethnic and inter-religious tolerance, instils a deeper sense of civic and social responsibility and fosters stronger commitment and loyalty to the nation. In British Columbia, religion is included only in grade 7 and 8 as a topic; as an example, in grade 7, '*representations of the world according to the religions'* is tied to the content section titled, '*origins, core beliefs, narratives, practices, and influences of religions, including at least one indigenous to the Americas'*.

Two of the countries reviewed have one interdisciplinary Humanities learning area that remains throughout schooling. In Scotland, there is one subject called Social Studies across all levels, as history and geography are included in the progression steps in an integrated fashion. Similarly, in Alberta, there is one subject called Social Studies throughout all of schooling. Although the online resources are separated into K-6, 7-9, and 10-12, the learning area retains an integrated nature as defined in the Alberta documentation: 'an issues-focused and inquiry-based interdisciplinary subject that draws upon history, geography, ecology, economics, law, philosophy, political science and other social science disciplines.'

What Matters

There are interesting distinctions in 'what matters' within the Humanities area across countries that have implications for decisions related to modelling progression. One element is the balance between Humanities skills and content, which seems to be fairly balanced in the countries that we reviewed. For example, Australia gives equal weighting to 'inquiry and skills' (what students should be able to do) and 'knowledge and understanding' (what students are expected to understand). The Humanities and Social Sciences achievement standards listed for each grade level include a paragraph devoted to each. This is similar in the Singapore curriculum with the focus of the learning outcomes based on knowledge and understanding, skills and values and attitudes. In British Columbia as well, there is a reasonable balance between understanding, competencies and skills. The primary goal of Social Studies education is to provide students with the knowledge, skills and competencies necessary to be active, informed citizens. As such, all areas of learning are based on a 'Know-Do-Understand' model to support a concept-based, competency-driven approach to learning. The Content, detailing with the essential topics and knowledge at each grade level, constitutes the 'Know' of the Know-Do-Understand model of learning. The subject-specific curricular competencies, underpinned by core competencies, are the skills, strategies, and processes that students should develop over time and reflect the 'Do'. For example, the learning standards within *Global Issues and Governance* in grade 6, has a clear curricular competency (e.g. '*Develop a plan of action to address a selected problem or issue')* and related content (e.g. Grade 6: global poverty and inequality issues, including class structure and gender). Furthermore, throughout the Social Studies K-9 curriculum, most of the Content and Curricular Competencies have Elaborations that take the form of key skills, key questions, and sample topics (Ministry of Education, British Columbia, 2015).

There is a tendency to emphasise the 'inquiry' skill across countries. in New Zealand the Social Sciences learning area highlights the 'social inquiry approach' which includes sub-skills such as asking questions, gathering information, exploring perspectives, and reflection and evaluation. In Singapore, 'inquiry' is used as a pedagogy for developing historical and geographical understanding, for example, 'the use of historical inquiry is … at the heart of history instruction and learning, and students must be provided with the opportunities to learn the skills required through practice and engagement in historical inquiry.' British Columbia also adopts an 'inquiry and question based approach' in which learners are encouraged to form questions that can provide teachers with insights into their thinking. Throughout the Social Studies curriculum, learners examine big, open-ended questions so that they can make informed decisions.

As another example, Ontario has a strong focus on the 'inquiry process' which includes five elements:

- interpret and analyse
- gather and organise,
- formulate questions,
- evaluate
- draw conclusions and communicate.

Each of these five elements or skills is applied to subjects such as geography and history, with specific ways listed to describe how students can approach each element of the inquiry process within the subject area.

A second point for consideration of 'what matters' in Humanities is the extent to which there are 'big ideas' that drive the area and whether these are subject-specific or broad.

- In Scotland, the Social Studies 'experiences and outcomes' lay out some key areas of progression, for example, evaluating evidence, understanding local environment, personal responsibility, understanding the weather and climate, what it means to be a citizen, managing money, and more (22 ideas in all).
- In Singapore, a thematic approach, structured along the key themes of identity, culture and heritage and people and environment, frames the primary syllabus, with the syllabus organised into three broad clusters titled Discovering Self and Immediate Environment, Understanding Singapore in the Past and Present, and Appreciating the World and Religion We Live In. However, these are not as visible in the secondary syllabuses.
- Australia has four 'key ideas' that underpin their Humanities area, for example, one is 'How societies and economies operate and how they are changing over time.'
- Ontario's Humanities curriculum for Grades 1-8 has *Big Ideas* that underpin the content and learning (e.g. for 'cause and consequence' in social studies, the big idea is that 'global issues require global action').
- Ontario also has more specific big ideas at each grade level, for example at Grade 4 under the strand 'heritage and identity: early societies' there are big ideas such as 'By understanding the past, we can better understand the present' and 'The environment had a major impact on daily life in early societies'. Important to progression is the extent to which a big idea seems to be integrated across learning stages, in other words, whether there is a map of the progression of learning that leads to the development of these important big ideas in the Humanities.
- In British Columbia, 'big ideas' consist of generalisations, principles and the key concepts important in an area of learning. The big ideas are understood through activities that examine content topics through the use of key disciplinary skills found in the Curricular Competencies. They are intended to endure beyond a single grade and contribute to future understanding. Within the learning standards '7th Century to 1750' in grade 8, two of the big ideas are '*Human and environmental factors shape changes in population and living standards'* and '*Exploration, expansion, and colonization had varying consequences for different groups'* (British Columbia Government Core Competencies, n.d.).

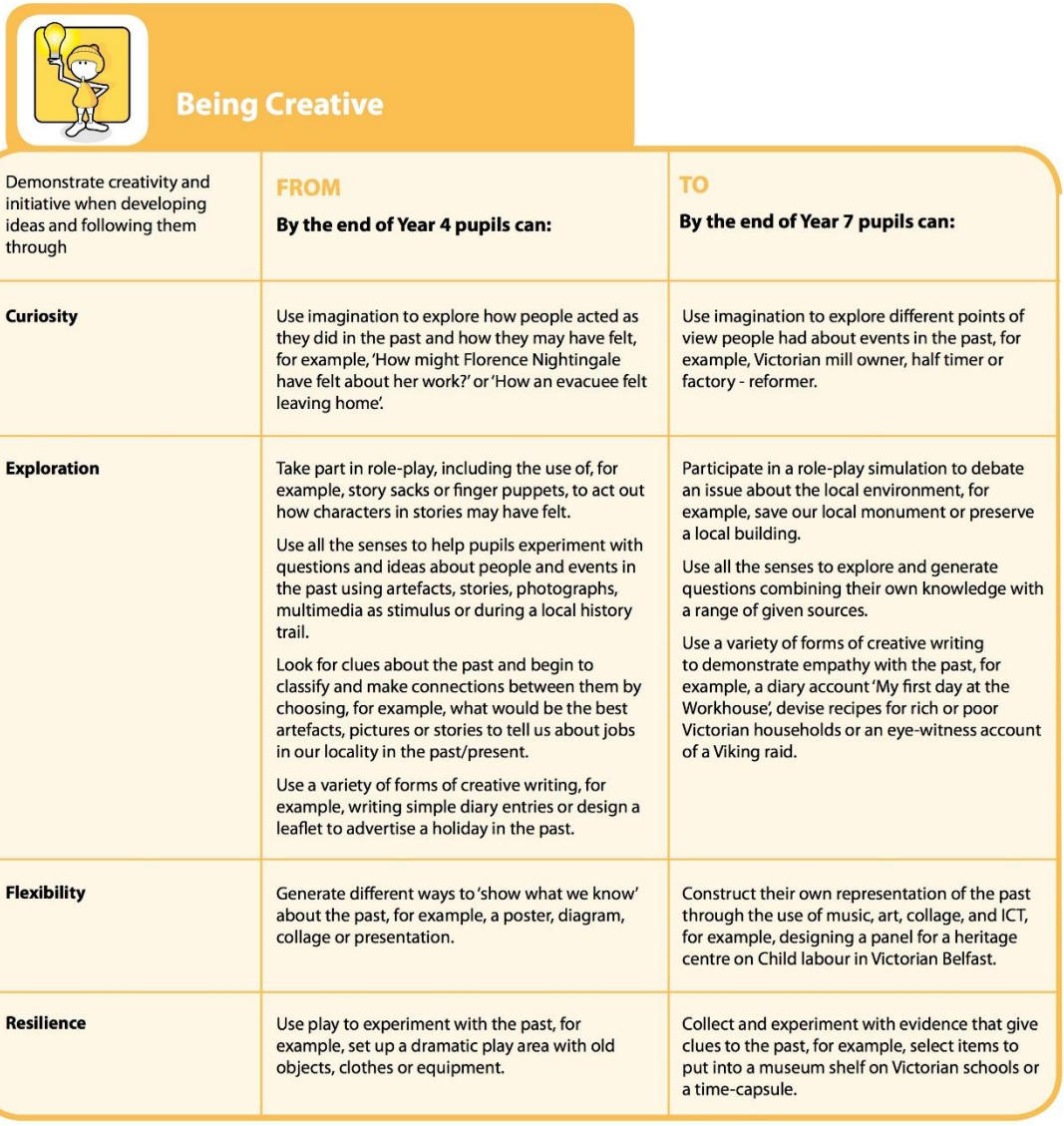
Many of the Humanities curricula reviewed also contain competencies or broad conceptions. Some are cross-curricular and expected to be developed alongside Humanities skills or knowledge, some are specific to the Humanities area, some aim to direct *how* children should progress within Humanities. For example, Ontario defines six concepts of social studies thinking:

- significance
- cause and consequence
- continuity and change
- patterns and trends
- interrelationships
- perspective

These underpin all thinking and learning in social studies within the context of a vision statement that seems similar to the four purposes of the curriculum in Wales. British Columbia has two levels of competencies: Core Competencies develop across the curriculum whereas Curricular Competencies, as pointed out earlier, are specific to each grade level in each area of learning. The three core competencies are communication, thinking, as well as personal and social.

As another example, Australia has seven Humanities concepts of interdisciplinary thinking (e.g. significance, continuity and change, place and space) and five interdisciplinary inquiry and skills (e.g. researching, analysing).

Northern Ireland's curriculum documents describe how 'thinking skills and personal capabilities' can contribute to areas such as history and geography and help teachers in planning for learning and assessment. For example, in history for key stages 1-2, there are skills such as managing information, thinking, problem solving and decision making, being creative, working with others, and self-management. An example for 'being creative' as applied to History is shown in *Figure* 5. Arguably, maps with only two stages do not provide enough steps to support a comprehensive narrative of progression.



Being Creative

Demonstrate creativity and initiative when developing ideas and following them through	FROM **By the end of Year 4 pupils can:**	TO **By the end of Year 7 pupils can:**
Curiosity	Use imagination to explore how people acted as they did in the past and how they may have felt, for example, 'How might Florence Nightingale have felt about her work?' or 'How an evacuee felt leaving home'.	Use imagination to explore different points of view people had about events in the past, for example, Victorian mill owner, half timer or factory - reformer.
Exploration	Take part in role-play, including the use of, for example, story sacks or finger puppets, to act out how characters in stories may have felt. Use all the senses to help pupils experiment with questions and ideas about people and events in the past using artefacts, stories, photographs, multimedia as stimulus or during a local history trail. Look for clues about the past and begin to classify and make connections between them by choosing, for example, what would be the best artefacts, pictures or stories to tell us about jobs in our locality in the past/present. Use a variety of forms of creative writing, for example, writing simple diary entries or design a leaflet to advertise a holiday in the past.	Participate in a role-play simulation to debate an issue about the local environment, for example, save our local monument or preserve a local building. Use all the senses to explore and generate questions combining their own knowledge with a range of given sources. Use a variety of forms of creative writing to demonstrate empathy with the past, for example, a diary account 'My first day at the Workhouse', devise recipes for rich or poor Victorian households or an eye-witness account of a Viking raid.
Flexibility	Generate different ways to 'show what we know' about the past, for example, a poster, diagram, collage or presentation.	Construct their own representation of the past through the use of music, art, collage, and ICT, for example, designing a panel for a heritage centre on Child labour in Victorian Belfast.
Resilience	Use play to experiment with the past, for example, set up a dramatic play area with old objects, clothes or equipment.	Collect and experiment with evidence that give clues to the past, for example, select items to put into a museum shelf on Victorian schools or a time-capsule.

Figure 5. One of the skills/capabilities highlighted in Northern Ireland's 'The Progression Framework: The World Around Us – History – Key Stages 1 and 2' retrieved from [*http://ccea.org.uk/sites/default/files/docs/curriculum/area_of_learning/the_world_around_us/progression_framework_history.pdf*](http://ccea.org.uk/sites/default/files/docs/curriculum/area_of_learning/the_world_around_us/progression_framework_history.pdf)

Finally, it is also worth noting that in New Zealand, Māori words and phrases are included throughout the English documents, making it clear that the Māori language and culture is an important part of 'what matters' within the curriculum. For example, one of the 'social science' achievement objectives at level 2 is: 'Understand how the status of Māori as tangata whenua is significant for communities in New Zealand.' The Alberta Social Studies documents make significant reference to the importance of Aboriginal and Francophone perspectives and experiences, as do those of British Columbia. These three examples may provide illustrations for the use of Welsh culture and language within the development of the Humanities area in Wales.

Conceptualisation of Progression

Progression steps, the building blocks of students' learning trajectories, can be conceptualised in many ways (Heritage, 2008), such as moving from novice to expert, learning a series of different concepts and/or skills that logically build upon one another, increased sophistication or depth within a particular concept or skill, or increased independence in enacting concepts and skills. Progression could refer to the development of understandings, skills and/or capacities within one lesson, across a unit, across a school year, across schooling, or across lifelong learning. Donaldson (2015) recommends a broad level representing big 'steps' of progression across schooling.

The countries we reviewed differ in the extent to which they explicitly or implicitly define progression and how they describe the development of children's learning within the Humanities. Scotland, Northern Ireland, and Australia mention progression. For example, Scotland's curriculum document states, 'Those who teach a particular stage will be able to see where their contributions to a child's learning and development sit in the span of progression.' Similarly, Northern Ireland specifies levels of progression in relation to the broad cross-curricular skills of literacy, numeracy and ICT skills. According to Northern Ireland's documentation, 'Progression in learning is not just about the amount of subject content that pupils know. Progression is about moving pupils from shallow, surface learning to deep learning' (p. 43, Guidance on Teaching Learning and Assessment at Key Stage 4). Also, within key stages 1-2, Northern Ireland documentation explicitly mentions progression within Geography and History. While Australia mentions progression in its curriculum ('is presented as a progression of learning from Foundation - Year 10'), it is difficult to clearly see how progression is conceptualised if looking at yearly learning objectives. A comparison of learning statements across years, from separate documents, begins to provide a picture of the expectations for progression of learning. Alberta's curriculum does not use the word progression, but does refer to 'linkages and sequencing' across years, which provides a type of progression framework although arguably it is so worded as to focus more on content presented each grade level rather than on true development in learning (e.g., 'Grade 3 continues to build on the knowledge of community and citizenship by examining diverse communities in the world'). British Columbia also does not employ the word progression. However, it mentions how, at each stage, students should maintain and enhance competencies from previous stages, while developing new skills. Additionally, it also points out how students should move from basic to increasingly sophisticated competencies. Although the word progression is not visible in Singapore's curriculum, students are admitted at the end of the primary 6 to an express, normal academic or normal technical track, based on attainment in English, mathematics, mother-tongue language and science. There are then Express and Normal Syllabuses within the humanities in the Singapore curriculum.

One of the most common models of progression in these examples is increased sophistication or depth within a particular concept or skill, as indicated through a series of statements that begin with a verb indicating an increasingly complex level of knowledge in relation to the same concept or topic. Often this seems to take the form of a model such as Bloom's taxonomy. For example, in Ontario, for the topic of *heritage and identity*, a Grade 1 learning statement begins with 'describe some of the ways…', a Grade 3 begins with 'compare ways of life among…', and a Grade 5 begins with 'analyse some key short- and long-term consequences…': progression is described in terms of moving from describing to comparing to analysing. As another example, in Scotland, within the topic of *people, past events and societies*, some of the progressive statements are 'I am aware that different types of evidence can help me to find out about the past' (early), 'I can use primary and

secondary sources to research events in the past' (second), and 'I can evaluate conflicting sources of evidence to sustain a line of argument' (fourth): progression is described in terms of moving from being aware to using to evaluating. Arguably, this strategy may ignore the relationship between essential aspects of the content (Brant, Chapman, & Isaacs, 2016). Use of a Bloom's taxonomy approach to model progression is also problematic in that it makes an assumption that 'higher' levels such as evaluation are more advanced than 'lower' levels such as understanding. In reality, both a 5 year old and a 15 year old may show the ability to remember or to apply or to create knowledge, and students may often move back and forth between the different levels (e.g. remembering, understanding, evaluating) throughout the learning process.

Another way progression is modelled in the countries reviewed is through guidance on the order in which particular content may be learned. It is important to consider that the ordering of particular *concepts* could be understood as a map for a progression of learning, whereas the ordering of particular *content* is not necessarily a learning progression. For example, the ordering of *concepts* can be seen in Northern Ireland, e.g. moving students from sequencing events and objects on a timeline in chronological order (at key stage 1) to developing a sense of change over time and how the past has affected the present (at key stage 2), which suggests a learning progression as students need to first understand that events have a particular chronological order before then understanding how the events relate to one another over time. In contrast, ordering of particular content to be learned is not the same thing as a learning progression. In a traditional standards-based Humanities curriculum content in history may be presented in chronological order (from ancient history to more modern) or content in geography may be presented from local to national to global, but this represents *content* and, perhaps, breadth in understanding, rather than a focus on having greater depth through a more expert understanding of *concepts* within the area.

Interestingly, Ontario's curriculum includes a description of learning progression across Grades 1-12, but only in relation to one specific set of Humanities skills: geographic map and globe spatial skills. Benchmarks are provided regarding how these geographic spatial skills are expected to develop over time. One example from this multiple-page progression chart is shown in *Figure 6* below, with five clear progression steps listed for the concept of *map types* within the spatial representation skill. This progression seems to be based on a model that shows a series of different concepts/skills that logically build upon one another. Importantly, at all levels students are expected to engage in the same skills (extracting information, creating) and instead it is the content itself that seems to increase in sophistication. Unfortunately the Ontario curriculum does not provide similar progression maps for a wider range of concepts/skills within the Humanities.

1. MAP AND GLOBE SKILLS *(continued)*						
B. Spatial Representation						
CATEGORY	**Grade 1**	**Grades 2–3**	**Grades 4–6**	**Grades 7–8**	**Grade 9**	**Grades 11–12**
	The student:					
Map types (e.g., sketch, thematic, topographic)	• extracts information from and creates sketch maps (e.g., showing a local neighbourhood, the layout of a classroom) • creates 2D maps of familiar surroundings • creates 3D models using blocks and toys					
		• extracts information from, analyses, and creates thematic maps, including the following: – political (e.g., Canada's political regions, countries of the world) – physical (e.g., climate, landforms) – historical (e.g., settlement patterns) – land use (e.g., community features) • extracts information from, analyses, and creates digital maps (e.g., online interactive)				
			• extracts information from, analyses, and creates thematic maps, including the following: – demographic (e.g., population distribution) – flow (e.g., movement of people) – issue-based (e.g., pollution or poverty in Canada) – annotated (e.g., illustrating an aspect of student inquiry)			
				• extracts information from, analyses, and creates increasingly complex thematic maps, including the following: – demographic (e.g., population density, literacy rates) – physical (e.g., frequency of natural events) • extracts information from and analyses topographic maps		
					• extracts information from, analyses, and creates increasingly complex thematic maps, including the following: issue-based maps layering two or more themes (e.g., population density and CO_2 emissions; population settlement and weather events)	

Figure 6. A progression map of spatial representation for map types; from Ontario Canadian and World Studies Grades 9 and 10 curriculum (2013, p 166)
http://www.edu.gov.on.ca/eng/curriculum/secondary/canworld910curr2013.pdf

A final issue relating to the conceptualisation of progression is the extent to which it follows a linear model, a spiral model (children are expected to revisit previous concepts/skills as they develop), or some other type of model representing a development from novice to expert. Within New Zealand, the curriculum documents highlight the need for learners to re-visit concepts in order to consolidate their learning in what appears to be a spiral approach to progression. Similarly, Ontario espouses the historical inquiry process (e.g. in grades 7-8) and suggest this process is not linear in nature:

> *'the historical inquiry process, guiding students in their investigations of events, developments, issues, and ideas. This process is not intended to be applied in a linear manner: students will use the applicable components of the process in the order most appropriate for them and for the task at hand'* (p. 132 Ontario The Ontario Curriculum – Social Studies Grades 1 to 6 and History and Geography Grades 7 and 8).

British Columbia espouses cross curricular learning and a spiral approach encouraging learners to revisit concepts and make connections between big ideas. Scotland's experiences and outcomes, on the other hand, imply that learning in Social Studies may be linear.

Form and Wording of Progression Statements

There are interesting similarities and differences across countries in the statements of progression. Statements differ in how broad or specifically they are worded. In New Zealand, although progression is apparent in the statements, they are quite broad: for example, for history, at Level 1 pupils 'Understand how the past is important to people', whereas at Level 2 they 'Understand how time and change affect people's lives'. While this shows some progression in terms of sophistication, no further detail as to how learning is developed to make the shift in understanding. When progression statements are worded very broadly, the intricacies of learning progression at a level that is useful for the teacher in planning a lesson may not be covered and thus these may need to be developed as optional supporting materials for teachers.

Other countries, such as Canada, tend to use much more specific statements. For example, Ontario has very specific statements, such as 'compare key aspects of life in a few early societies (3000 BCE–1500 CE), each from a different region and era and representing a different culture, and describe some key similarities and differences between these early societies and present-day Canadian society.' When progression statements are worded too specifically there is a risk of teaching becoming overly scripted and prescribed, as well as not giving flexibility for developing learners' understandings or skills related to local or context-specific issues.

Despite these differences, there is generally a lot of overlap in statements across countries. As shown in the examples in *Table 8* below, common themes such as how individuals in the past have influenced current events seem to be present in most Humanities curricula. Interestingly, comparable statements have been drawn from different ages or levels; there is variation in which understandings and skills are expected at which general ages, an issue worth exploring in more depth. Another difference is in the types of actions that are expected by students, for example, in Scotland, Ontario, British Columbia, Australia and Singapore, there is a general action required of students (to identify or contribute to a discussion) whereas in New Zealand it is left open as 'understanding' and in Northern Ireland it is described as 'become aware', both of which are quite vague. In all of the cases, it could be contended that there are many ways in which to interpret the

statement: for example, Alberta states that students will demonstrate an understanding of the people and the stories of Canada; one could argue that students at any age could do this but of course to varying degree and with varying sophistication. Humanities teachers and students will need to have discussions to come to common agreement about how to interpret the statement and to decide whether a student has demonstrated an adequate enough understanding that they can then progress to the next step; perhaps samples can be provided to show varying levels of understanding.

Table 8. Example Progression Statements Across Countries

Country/Region	**Level**	**Example Statement**
Alberta	Grade 5 – Social Studies	Students will demonstrate an understanding of the people and the stories of Canada and their ways of life over time, and appreciate the diversity of Canada's heritage.
Australia	Year 3 - History	Students identify individuals, events and aspects of the past that have significance in the present.
British Columbia	Grade 5 - Social Studies	Differentiate between intended and unintended consequences of events, decisions, and developments, and speculate about alternative outcomes.
New Zealand	Level 5 - History	Understand how the ideas and actions of people in the past have had a significant impact on people's lives.
Northern Ireland	Key Stages 1 & 2 – The World Around Us - History	Pupils can become aware that there were reasons/causes why people in the past acted as they did and there were also consequences of those actions.
Ontario	Grade 8 – Historical Significance	Students will identify a variety of significant individuals and groups in Canada during this period and explain their contributions to Canadian heritage and/or identity
Scotland	First - Social Studies	Having selected a significant individual from the past, I can contribute to a discussion on the influence of their actions, then and since.
Singapore	Year 6 – Social Studies	Pupils will explore identity, culture and heritage of individuals and groups and appreciate how these change over time.

Another difference is the intended audience: whether the statements are written for the teacher or the pupil. Most of the countries examined word the statements for the teacher. For example, in Australia, there are paragraphs that begin such as 'By the end of Year 1, students identify and describe important dates and changes in their own lives...'. A similar model is employed in Singapore. In Scotland, on the other hand, the statements called 'experiences and outcomes' are worded for pupils and list how pupils' learning is expected to progress through each of the five

levels. However, Scotland has also recently provided benchmarks for Social Studies that are used 'to support practitioners' professional judgment of achievement of a level.' While the experiences and outcomes are worded for the pupil, e.g., 'I can investigate a Scottish historical theme to discover how past events or the actions of individuals or groups have shaped Scottish society', the corresponding benchmarks are worded for the teacher, e.g., 'Describes at least two ways in which past events or the actions of individuals or groups have shaped Scottish society.' In British Columbia, the core competencies are written from a student's perspective, although the curricular competencies are intended for the teachers. An example of a core competency statement is, 'I ask and respond to, simple direct questions'. Wording the statement for pupils may make it more meaningful for them to assess their own development and learning, although arguably it is critical to ensure that the words used within the phrases (e.g., identify, explore) are understood by students.

As a final point, it is critically important to read curriculum documents in full as the advice listed next to the progression steps may have an important impact on how the statements themselves should be interpreted and used. For example, see *Table 9* below for advice on 'Planning learning, teaching and assessment using the Benchmarks' that is listed in the latest Benchmarks for Social Studies from Scotland (March, 2017). It is made explicitly clear that the 'benchmarks' that represent students' progression of learning should be used in a formative and pedagogical way and not be reduced to a tick box exercise. These benchmarks are listed alongside the 'experiences and outcomes' specified for Social Studies.

Table 9. Scotland: Planning learning, teaching and assessment using the Benchmarks

KEY MESSAGES – WHAT TO DO	KEY MESSAGES – WHAT TO AVOID
• Use literacy and numeracy Benchmarks to help monitor progress towards achievement of a level, and to support overall professional judgement of when a learner has achieved a level.	• Avoid undue focus on individual Benchmarks which may result in over-assessing or recording of learners' progress.
• Become familiar with other curriculum area Benchmarks over time.	• Avoid the requirement to spend time collating excessive evidence to assess learners' achievement.
• Use Benchmarks to help assess whether learners are making suitable progress towards the national standards expected and use the evidence to plan their next, challenging steps in learning.	• There is no need to provide curriculum level judgements in all curriculum areas – stick to literacy and numeracy.
• Discuss Benchmarks within and across schools to achieve a shared understanding of the national standards expected across curriculum areas.	• Do not create excessive or elaborate approaches to monitoring and tracking.
	• Do not assess Benchmarks individually. Plan periodic, holistic assessment of children's and young people's learning.
	• Do not tick off individual Benchmarks.

Education Scotland Benchmarks Social Studies March 2017 (p. 4) [retrieved from https://education.gov.scot/improvement/Documents/Social%20StudiesBenchmarksPDF.pdf]

A Note about Religious Education

As noted already, none of the humanities or social studies frameworks reviewed included religious education. In Scotland, social studies and religious education are separate areas of the curriculum. Some points relevant to provision in Wales are afforded by an examination of the frameworks for religious education in Scotland.

There are two frameworks: Religious and Moral Education (RME) (for use in non-denominational schools) and Religious Education in Roman Catholic Schools (RERC). These have the same legal status as the other curriculum frameworks. It is notable that documentation in this area shows similarities or parallels to the documentation in the other curricular areas in Scotland.

Structure of the Curriculum Frameworks

The analysis above of the Scottish Social Studies framework is equally applicable to the two religious education frameworks, with the exception, of course, that religious and moral education (or, as appropriate, religious education) forms one integrated area of the curriculum

What Matters

What matters is defined both through the statements of Principles and Practice papers and through the five level statements of Experiences and Outcomes.

The RME Principles and Practice paper refers to the importance of developing learners' knowledge and understanding, skills and dispositions, including:

- *explore and develop knowledge and understanding of religions, recognising the place of Christianity in the Scottish context*
- *investigate and understand the responses which religious and non-religious views can offer to questions about the nature and meaning of life*
- *…*
- *develop respect for others and an understanding of beliefs and practices which are different from their own*
- *explore and establish values such as wisdom, justice, compassion and integrity and engage in the development of and reflection upon their own moral values*
- *…*
- *develop the skills of reflection, discernment, critical thinking and deciding how to act when making moral decisions…*

The parallel statement in the RERC Principles and Practice paper has similarly wide-reaching aims, including:

- *develop their knowledge and deepen their understanding of the Catholic faith*
- *investigate and understand the relevance of the Catholic faith to questions about truth and the meaning of life*
- *highlight, develop and foster the values, attitudes and practices which are compatible with a positive response to the invitation to faith*
- *develop the skills of reflection, discernment, critical thinking, and deciding how to act in accordance with an informed conscience when making moral decisions…*

This commitment to developing a range of educational outcomes is not reflected in the structures of the Experiences and Outcomes, structures which could be described as content based. Within RME

there are three major organisers: Christianity: World Religions; Development of Beliefs and Values; the first two of these each have sub-strands: Beliefs; Values and Issues; Practices and Traditions. The RERC Experiences and Outcomes are structured under two main headings: Catholic Christianity; Other World Religions; the latter has the same three part substructure as the parallel RME organiser while Catholic Christianity has eight sub-strands such as In the Image of God, Son of God, Signs of God, Hours of God. In both RME and RERC all organisers and almost all sub-strands extend across all five curriculum levels.

While the structure may appear to be content defined, the statements of experiences and outcomes refer to a breadth of learning experiences. RME statements frequently use such phrases as: *through reflection and discussion, through investigating and reflecting, I can describe, I can explain, I can express reasoned views, I can show my understanding, I can apply my developing understanding*, which together imply a range of knowledge, skills and dispositions. There is a similar implication in the use in the RERC experiences and outcomes of such phrases as: *I have explored, I have reflected, I can describe, I can identify, I can confidently express.*

Conceptualisation of Progression

Progression is structured across five levels from the early years from age 3 to the end of broad general education at age 15. In general, the approach taken is one in which learners engage at deeper levels of sophistication with more complex content. The choice of verbs at different levels suggests an implicit use or at least influence of a taxonomy such as Bloom's. An example from RME: *I am becoming familiar > I can describe > I can show my understanding >I can explain > I can express reasoned views.* This may be less the case in RERC but there are examples such as: *I have examined > I can reflect > I have explored > I have researched.*

Statements, particularly in RME, often include such qualifiers as *some, increasing, developing,* or *key,* which may be open to varying interpretation.

It is notable that the RERC document often includes the word *how* in such statements as*: I have explored the belief that the Holy Spirit inspires and empowers the Church to fulfil its prophetic and missionary role in our world today. I have researched into situations which bear witness to this. I can describe how I and others can contribute to this work*. These typically link understanding with action.

Form of Progression Statements

As in all of the Scottish curriculum statements of experience and outcomes are first person pupil statements. It is notable that in the RME example, the number of statements tends to increase through the level; this is typical in RME. This is not the case in RERC although statements there tend become longer and more complex as learners progress through the levels. Examples are provided in Additional Document 5.

Humanities: Research Review

Introduction

Successful Futures describes the Humanities as providing:

> '*fascinating contexts for children and young people to learn about people, place, time and belief. It will give them an understanding of historical, geographical, political, economic and societal factors and provide opportunities to engage in informed discussions about ethics, beliefs, religion and spirituality. Children and young people will learn to consider how these different factors interrelate, and develop an understanding of themselves and other people, their own locality, Wales and the world in a range of times, places and circumstances.*' (Donaldson, 2015, p. 46).

This review focuses on evidence related to progression in learning across the Humanities and within each of the major subject areas: History, Geography, Religious Education and Civics.

Progression in the Humanities

Progression is a development towards a more advanced state; learning by its very nature is progression (Heritage, 2008). A curriculum with learning at its core should therefore be structured to show how understandings, skills and capacities typically progress and develop. A list of standards or catalogue of outcomes can inhibit pedagogy and weaken assessment by directing focus on content delivery, whereas a curriculum moulded on an evidence-based model of the paths through which learning typically proceeds helps teachers to set aims and plan for teaching and informs formative assessment (Black *et al*., 2011). Using models of progression, teachers (and learners) can assess where learners currently are within their trajectories of learning and make pedagogical decisions about where they need to be supported to go next (Black *et al*., 2011; Heritage, 2008).

Progression in learning within the Humanities area has unique features. Brant, Chapman and Isaacs (2016, p. 72) note:

> '*Unlike mathematics or science where the subject content intrinsically gets more complex, in the social studies it is possible to ask students to address the same question – for example, "What were the causes of the First World War?" or "What are our responsibilities as citizens?" – at ages 10 and 18 and expect qualitatively different answers*.'

The Humanities AoLE is tasked with creating progression maps that are evidence-based, co-developed by teachers, tried out within schools and suitable for the Welsh context. This context-specific approach is supported by research.

> *'… resulting schemes of progression can vary between cultures and can be changed by innovations in teaching. Given this variation, an overall aim of research on learning progressions might be to produce methods–with examples–to explore the particular learning progressions that emerge in any one context rather than to arrive at an ideal map of progression to which pedagogy should conform in all contexts*.' (Black *et al*., 2011, p. 72)

Research can highlight potential advantages and disadvantages of different approaches to modelling progression. For example, a review of Social Studies in six countries that perform well on PISA (Australia, Canada, China, Finland, Japan and Singapore) examined the extent to which the social studies subjects are taught separately or together, the balance between concepts and skills, the balance between teacher-based assessment and external assessment and, notably, how progression is defined (Brant, Chapman & Isaacs, 2016). The authors (p. 72) summarise four different approaches to modelling progression within Social Studies, noting some of the challenges to be aware of when using each approach:

- Modelling increasing challenge in terms of 'generic cognitive objectives' similar to Bloom's taxonomy; this essentially 'contentless' strategy may have the disadvantage of ignoring the relationship between essential aspects of the content and ignoring domain specific dimensions.
- Modelling subject-specific concepts such that the student is mastering the concepts and processes that embody disciplinary thinking (VanSledright, 2011, cited in Brant *et al*., 2016); this may have the disadvantage that competencies (e.g. using evidence) are not unique to social studies.
- Modelling by beginning with content similar to a 'core knowledge' approach (Cain & Chapman, 2014, cited in Brant *et al*., 2016); this may have the disadvantage of taking an aggregated rather than integrated approach.
- Modelling the equal importance of knowledge 'as body and form', for example using models of 'historical literacy' (Lee, 2005, 2011, cited in Brant *et al*., 2016).

This review merits further consideration by the Humanities AoLE.

The UK Geographical Association (2014) also proposes several different approaches to modelling learning progression, based on Rawling's (2008) work:

- Increasing breadth of study
- Wider range of scales studied
- Greater complexity of phenomena studied
- Increasing use made of generalised knowledge about abstract ideas
- Greater precision required in undertaking intellectual and practical tasks
- More mature awareness and understanding of issues and of the context of differing attitudes and values in which they arise.

Rawling's (2017a) report *The Welsh Curriculum Review* considers the advantages of developing a curriculum framework for the humanities based on recognition of big ideas (concepts and skills/processes). This report explains that big ideas are necessarily stated in broad terms (e.g. place, time, continuity and change, environmental interaction), representing the fundamental areas of knowledge and understanding that lie at the heart of subjects like History and Geography and make them distinctive. In order to recognise progression using the big ideas approach, it is necessary to make a selection of more detailed content providing the context within which pupils' understanding of big ideas can develop. Given a context, it is then possible to identify progression strands in relation to each big idea and each aspect of the skills. These will be the basis for recognising the progression steps and planning assessment. Rawling asserts that the strength of this approach is that 'assessment can be designed in relation to how much progress has been made towards

understanding that idea or showing competence in the context of the set content, rather than merely assessing pupils' knowledge of more content'.

In her *Commissioned Work on the Geography Curriculum* (Rawling 2017b), the author took this approach and set out progression in outcomes for pupils' learning for the big ideas of place, space, environment and geographical enquiry, for each age range within the progression steps and for a chosen selection of content suitable for the Welsh geography curriculum.

There is a wide range of ways to model progression; there is a need for balance between content and skills, depth and breadth, logical order of different concepts to be learned and increasing sophistication within each concept, and the extent of flexibility across contexts. Sequencing content to be learned is distinct from progression of learning unless that content is specifically linked to a learning roadmap. A further issue for consideration is the extent to which learning progressions in Humanities are intertwined with progressions in other AoLEs, such as Science & Technology or Health & Wellbeing.

History

Some key themes emerge from research on progression in history. Foremost is that relatively little empirical evidence is available on understanding the progress of pupil understanding of historical concepts. While the work of Lee and Shemilt (2003) is arguably the gold standard in this regard, some of the ideas may be incompatible with the proposals in *Successful Futures*, not least the requirement for progression steps at regular intervals.

One key theme that appears in a number of studies is that understanding of 'progression' in history has moved from being primarily based on knowledge acquisition towards being based on 'thinking skills'. For example, Colyer (2012) points to 'The Historical Thinking Project' in Canada, which proposes that 6 thinking concepts:

- establishing historical significance
- using primary source evidence
- identifying continuity and change
- analysing cause and consequence
- taking historical perspectives
- understanding ethical dimensions of History

should be used as a framework for progression. These 'thinking concepts' may be regarded as similar to big ideas in history, though their broad focus may be more akin to skills rather than ideas.

The theme of creating categories against which progression can be shown is also noted by Hawkey *et al.* (2015) who cite work within a school that created a system within which progression is assessed in terms of knowledge and five categories of understanding:

- causes
- change and continuity
- significance
- interpretations
- source enquiry.

This implies that a framework of categories can be used to assess progression though the author states that mark schemes need to be created for individual pieces of work in order for progression to be measured.

Perhaps the most relevant body of literature regarding the current situation in Wales is the literature that tracks the 'life after levels' development in England. According to Brown and Burnham (2014), the level system in England (and Wales) has two major problems: 1) they are built on the assumption that pupils reach an equal level of development in all aspects of a topic at the same time and are therefore judged to be working at a single level for many concepts and skills at once; and 2) the level system has been broken down into sub-levels in order to provide evidence of short term progress. Lee and Shemilt (2003) argue that the level system was never designed as a model for progression as it does not identify key shifts in learner understanding. Furthermore, the authors note that the 'levels' can be restrictive since words like 'evaluate' occur only in the higher levels although, in reality, learners can 'evaluate' at earlier levels. This final point would seem to be particularly important when considering levels based taxonomies such as Bloom's as the assumption that one level (e.g. evaluation) is inherently more advanced than another (e.g. understanding) may be flawed.

Much of the international work seems to be several years behind that in England and Wales in terms of developing an agreed framework of progression. Developments in England following the abolition of level descriptors in 2014 offer perhaps the most useful lessons. The importance of mark schemes and progression models for specific pieces work is a recurring theme. Kennet and Fletcher (Hawkey *et al*., 2015) provide a useful example of a framework in this context; this may be too specific as a model of progression steps but could be a useful example of what schools could develop within the national framework. The language used within any framework should not reflect possibly flawed assumptions about increasing complexity within a taxonomy-based system.

An example of a progression model from Lee and Shemilt (2003) regarding the use of 'evidence' within history is provided in *Figure 7* (reading from top to bottom).

Figure 7: An example of a progression model from Lee and Shemilt (2003)

Figure 5: Progression in ideas about evidence

Pictures of the past

The past is viewed as though it were the present, and students treat potential evidence as if it offers direct access to the past. Questions about the basis of statements about the past do not arise. Stories are just stories.

Information

The past is treated as fixed and known by some authority; students treat potential evidence as information. Given statements to test against evidence, students match information or count sources to solve the problem. Questions arise about whether the information offered is correct or incorrect, but no methodology is attributed to history for answering such questions beyond an appeal to books, diaries or what is dug up. These, although sometimes seen as being connected with the past, provide transparent information that is either correct or incorrect.

Testimony

The past is reported to us by people living at the time. Like eyewitnesses today, they do this either well or badly. Questions as to how we know about the past are regarded as sensible: students begin to understand that history has a methodology for testing statements about the past. Conflicts in potential evidence are thought appropriately settled by deciding which report is best. Notions of bias, exaggeration and loss of information in transmission supplement the simple dichotomy between truth-telling and lies. Reports are often treated as if the authors are more or less direct eyewitnesses: the more direct, the better.

Scissors and Paste

The past can be probed even when no individual reporter has told us truthfully or accurately what happened. We can put together a version by picking out the true statements from different reports and putting them together. In one student's words: 'You take the true bits out of this one, and the best bits out of that one, and when you've got it up, you've got a picture.' Notions of bias or lies are supplemented by questions about whether the reporter is in a position to know.

Evidence in isolation

Statements about the past can be inferred from sources of evidence. We can ask questions of sources that they were not designed to answer, so that evidence will bear questions for which it could not be testimony. Many things may serve as evidence that do not report anything. (Nineteenth Century rail timetables were not constructed for the benefit of historians.) This means that historians may 'work out' historical facts even if no testimony survives. Evidence may be defective without questions of bias or lies. Reliability is not a fixed property of a source, and the weight we can rest on any piece of evidence depends on what questions we ask of it.

Evidence in context

A source only yields evidence when it is understood in its historical context: we must know what a source meant to those by and for whom it was produced. This involves the suspension of certain lines of questioning and a provisional acceptance of much historical work as established fact (a known context). We cannot question everything at once. Contexts vary across time and place and thus a sense of period is important.

Geography

A key message from research appears to be that progression in geography is difficult to determine. However, there is some support for identifying 'domains' in which progress can be identified and tracked, which moves beyond a curriculum that merely prescribes content. For example, Wertheim and Edelson (2013) refer to 'key geographical practices' which are essentially skills that a 'good geographer' would develop (e.g. posing geographical questions or communicating geographical information). Hopkin and Weedon (2014) note 'domains of geographical knowledge' (contextual,

understanding, and procedural) and imply, without specifying details of content, that subject content should also be key. These attempts at categorising geography into areas for progression would seem consistent with the level system that is currently used in Wales in which geography is divided into 'Locating', 'Understanding', 'Investigating' and 'Communicating'. It is interesting that within these domains for progress both knowledge and skills are evident, though not always considered in tandem. Bennetts (2005) helpfully distinguishes 'sequence' from 'progression':

> *'Sequence, in the context of the curriculum, is essentially about the order in which content and activities are introduced and organised… progression in learning is not an inevitable outcome. Progression focuses attention on the quality of students' learning... Although it can be applied to different time scales, the idea becomes especially pertinent when applied to long periods, during which students' cognitive abilities, depth of understanding, and development of value systems are affected by maturation processes, as well as by experience.'* (p. 113)

Muñiz Solari *et al.* (2017) argue that geographers can and should learn from approaches to articulating progression developed by their colleagues in the field of science. In particular they note the possibilities afforded by models which simultaneously describe progression in terms of two dimensions or axes, one of content and the other of such processes as enquiry and reasoning. Interestingly, they note that the granularity of each of these may differ: typically conceptual progression will be described in finer-grained detail than progression in reasoning or argumentation. They express concerns (p. vii) that

> *'[if] learning progression is an attempt to meld the relationship between knowledge and thinking in a process of making evidence-based explanations, there is very limited empirical research on whether such a tool, developed for a relatively 'vertical' science such as biology, will be useful for investigations of learning processes in relation to geographical subject matter, such as urban environments, cultural landscapes, social justice, or economic interdependence. These and many other topics do not constitute a clear hierarchical arrangement (progression) of knowledge that may constitute a prerequisite for reaching more complex levels of conceptual understanding and higher cognitive thinking.'*

Bennetts (2005) recognises that the nature of 'geography' has changed greatly over time and that the geography curriculum draws on several disciplines (e.g. geology, ecology, sociology, economics) and that lists of key concepts in geography curricula often lack any clear selection rationale. Having considered various approaches to defining progression (e.g. Bloom's and SOLO taxonomies, behaviourist hierarchies, conceptual structures in geography as an academic discipline), the author concludes that progression in learning can be best described in terms of dimensions such as complexity, abstraction, precision, making connections and developing structures, and breadth of context.

Some research provides a clearer focus on progression within domains. Thus, Hopkin and Owens (2015) cite the Geographical Association's (2015) 'dimensions of progress', which seem to promote an increasing depth of engagement with geographical issues and skills: for example, a learner progresses by moving from the 'concrete' to the 'abstract' or by increasing the range and accuracy of investigative skills. It would seem logical therefore, that if content and/or skill 'domains' are to be identified, then a clear reference to the actual progression within these domains is key.

Mohan *et al.* (2015) argue that the first step in developing a learning progression is to define the domain by drawing on existing work in the field, both research and practitioner informed. The size and complexity of a domain is very likely to allow for several learning progressions through it, each with a different focus (in terms of different aspects of content and/or skills and the balance between concepts and skills). However this is not the result of random choice: each learning progression will represent a journey from novice to expert and will have a lower and an upper anchor; the lower anchor represents emerging knowledge at entry and the upper anchor the expectations held by society for a young person at the end of schooling. The authors argue that both the lower anchor and progression between that and the upper anchor must be informed by classroom research into children's actual learning. Further they argue (p. 13) that within a domain (e.g. 'spatial thinking') geographers will employ 'a set of fundamental constructs and practices that encompass a great deal of spatial thinking more broadly (e.g., location, direction, distribution, scale, hierarchy)'. To map a progression framework it is necessary to identify constructs that are both used in this way and that are measurable. These then act as 'progress variables'). *Figure* 8 (Mohan *et al.* p. 14) illustrates the development of progress variables (items in the left hand column) across stages of learning; these would then be employed within specific learning progressions in the field of spatial thinking (e.g. Spatial Aspects of Conflict).

Figure 8: p. 14 Mohan, l., Mohan, A. & Uttal, D. (2015) Research on Thinking and Learning with Maps and Geospatial Technologies

Table 2. Synthesis of the progression of spatial concepts ages 3-12. Modified from Mohan and Mohan (2013). Reprinted with permission from National Geographic Society.

Spatial Concepts	Student Understandings and Possible Misconceptions and Challenges		
	Ages 3-6 (Pre-K through Grade 1)	Ages 7-9 (Grades 2-4)	Ages 10-12 (Grades 5 and 6)
Identity and Location	Students in this age group can typically identify places on maps, landscape features on maps and aerial photographs, and can locate familiar places on maps. While children at this age can identify places, they may be limited by vocabulary development. Students might also use landmarks as a way to identify where places or items are located on a map, but they can easily confuse locations on maps if the map is not well aligned to their real world. **Studies of Interest:** Blades and Spencer 1990; Blaut and Stea 1974, 1971; Blaut, Stea, Spencer, and Blades 2003; Bluestein and Acredolo 1979; Downs, Liben, and Daggs 1988; Huttenlocher, Newcombe, and Vasilyeva 1999; Liben 2008; Liben and Downs 1993; Presson 1982; Sowden, Stea, Blades, Spencer, and Blaut 1996	Students can accurately locate places and landscape features on a map, but perform better with familiar locales as opposed to foreign locales. Map alignment issues also improve at this age. However, students inconsistently use landmarks to verify locations. **Studies of Interest:** Blaut and Stea 1971; Golledge, Battersby, and Marsh 2008a; Kastens and Liben 2010, 2007	Students need to be primed to use all the resources available to determine locations, and encouraged self-explanation of decisions, to cue thinking more about landmarks, distances, and directions. Students do not readily use map scales, metric distances, or cardinal directions to help determine locations, but can do so if prompted during instruction. Accuracy on these tasks is better for familiar places and becomes less accurate for more foreign or large-scale tasks. **Studies of Interest:** Blaut and Stea 1971; Golledge and Stimson 1997; Liben 2008; Liben and Downs 1993; Tretter et al. 2006
Magnitude	Students seem to innately understand magnitude of objects (bigger, smaller), but they might confuse the size of an object with the number of objects (numerosity). **Studies of Interest:** Golledge, Battersby, and Marsh 2008a; Mix 1999; Rousselle, Palmers, and Noel 2004		
Distance and Direction	Understand relative distance, such as near, far, next to, and can begin using relative direction on maps, such as navigating mazes. Struggle with knowing which way to "hold a map" and easily get confused if it is not aligned to the real world; Students also do not intuitively think about distances without being prompted to do so. **Studies of Interest:** Blades, Sowden, and Spencer 1995; Blades and Spencer 1987; Liben 2008; Liben and Downs 1993; Rutland, Custance, and Campbell 1993	This is a transition period between topological (e.g., near, far) concepts of distance to metric measurements; by 4th grade, students should readily use metric distances. They will still need guidance to transition to metric measurements though. Students also frequently use landmarks and relative direction, but some ready to learn cardinal directions. **Studies of Interest:** Kastens and Liben 2010	
Frames of Reference and Perspective Taking	Children at this age view the world from an egocentric frame of reference (i.e., how they see the world rather than how another perspective might see it, such a bird flying over a house). **Studies of Interest:** Newcombe and Frick 2010; Newcombe and Huttenlocher 2000;	Students can begin to understand grid systems (coordinate system) and begin learning absolute location. Students might get distracted by features that are not useful and neglect useful features on maps. **Studies of Interest:** Bell 2000; Liben 2008; Kastens and Liben 2010; Newcombe and Frick 2010	
Scale	Students at this age can handle scale better using smaller, familiar spaces, such as a classroom. Students do not have a systematic way to handle scale- they cannot move between scales easily, such as the size of the school in real life v. the size of a school depicted on a map. **Studies of Interest:** Liben 2008; Uttal 2000		
Symbols	Abstract, unrelated symbols are not understood well at this age level. Students might also confuse the colors used on representations and expect those colors to be the same in the real-world (e.g., a red road on a map should be red in real life). **Studies of Interest:** Liben 2009, 2008; Myers and Liben 2008	During this age, students transition between iconic real-world symbols to abstract symbols, but they still make significant errors; explicit guidance needed on what symbols mean. **Studies of Interest:** Golledge, Battersby, and Marsh 2008a; Liben 2009, 2008; Myers and Liben 2008	Students can use abstract symbols and understand symbols do not always "look like" the referent. **Studies of Interest:** Golledge, Battersby, and Marsh 2008a; Liben 2009, 2008; Myers and Liben 2008
Hierarchies		Concept of hierarchy (or nesting) is not well established innately with this age group, but can possibly be introduced with close guidance. **Studies of Interest:** Lowes 2008	
Overlay and Other Complex Spatial Tasks			About half of all 6th grade students incidentally understand the concept of overlay without formal instruction Guidance using map overlays can likely improve student success. Students can also move onto complex spatial concepts such as distribution, patterns, overlays, and projection with support if mastery of the basic spatial concepts of location, distance, direction, boundaries, regions achieved. **Studies of Interest:** Battersby, Golledge, and Marsh 2006

Hopkin and Weedon's (2014) criticisms of the current level system in England and Wales are relevant to consideration of progression: levels have too often been used against specific pieces of work, in effect creating a series of mini summative tests which are not formative (as they tell learners where they are, not what needs to be done to improve); and levels are sub-divided to produce ever more detailed evidence of progression, in a process based on arbitrary information rather than real understanding of progression. Lambert (2011) raises a further issue: the actual understanding (and perhaps even the actual relevance) of the level descriptors is questionable. Lambert cites the difficulties that teachers have in identifying work to exemplify certain levels, implying an uncertainty about what constitutes a level (and therefore arguably progression). Despite these criticisms, Hopkin and Weedon (2014) note that the level system provides a 'rough hewn' language for progression that is useful for professional dialogue, implying that such a system is productive if it is used as a guideline for discussion about progression rather than as a tool for accurately measuring learner progress. In terms of 'life after levels' in England, Hopkins and Weedon (2014) caution against an approach that is based on 'Blocks of Knowledge' as this can prevent both a focus on progression in skill development and synthesis between themes. This seems to indicate that any future framework should be based on underlying 'big ideas' that can be tracked across topics and year groups, perhaps echoing the notion that domains for progress should be identified.

It is worth referring to the potential of 'learning progressions', as outlined by Huynh *et al*. (2015); the authors describe how learning progressions can be developed through tracking the actual development of thinking/learning during a sequence of learning or topic. The authors refer to work that has been ongoing in science and mathematics and to some early work on map skills and GIS within geography education. The premise of these 'learning progressions' is that they allow the teacher to understand the ways in which learners progress in their thinking/skill development in order to track progress. This would seem to have the potential to produce evidence based learning progressions which would act as a usable version of level descriptors and would support a genuinely formative process of checking current attainment against a known progression and the setting of targets for improvement. This may be a positive alternative to the current level system that is a 'blunt system on which to base week to week marking' (Lambert, 2011, p.24). However, it should be noted that such progressions are extremely complex (taking 2-3 years to produce) and that a large number of these may be needed in order to cover 'big ideas' within any curriculum subject.

Kerawalla *et al.* provide a different type of example of the development of learning progressions through classroom focused research. This took the form of a case study of a class of 12 to 13-year-old learners who were using nQuire, a Web-based tool to support them through the processes of inquiry on learning within a single topic (microclimates). The research focused not only on the development of content learning but on how the tool supported the development of inquiry skills.

The UK Geographical Association provides a list of further reading on progression which is worth exploring: http://www.geography.org.uk/download/GA_PRMGHProgressionFurtherReading.pdf

Religious Education

Religious Education (RE) contributes to pupils' academic and personal development and plays a key role in promoting social cohesion, respect and empathy, which are important in a diverse society (Ofsted, 2013). To fulfil this, a clear understanding of what is meant by progression within the

subject is needed. In the past, curriculum planning and assessment has often focused more on sequencing the content to be covered and less on how children become better learners of religious education, i.e. progression. This can result in repetition of content rather than developing understanding of knowledge and concepts of religious education. Whilst progression in learners' concept development is important, there is also a need to consider learners' RE skills.

The Review of the National Curriculum in England (2010-2014) was highly critical of the previous levels-based system. Best-fit judgement failed to recognise major gaps in children's knowledge and contributed to superficial coverage of the curriculum because the levels-based system encouraged learners to move on to new content without secure grasp of key areas. New guidance, 'Assessment and Progression in Religious Education' (NCFRE, 2016), provides information on assessing progress in RE in a context that has moved beyond levels, presenting a new progression model for RE which integrates positive aspects of previous models and balances knowledge and skills. Levels were removed to encourage new assessment models focused on learning 'fewer things in greater depth'. However, this may imply a reduction in the number of key RE concepts to be covered. This guidance aims to help teachers make day-to-day judgements about progress focusing on assessing rich, deep learning and understanding of key knowledge in RE; it is important to ensure progression in both 'knowledge' (key ideas or concepts in religions and belief) and 'skills' (skills need to handle 'religious' materials – questioning, interpreting, analysing, evaluating). Dimensions such as:

- extending vocabulary from the 'familiar to the unfamiliar'
- moving from the concrete to the abstract
- recognising divergences of opinion about and the controversial nature of religion and belief
- increasing the range and sophistication of questioning and investigative skills
- advancing students' ability to select and apply skills with increasing independence

should be embedded within progression in RE. Teachers may benefit from a framework that balances specificity with generalisation and prescription with teacher freedom.

The aims and/or objectives of the curriculum (e.g. the Four Purposes [Donaldson, 2015]) and cross-curricular responsibilities should be considered when planning for progression; the risk should be recognised that too much emphasis on these may lead to inaccuracy in mapping progression of learners' attainment in RE (Robertson *et al*., 2017).

When considering the 'big ideas', 'areas of enquiry' and 'concepts' in RE, there is a need to identify the overarching ideas that pupils should encounter that will enable them to engage with and understand the power of religion and belief in people's lives, i.e. the 'big ideas' about life, death, human behaviour and identity. Using the big ideas/areas of enquiry in planning provides a clear structure for pupils to revisit elements and build on previous achievements. A spiral curriculum can be planned so that pupils can deepen their knowledge and understanding of the traditions being studied, e.g. by examining a familiar story from perspectives that differ in level of sophistication.

Progression may be considered at three levels: day-to-day, medium term and long term. For example, progress can be shown on a day-to-day basis through formative assessment strategies such as better questioning, feedback, and effective self- and peer-assessment (Black and Wiliam, 1998). Thought-provoking and challenging questions can guide students in their study of religion (Grant & Matemba, 2013). Inspection evidence notes that in the best RE practices, assessment foci, criteria and approaches are clear and applied consistently (Catling, 2017). A variety of assessment

opportunities (e.g. end of unit project) may be used in the medium-term to identify broad progress, identify curriculum targets and monitor progress towards expected benchmarks. These can focus on the extent to which pupils can apply skills, link ideas together and move from the particular to the general, thus demonstrating their progress as RE thinkers. Bloom's taxonomy may be useful in improving questioning for assessment but should not be used to devise a new tyranny of levels (Brine, 2016).

Progression in RE is rarely linear and an approach based on a series of 'blocks of content' provides few opportunities for skill development or for synthesis through linkages between themes or areas of learning. Progression in RE should include opportunities for learners to revisit concepts and skills as and when appropriate (Catling, 2017), thus reflecting a spiral rather than a linear progression. Teachers need to plan teaching so that intrinsic and contested issues such as values can be assessed. RE should not remain at lower levels of cognitive demand (e.g. describing), but should 'raise the bar in teaching and assessment so that students are able to discover, critique, demonstrate, challenge and so on as emphasized in the CfE [Curriculum for Excellence]' (Grant & Matemba, 2013, p. 11).

RE needs to retain its distinctiveness while simultaneously making meaningful links to all other aspects of learning. Robertson *et al*. (2017), writing of experience in Scotland, note the importance of the development of the whole person in any curriculum and express caution: whilst progression grids and exemplar materials provide support in recognising achievement of a level in Religious and Moral Education, 'perhaps due to the emphasis placed on the 'responsibilities of all' and other curricular areas, accurate mapping of learners' achievement and attainment in RME remains in its infancy'. To do this effectively would involve the totality of learners' experiences across the whole curriculum. The authors stress that narrowing the curriculum or unduly stressing aspects of one part over another may narrow learners' experience.

Civics

Civics education is critical since democracies cannot survive without citizen participation (Sherrod, Flanagan & Youniss, 2002). Civics education not only involves understanding government, history, law and democracy but also learner engagement in discussions of current events (locally and globally), service learning, involvement in schools and communities and simulations of democratic processes and procedures; deep learning can help promote civic outcomes and strengthen a country's democracy (Levine and Kawashima-Ginsberg, 2015). The authors point out that requiring students to pass a standardised test on civics is superficial and has little impact on students' learning about civics or how to behave as citizens.

Civics education currently tends to focus on increasing content knowledge rather than on the critical development of skills and dispositions (Levine & Kawashima-Ginsberg, 2015). Knowledge about government systems, including knowing one's rights and responsibilities (Sherrod, Flanagan, & Youniss, 2002), is necessary for civics engagement but insufficient (Jansen, 2011). Students need organisational, communication and leadership skills, verbal and composition competency, the ability to listen to others who have different experiences and opinions and the necessary resources, agency, and self-confidence to exercise their civics skills in public (Sherrod, Flanagan & Youniss, 2002; Verba, Schlozman, & Brady, 1995, cited in Jansen, 2011; Wilkenfeld, Lauckhardt & Torney-Purta, 2010). While researchers have proposed a set of understandings, skills, and capacities for

civics engagement, it is less clear how these elements relate to one another and whether they need to be learned in a particular order or whether each skill itself contains a learning trajectory. Unfortunately, there is a dearth of empirical literature on progression in civics learning, motivating the need to develop and test models of progression.

Developmental theory is relevant to progression in civics education because understanding the cognitive, social, and moral development of children has implications for the appropriate order or increasing complexity of skills and understandings necessary to become a citizen. For example, a young child who thinks concretely would tend to view a 'good citizen' as obedient and law-abiding, while an adolescent with the capacity and emotional maturity to think abstractly will have developed a more sophisticated understanding that responsible citizens should be critical of the status quo and not blindly follow laws (Sherrod, Flanagan, & Youniss, 2002). A review by Wilkenfeld, Lauckhardt and Torney-Purta (2010) provides examples of how developmental theories may inform civic development. Selman's theory of role taking and social awareness (Selman, 1981, 2003, cited in Wilkenfeld *et al*., 2010, p. 202) may help identify and refine competencies needed in the political domain. Similarly, Sherrod *et al*. (2002) suggest that more work is needed to understand the developmental precursors necessary for political engagement. These authors (p. 270) pose the following questions on citizenship that may inform a progression framework for civics education:

> '*When does it need to begin? What early experiences can contribute? Are there developmental windows for achieving maximal impact?... How do different experiences at different ages have different effects?... On what abilities does it rest? What abilities does it promote?*'

Watts, Griffith and Abdul-Adil (1999) provide a theory of socio-political development, also cited in the Wilkenfeld *et al*. (2010) review. The Watts *et al.* (1999) model (*Figure* 9), proposes five stages of socio-political development moving from being oblivious to social inequity, through becoming more aware of inequity and understanding processes that maintain inequity in society, to finally being strongly motivated to take action to improve society and reduce inequity and oppression. This model was developed within the context of African American oppression within the United States but could be applied to other contexts. These stages may provide a broad understanding of the steps students take as they become more politically involved; however, it does not describe the specific skills and conceptual knowledge needed to move from one stage to another.

Figure 9

Table I. Stages of Sociopolitical Development and Their Associated Coaching Questions

Stage of Sociopolitical Development	Key Action Concepts for Enhancing Critical Consciousness
Acritical stage: Resource asymmetry is outside of awareness, or the existing social order is thought to reflect real differences in the capabilities of group members. In essence, it is a "just world" (Rubin & Peplau, 1975).	Challenge internalized oppression: *What contributions have African Americans made to the U.S. and the world?* Critical thinking on class and race inequity: *Why can't kids in this (impoverished all-Black) school take their books home when kids in other (affluent White) schools can?*
Adaptive stage: Asymmetry may be acknowledged, but the system maintaining it is seen as immutable. Predatory, antisocial or accommodation strategies are employed to maintain a positive sense of self and to acquire social and material rewards.	Encourage critical thinking about socialization agents and psychic alienation: *What do rap videos tell us about Black men and their lifestyles?* Decision-making and values clarification: *What's the connection between choices of lifestyle and quality of life and neighborhood?*
Precritical stage: Complacency gives way to awareness of and concerns about asymmetry and inequality. The value of adaptation is questioned.	Cognitive reframing: *How many explanations can we come up with for the differences in the quality of high and low income communities?*
Critical stage: There is a desire to learn more about asymmetry, injustice, oppression, and liberation. Through this process, some will conclude that the asymmetry is unjust and social-change efforts are warranted.	Critical consciousness: *What events now and in the past maintain the differences in the quality of life in some Black and White communities?* Moral reasoning: *Is the inequity a sign that something is wrong with society? Why? Why not?*
Liberation stage: The experience and awareness of oppression is salient. Liberation behavior (involvement in social action and community development) is tangible and frequent. Adaptive behaviors are eschewed.	Community activism, solidarity, and liberation behavior: *What can you do (personally and as a group) to improve the situation?*

Figure 9. Watts et al. (1999) stages of socio-political development; this image is from the table on p. 263 in Watts et al. (1999)

Models of civics progression may also benefit by incorporating Internet skills and knowledge. Use of the internet for political engagement provides easy access to information, can reduce gaps in students' civic engagement by social class, increases offline civic participation, increases exposure to diverse perspectives and empowers students, although it is also susceptible to superficial actions such as 'liking' a comment on social media (Jansen, 2011; Levine & Kawashima-Ginsberg, 2015). Similarly to other aspects of the Humanities, civics education is cross-curricular in nature and has cross-curricular benefits.

Section 4: Conclusions and Framework for Decision Making

Introduction

This section of the report is in four parts.

- Part 1 draws together major themes emerging from evidence analysed in Sections 1 and 2 of the report.
- Part 2 relates key messages to *Successful Futures*.
- Part 3 states fundamental principles which will underpin decisions within each AoLE Group.
- Part 4 provides evidence derived from the review relevant to key questions each AoLE will consider as they take decisions about the development of progression frameworks.

This **research** report is intended to support thinking across and within the AoLE groups as ideas of progression are developed and shared across Wales.

Part 1: Major themes

Progression matters for learning

The crucial function of the curriculum is to identify for each AoLE what matters in order to achieve the overall purposes of the Welsh curriculum, viz., to enable each young person to be

- an ambitious, capable learner, ready to learn throughout life;
- an enterprising, creative contributor, ready to play a full part in life and work;
- an ethical, informed citizen of Wales and the world;
- a healthy, confident individual, ready to lead a fulfilling life as a valued member of society.

Within the curriculum for each AoLE description of progression is important:

- for teachers to have an overview of the curriculum
- for learners to see a bigger picture and relate what they do on a day to day basis to a broader understanding of what matters
- as the basis of decisions about next steps in learning and pedagogy.

The research review suggests that, to achieve these three purposes effectively, descriptions of progression should be structured in terms of learning development such as beginning learner to expert in a domain, rather than in terms of predetermined statements of standards related to age or stage of education.

Descriptions of progression serve two main purposes

The research and national framework reviews suggest that descriptions of progression can usefully be of two broad kinds, interrelated but with the following separate purposes:

- **Broad statements providing an overview of the journey from beginning learner to expert in a domain**.
  - These descriptions summarise succinctly what matters over time within the domain.
  - They can guide teachers' large-scale planning over an extended period of students' education.

  - They can show students and teachers how current work relates to longer term aims and so avoid students seeing their learning as fragmented and with little sense of clear purpose.

- **Detailed description of progression in learning within topics in a given domain**
  - Specifying the knowledge, skills and capacities which students acquire and practise in the process of working towards the learning described in the broad statements.
  - These detailed descriptions should enable the teacher and the learners to identify in assessment for learning dialogue what has been achieved and the next immediate steps to ensure further successful learning.

Evidence emerging from the research and frameworks reviews suggests that different countries have taken different approaches to the presentation of national curricula and assessment arrangements. In Wales, it will be important to consider how best to address both the above purposes in a way that would promote clarity, eg, allowing teachers and learners to have a sense of the overall learning journey using broad descriptors whilst more detailed information on learning related to the overall descriptors is contextualised within professional learning. Such an approach should create clear links between the national framework and local practice, providing an effective basis for

- developing teachers' discussion and deep understanding of learning
- exploring means of responding to the voices of learners and promoting their ownership of learning
- exploring the potential of assessment for learning and pedagogical action to ensure success
- demonstrating ways in which day to day work builds towards achievement of what matters in the AoLE, as defined in succinct broad curriculum descriptors.

Successful curriculum and assessment development is only possible if contextualised in professional learning.

Successful development and enactment of learning progression frameworks developed for Wales will depend on an inextricable relationship between development of curriculum and assessment and professional learning.

Part 2: Relating AoLE Review Findings to *Successful Futures*

The ideas presented in *Successful Futures* form the principles from which curriculum, pedagogy, models of progression and assessment in Wales are to be developed and offer a touchstone against which emerging proposals can continue to be evaluated. These principles serve as touchstones for the CAMAU project processes.

Progression is characterised in *Successful Futures* in terms of increasing achievement in a range of aspects of learning such as: breadth, depth, complexity, level of abstraction, mastery of techniques, sophistication, accomplishment and skill, application, challenge and independence and confidence: this increasing achievement will be evident for both disciplinary knowledge and wider competencies. *Successful Futures* recognises the diverse needs of learners and is clear that the curriculum purposes can be met in a wide variety of ways and allow for wide variations in the experiences of individual children and young people. Each child's learning continuum functions as a journey

through the curriculum; while the road map will be common to all learners, this journey should allow for variety of pace, diversion, repetition, and reflection, as appropriate for each individual to make progress in learning. These aspects of progression are all identified in the six reviews in section 2 as being visible to some extent and at some points in both the findings of research and national policy statements, but the review found no existing national system where all these issues had been fully addressed.

Similarly, learning is defined in *Successful Futures* through the concept of progression, represented as a coherent continuum without separation or interruption. The continuity that the new curriculum places at the centre of learning describes a holistic approach to the development of the individual, including experiential learning that is valuable in and of itself. The characterisation of progression embedded within Successful Futures as the vision for education in Wales is not fully evident in any one country's policy or one theoretical model.

The Curriculum for Wales, therefore, is breaking new ground and will need to bring together multiple forms of evidence, for example, research where it exists as documented in the research reviews, teacher and pupil understandings of progression, samples of pupil work that show progression, and insights from other national frameworks, in order to create bespoke progression frameworks for each AoLE tailored to the needs of young people in Wales.

By revisiting the elements of the *Successful Futures* vision for progression outlined in section 1 of this report we can summarise relevant findings of the six reports in section 2 (see *Table 15*). Each of the 12 points summarised in this table may help inform decision-making within each AoLE group as well as across the system.

Table 15

	Element of the vision for progression embedded within *Successful Futures*	Summary comment from section 2 reviews
1.	Phases and key stages should be removed in order that progression can be continuous, increasing the potential for higher attainment by minimising transitions.	Evidence from research considered in some reviews supports this principle: if progression steps represent significant aspects of learning, then reference to specific ages/stages/phases is at least difficult, and maybe inappropriate. There exist some frameworks which do not prescribe attainment by age or grade.

	Element of the vision for progression embedded within *Successful Futures*	Summary comment from section 2 reviews
2.	Progression in each Area of Learning and Experience should be based on a well-grounded, nationally described continuum of learning that flows from when a child enters education through to the end of statutory schooling at 16 and beyond.	Reviews report that some progression frameworks run through the whole of a child's learning while others are specific to particular stages (e.g. primary, early secondary). The latter may be marked by discontinuity. Some research reviewed considered the whole continuum; other research reviewed investigated progression in the shorter term. The latter may inform the former.
3.	Learning should be an expedition, with stops, detours and spurts rather than a straight line. Progression is a 'road map' for each and every child/young person's progress in learning though some children and young people will progress further and/or faster than others.	Although some countries do outline tightly prescribed linear progression, there is considerable evidence from research that non-linear progression (sometimes 'spiral') is either to be expected or is necessary. This is recognised in some policies. The question of moving forwards and backwards in learning is raised in some reviews, as is the notion that there may be multiple paths of progression that different children may take.
4.	Progression Steps will be described at five points in the learning continuum, relating broadly to expectations at ages 5, 8, 11, 14 and 16 (staging points for reference rather than universal expectations – but expectations should be high for all learners).	Research considered in some reviews questions the value of progression steps which represent significant aspects of learning referring to specific ages/stages/phases as at least difficult, and perhaps inappropriate.
5.	Progression Steps are made up of a number of achievement outcomes linked to what matters in the curriculum and linked to the four purposes ('I can' statements). Literacy, numeracy, digital competence and wider skills should be embedded as well as elements of the Cwricwlwm Cymreig.	The reviews provide evidence on the nature of 'achievement outcomes'. Some progression frameworks contain many statements of achievement, an approach which presents both practical and educational difficulties: difficult to manage and detailed prescription is unlikely to be consistent with flexibility in individuals' learning. Very broadly stated outcomes may be open to a breadth of interpretation and be perceived by teachers as unsupportive. First person learner statements are uncommon.

	Element of the vision for progression embedded within *Successful Futures*	Summary comment from section 2 reviews
6.	Achievement Outcomes should not be a checklist of knowledge or skills and should incorporate effective pedagogy.	The reviews provide accounts of research evidence which points up the potential disadvantages of this 'checklist' approach. While some countries do adopt this 'checklist' approach there exist in at least some curricular areas in some countries models of progression which avoid this approach.
7.	Achievement outcomes should inform next steps and be framed as broad expectations achievable over a period of time (approximately 3 years).	While a number of countries monitored progression across periods of time longer than a year, there was less clarity about how achievement outcomes might explicitly inform next stages in learning.
8.	Achievement Outcomes should use 'I can', 'I have' (and 'I am ready to') statements to describe progression (not over specified or overly vague – this may vary across AoLEs).	The reviews found that use of first person statements is rare in the countries examined. Typically, third person statements referred to the past 'The learner will have developed…' or present 'The learner is able to…'. There seem few statements that could be equated with 'I am ready to…'
9.	Assessment (relevant and proportionate) should be focused on learning intentions and progression in relation to the four curriculum purposes and based upon the intentions set out in the Achievement Outcomes at each Progression Step within each Area of Learning and Experience.	There was some evidence that tensions could arise from seeking to incorporate within achievement outcomes both learning directly related to the discipline and evidence related to broader statements of learning such as the four purposes.
10.	In each AoLE the Achievement Outcomes at each Progression Step will need to encapsulate the most important aspects of learning, take account of the ways in which children progress in different kinds of learning and recognise what they need to be able to know and do to move securely to the next stage.	This issue is noted in some of the reviews: some progression frameworks reviewed would seem to be inconsistent with aspects of this aim, those which have many statements of achievement for example. In many countries statements of standards (or similar) focused on attainment to date and made little reference to next stages of learning.

	Element of the vision for progression embedded within *Successful Futures*	Summary comment from section 2 reviews
11.	Professional judgement is central to assessment (formative assessment with relevant summative information collected and used formatively within classrooms and schools).	The research and policy reviews undertaken here found less evidence for the use of assessment to inform school evaluation than for its use to inform learning.
12.	Schools should use teacher assessment of progression systematically, together with other sources of evidence, to inform their self-evaluation for school improvement purposes.	The reviews found less evidence for the use of assessment to inform school evaluation than the use of assessment to inform learning. This applies both to research and policy reviews.

Part 3: Principles

Building from the evidence emerging from the review of national frameworks and the research literature, a number of principles emerged that might be used to take forward the progression aspirations of Successful Futures.

Principle 1

The four purposes should inform and be evident in learning progression frameworks and achievement outcomes.

The six reviews in Section Two recognise that each AoLE has specific characteristics, reflected in both research and existing national frameworks. It will be important that learning progression frameworks in Wales recognise these characteristics. In some of the frameworks reviewed, the 'main aims' of the curriculum are articulated at the start and then elaborated in detail in a description of the curriculum or in a description of learners' expected achievement (e.g. learning or achievement outcomes, standards, descriptions of progression) or in descriptions of both. A learning progression framework, the progression steps within it and associated achievement outcomes must reflect or encapsulate what the designers of the curriculum most value in the process of educating young people**.**

Principle 2

Progression frameworks must relate to what matters

Each progression framework should focus on the knowledge, skills and attributes which have been identified within each AoLE as the heart of successful learning in each domain and must encompass the four purposes of the curriculum.

Principle 3

Learning progression frameworks will place the development of learning at their heart rather than focusing on content or activities.

In the past insufficient attention has been paid to progression in learning with negative consequences for learners and teachers who perceive learning as fragmented and with little sense of

clear purpose. This leads to problems with practice in Assessment for Learning where understandings of where a learner is and where a learner might next progress to are commonly not linked into a bigger picture of what matters. Reviews emphasised the interdependency among pedagogic approaches, content and assessment in how progression is described.

Achievement outcomes at each progression step should encapsulate the most important aspects of learning, take account of the ways in which children progress in different kinds of learning and recognise what they need to be able to know and do to move securely to the next phase of learning in that framework.

Principle 4

Progression frameworks should serve two main purposes: broad statements and detailed descriptions

Each AoLE will develop broad statements to provide an overview of the learning journey over time and more detailed statements related to individual topics, themes or other aspects of learning. A little like Russian nesting dolls, the more detailed progression statements should be linked clearly to the broad progression statements and the broad statements should be derived from what AoLEs have identified as what matters.

Principle 5

National progression frameworks should enable and support schools to develop curriculum and assessment practices to suit local circumstances

It is important that broad progression statements are written in a way that allow schools to have the flexibility to ensure that they can relate the curriculum to local circumstances as they maintain high levels of challenge for all learners.

Principle 6

Successful curriculum and progression development requires professional learning

It is important that professional learning builds on available evidence: this involves bringing together research understandings with practice insights in the emerging policy context of Successful Futures. Professional learning will stimulate and support teachers to recognise, build on and develop their pedagogical insights and practice. There are opportunities for professional learning to be built around the development of the national programme rather than simply learning about the national programme. For example, the evidence base to build more detailed progression statements does not exist in all areas. One function of the professional learning programme should involve groups of teachers working together to help build a better evidence base whilst learning about the new curriculum and assessment arrangements.

Principle 7

Where possible progression frameworks should be informed by research evidence

Consistent with the policy aspiration of Successful Futures achievement outcomes should describe significant progression steps within a learning progression framework. Achievement outcomes should not be a checklist of knowledge or skills and should incorporate effective pedagogy; they should inform next steps and be framed as broad expectations achievable over a period of time (approximately 3 years).

Part 4: Evidence derived from the review which may help to inform decisions to be taken within each AoLE Group

Here, questions arising from the review related to the principles identified above were identified. These were offered as a stimulus for thinking within and across AoLEs as they made proposals to the Coherence Group on how progression frameworks might best be developed.

1. What are key features of research-informed progression?

Each of the AoLE reports refers to and supports Heritage's (2008) argument noted in section 1 that

> *'By its very nature, learning involves progression. To assist in its emergence, teachers need to understand the pathways along which students are expected to progress. These pathways or progressions ground both instruction and assessment. Yet, despite a plethora of standards and curricula, many teachers are unclear about how learning progresses in specific domains. This is an undesirable situation for teaching and learning, and one that particularly affects teachers' ability to engage in formative assessment.'* (p.2)

Common conceptual features of progression frameworks were summarised in Section 1. Heritage (2008) argues that all models of progression conceptualise progression as a continuum of increasing sophistication of understanding and skills as young people move from 'novice to expert'. This concept is explicit in some of the national frameworks and may underpin others; however, there is a range of understandings of the nature of development from novice to expert. Some learning progression frameworks adopt a developmental view, inviting teachers to conceptualise learning as a process of increasing sophistication rather than as new bodies of content to be covered within specific grade levels; others detail content or very specific skills to be developed at each stage. It seems that approaches may vary from AoLE to AoLE: whether this is the result of different epistemological models or of tradition is unclear. No definition of learning progression contains references to grade or age level expectations, in contrast to many standards and curriculum models as learning is conceived as a sequence or continuum of increasing expertise.

Implicit in progression is the notion of continuity and coherence. Learning is not seen as a series of discrete events, but rather as a trajectory of development that connects knowledge, concepts and skills within a domain. Issues related to interconnection of knowledge, concepts and skills across a domain – or domains – are considered in the individual AoLE reviews; these demonstrate differences between AoLEs, some associated with the range and fit of the domains within each AoLE, some associated with differing balances among knowledge, skills and dispositions. Learning progressions are accommodating. They recognise that, commonly, learners do not move forward at the same rate or with the same degree of depth and progression. This issue was consistently acknowledged in each of the AoLE reviews. A number of existing frameworks do not appear to allow learners to move forward at different rates.

Learning progressions enable teachers to focus on important learning goals, paying attention to what a learner would learn rather than what a learner would do (the learning activity). The learning goal is identified first and teaching, pedagogy and assessment are directed towards that goal. 'Consequently, the all too common practice of learning being activity driven rather than driven by the learning goal is avoided.' (Heritage 2008 p.5). Clear connections between what comes before and after a point in the progression offer teachers a better opportunity to use assessment to

calibrate their teaching, to address misunderstandings or to develop skills, and to determine what would be important next steps to move the student forward from that point.

2. Who might key audience(s) be for Learning Progressions?

Learning progression frameworks provide teachers with an overview of the curriculum and provide learners with a bigger picture which allows them to relate what they do on a day-to-day basis to a broader understanding of what matters. The AoLE reviews set out the intentions for the articulation of progression and achievement that can be summarised as follows:

> Achievement Outcomes and any associated description of learning progression should enable teachers to know what kinds of knowledge, skills and aptitudes they should aim to develop with learners at all stages of their learning journey. Achievement Outcomes should enable both teachers and learners to see the next steps to be taken.

The purpose, scope and structure of the progression frameworks within and across AoLEs will need to be clear to those who will use them prior to developing their content.

As noted in Section 1, Black *et al* (2011) make a strong case for the centrality of teacher assessment. This is well supported in the reviewed literature and international models where the potential for rich evidence of progression and better standards of validity and reliability than national or state tests are noted. However, each AoLE review highlights that, as Black *et al* (20011:106) suggest, attaining a position where teacher assessment fulfils this promise may require significant professional development. Lambert (2011) also raises the issue that the actual understanding (and perhaps even the actual relevance) of level descriptors is often questionable. Lambert cites the difficulties that teachers have in identifying work to exemplify certain levels, implying an uncertainty about what constitutes a level (and therefore arguably progression).

Heritage (2008) reminds us that many learning progressions are written primarily for teachers and tensions can arise if a single learning progression attempts to serve too many purposes. For example, problems can arise if it is assumed that the same degree of granularity (level of detail) will serve both long term planning and assessment to support immediate next steps. The degree of granularity in a learning progression designed to ensure that teachers have an overview of progress from novice to expert is very different from the degree of granularity necessary to enable teachers to support learning formatively: the latter would require a far more detailed analysis of progress in learning.

Learning progressions can also be written in ways which provide a framework for learners to understand their own learning journeys. Such models were not explicitly noted in the AoLE review reports. Heritage (2008) argues for the importance of learners being aware of longer term goals and the relationship between those and their day to day progress. Increased involvement in learning occurs when teachers share with the students what their longer-term goals are and enable them to participate in evaluating the degree to which they have met the goals.

3. How detailed should the descriptions be? (described in research literature as 'granularity')

There are different understandings about what is meant by progression in learning. It is important to make a clear distinction between learning progression as providing an overview of the long journey from emerging to expert in a domain and as detailed insight into the expectations of immediate progression in learning within a topic in a given domain. Both are necessary and inter-related but

different in their purpose, scope and level of detail. Both should help teachers and learners to see, and indeed to develop habitual awareness of, the appropriate next steps, as dialogue and assessment for learning take place during the learning process. Heritage (2008:2) suggests that greater attention should be paid to the different levels of specificity used to articulate the curriculum. Some curricula specify detailed objectives to be mastered at each grade in sequence. When the curriculum is described in this level of detail, 'grain size', it may be difficult to see how these many discrete objectives connect to bigger, organising concepts; learning can become little more than a checklist of things to be learned. Curricula organised around core concepts or 'big ideas' and sub-concepts offer better opportunities for a stronger relationship between formative assessment and learning goals. However, Heritage (ibid) argues that care also needs to be taken with this approach for too often 'big ideas' are not brought together as a coherent vision for the progressive acquisition of concepts and skills. Without a coherent vision the potential for teachers to have a broad overview of learning in a specific domain is restricted.

The AoLE reviews include some detail about specific models for progression which teachers may employ; these may be domain-specific or applicable more generally.

All of this implies the need for consideration not only of the determination of the central aspects of achievement in the AoLE but also of the appropriate (that is, helpful and manageable) levels of specification of description of achievement. If the central aspects are described in 'lean' statements, then it will be necessary to consider the most appropriate format: e.g. succinct broad statements, possibly with a small amount of expansion; or narrative descriptions. It will also be necessary consider where more detailed guidance and support for teachers about progression, next steps and pedagogy should be located and how this could be used? If descriptions of achievement are detailed, it will be necessary to consider how these can be used effectively to support assessment for learning and progression, given the issues about manageability which have been raised.

There is evidence from several countries reviewed that exemplification of standards through learner work significantly reduces the level of abstraction. Descriptive statements alone do not always make clear what performance/behaviours at a given level would look like in a classroom and this is a potentially powerful way of addressing this issue. The use of such material to inform professional learning requires consideration. Several of the reviews raise the issue of the most appropriate location of detailed guidance for teachers about progression, next steps and pedagogy: within the curricular/progression framework itself or in associated material available to teachers as part of their continuing professional development? Related to this is the question of how such material can be most effectively used to support professional learning.

4. Steps in a learning journey?

The issue of relating learning progression frameworks to ages, stages or even phases has already been referred to. Research argues that this should not be the case on both fundamental and instrumental grounds. As the groups develop an empirically well-founded learning progression framework where achievement outcomes describe learning necessary to make further progression, how will they address the issue of descriptions of achievement which are related to phases?

The reviews of international frameworks demonstrate how some frameworks seek to differentiate the performance of learners' who are at the same chronological or grade stage by using a grading system or mark. This may take the form of such phrases as *Not Yet Within Expectations*, *Meets*

Expectations (minimally), *Fully Meets Expectations* and *Exceeds Expectations* or a mark such as: *1 = limited effectiveness, 2 = some effectiveness, 3 = considerable effectiveness* and *4 = a high degree of effectiveness or thorough effectiveness*. This matter may be related to the level of specification or the number of stages of development employed in a framework. A possible justification for the kinds of grading or marks systems shown may be that very broadly defined frameworks do not give teachers and learners enough detail in deciding on next steps in learning. An obvious potential disadvantage is the danger of labelling learners and the associated motivational issues. Such grading approaches are usually linked to statements of standards which themselves may be linked to age and stage; there is powerful evidence that such approaches divert teacher and learner attention away from learning to simplistic models of attainment.

The reviews demonstrate that existing frameworks can provide ungraded descriptions of complex achievement and interacting skills. These may be supported by desirable guidance and support for pedagogy and assessment for learning through additional associated material and by encouraging continuing professional development activities.

5. How might the progression frameworks relate to previous frameworks?

During the process of review it was noted that the former National Curriculum in Wales and the Literacy and Numeracy Frameworks used progression frameworks which took some account of pupils' varying pace of progress. This raises the prospect that there may be some value in looking at earlier local models of curriculum and learning progression in the writing of new achievement outcomes. However, it was also noted that practice must align with the new intentions for the curriculum in Wales: in particular, the requirements to address the four purposes; the fundamental importance to learning of ensuring that curriculum, pedagogy and assessment are coherent and aligned; and the need to move from backward focused statements of standards to forward focused statements of achievement. This has implications for the development of learning progression frameworks which support effective learning.

While considering descriptions of performance it is worth noting the Review of the National Curriculum in England (2010-2014) was highly critical of the previous levels-based system. In this context, best-fit judgement failed to recognise major gaps in children's knowledge and contributed to superficial coverage of the curriculum because the levels-based system encouraged learners to move on to new content without secure grasp of key areas.

6. Relationship with literacy, numeracy and digital competence frameworks?

The Languages, Literacy and Communication review notes that *Successful Futures* explicitly states that the achievement outcomes and progression framework for Languages, Literacy and Communication should take appropriate account of the national Literacy Framework. There are therefore important decisions to take about how the development of the Languages, Literacy and Communication learning progression framework may relate to the Literacy Framework. Parallel issues will apply in the articulation of progression for numeracy with Mathematics and Numeracy and for digital competency and the computing aspect of Science and Technology. All AoLE groups will wish to consider how achievement in these three frameworks and in other cross-curricular aspects may be reflected in their learning progression frameworks.

7. What view do we have of the developing child and young person?

The place of child development within the domain and associated expectation for progression in learning is raised in several reviews. Pellegrino (2017) suggests that although learning progressions are not developmentally inevitable, they may be developmentally constrained. This issue was noted in some AoLE reviews and was of particular importance for the H&WB AoLE review. It may be that this issue is more broadly applicable, especially in the earliest years of learning. When considering progression (e.g. in H&WB), links have been made to research in child development. While child development differs from progression in learning within a domain, developmental stages are closely tied to achievement within H&WB: a young child typically cannot run, regulate emotions, navigate social situations or demonstrate self-control as well as an older child. Teachers may draw on knowledge of child development to understand what typical development looks like within the physical, mental, and social domains, identify when pupils seem to be developing atypically and provide support to maintain the progress of all learners. Progress in domain-related learning relates to developing metacognition and self-efficacy; this observation underlines that there is a complex relationship between children's progress in the H&WB and their progression in other AoLEs.

While it is argued that research undertaken on cognition and learning has led to the emergence of highly developed descriptions of progression in particular curricular areas, specifically science, reading and mathematics (Pellegrino 2017), the evidence from several of the AoLE reviews is that this is often at a micro or detailed level (e.g. one topic) rather than over a longer time scale. Learning progressions can be developed through tracking the actual development of thinking/learning during a sequence of learning or topic. The premise of these 'learning progressions' is that they allow the teacher to understand the ways in which learners progress in their thinking or skill development in order to track progress. This approach would seem to have the potential to produce evidence based learning progressions which would act as a usable version of level descriptors and would support a genuinely formative process of checking current attainment against a known progression and the setting of targets for improvement. However, it should be noted that such progressions are extremely complex (taking 2-3 years to produce) and that a large number of these may be needed in order to cover 'big ideas' within any curriculum area.

Children and young people are beings not becomings. The four purposes describe what all children and young people should become and achieve through statutory education as well as how they are perceived and positioned to experience the curriculum. *Successful Futures* (p.22) argues that:

> *'statements of curriculum purpose need to be formulated carefully so that they have integrity, are clear and direct and become central to subsequent engagement and development; in that way they can* ***shape the curriculum and suffuse practice*** [authors' emphasis]*. Common understanding of why we are doing what we are doing is a powerful starting point from which to determine what it is we need to do and how we are going to do it'.*

Recommendation 2 (p.23) states:

> *'The school curriculum should be designed to help all children and young people to develop in relation to clear and agreed purposes. The purposes should be constructed so that they can directly influence decisions about curriculum, pedagogy and assessment'.*

The purposes therefore tell us about how children should experience their curriculum day to day. Each child's learning continuum functions as a journey through the curriculum; while the road map will be common to all learners, this journey should allow for variety of pace, diversion, repetition, and reflection, as appropriate for each individual to make progress in learning. There is therefore a greater responsibility for schools and teachers to ensure that learning is child-centred, since the details and pace of each journey are set according to the requirements of the learner, always in order to ensure challenging, sustainable and effective learning takes place.

As children and young people move through the education system in Wales they must not be viewed as *aiming towards* the four purposes, but rather must be seen *as living the four purposes* during their time at school – the purposes, then, are not simply goals to be reached at the age of 16, but are also descriptions that inform how we 'position' children throughout their education in schools in Wales.

8. What view do we have of pedagogy?

The notion of 'child-centred' learning and children 'working at their own pace' can imply a pedagogic role that is facilitatory; that is, the role of the teacher is to facilitate the child or young person to lead their own learning or set the pace and/or direction of this learning; the teacher does not take a pro-active role in progressing this learning. It is suggested here that such a view of pedagogy in the new curriculum will be unhelpful. Wales has experience of significant curricular innovation in the shape of the Foundation Phase, introduced in 2008. Recent evaluations (Siraj 2014; Welsh Government 2015) have indicated that poorly understood models of appropriate pedagogy hampered the success of the innovation that, where effectively implemented, has had positive impact on learner outcomes.

Successful Futures provides clear guidance on what is meant by appropriate pedagogy:

> *Pedagogy is about more than 'teaching' in the narrow sense of methods used in the classroom. It represents the considered selection of those methods in light of the purposes of the curriculum and the needs and developmental stage of the children and young people.*

Teachers will draw on a wide repertoire of teaching and learning approaches in order to ensure that the four purposes are being fully addressed and that all learners are engaged and the needs of individual learners are recognised. Teachers will avoid labelling teaching approaches; rather they will consider their appropriateness in terms of purpose. Approaches will encourage collaboration, independence, responsibility, creativity and problem solving in authentic contexts which will draw on firm foundations of knowledge. Approaches will employ assessment for learning principles and make use of scaffolding, modelling and rehearsal.

In order to enact the vision set out in Successful Futures it may be helpful to signal *intentional pedagogic approaches* throughout. That is, the teacher, with the support of appropriately articulated progression frameworks, undertakes to work intentionally with each learner in the direction of progress and to maintain a focus on pace and ambition throughout this process. AoLE groups will wish to consider how this approach may be facilitated by the learning progression frameworks which they develop.

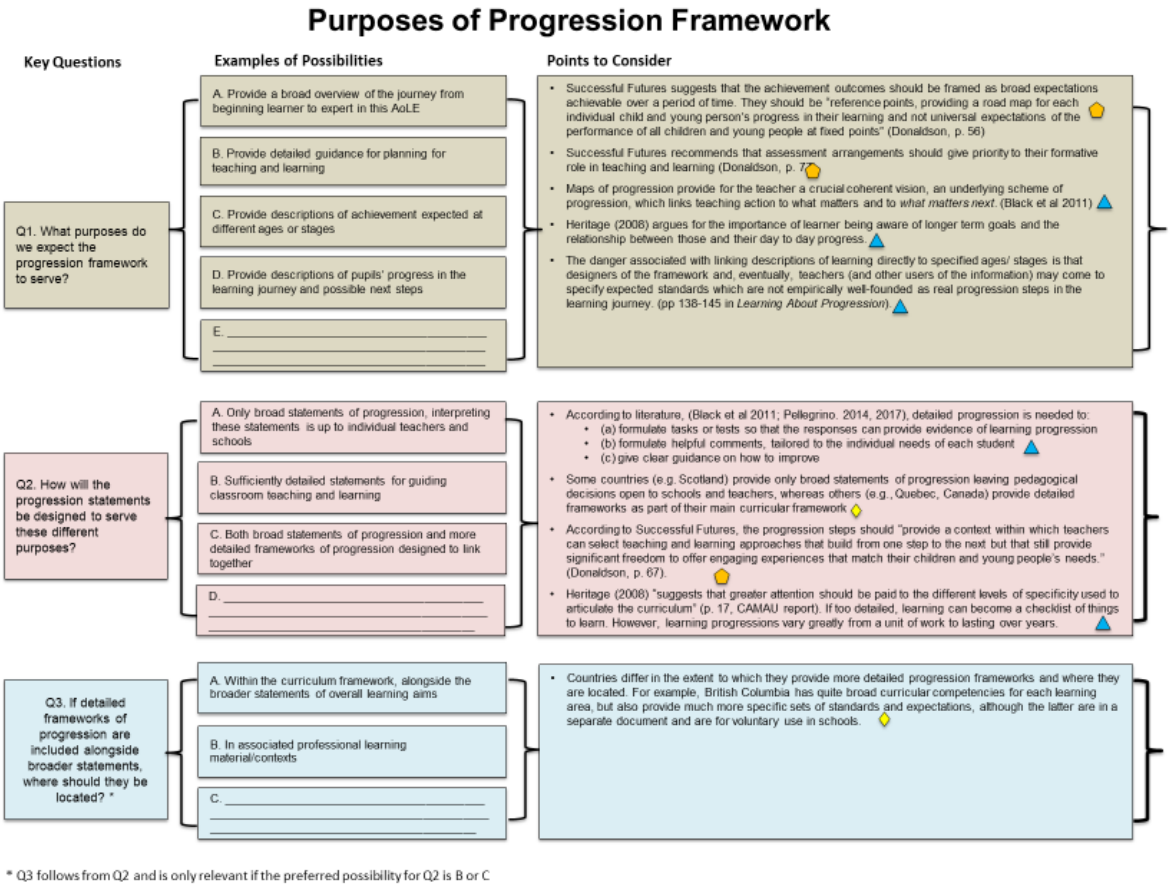
In conclusion

This research report, following the first seven months of work of the CAMAU project, is offered to the education community of Wales and, specifically, to the Pioneer Networks in the spirit of subsidiarity as set out in Successful Futures. The report reviewed evidence from a range of national curriculum and assessment frameworks and evidence from research on progression both as it relates to curriculum and assessment and in the context of the six Areas of Learning Experience. In this final section key ideas emerging from the various evidence sources were used to develop principles. These principles may be used in a number of ways, eg, as a touchstone to check that as ideas develop they remain consistent with original aspirations. Analysis of the evidence pointed to a number of possible alternatives approaches to the design and development of progression frameworks. To remain consistent with the concept of subsidiarity, these alternatives were offered as decisions to be taken. Each decision was structured around questions to be addressed, each supported by available evidence to promote better informed decision making. Each AoLE considered carefully the evidence available and made proposals to the Coherence Group. In the majority of cases it was possible for groups to agree a single proposal, however, in a small number of cases, two alternative proposals as to how a particular issue should be addressed were submitted from the same group. An example of a decision tree can be found in *Figure* 13 below. Further examples of decision trees from different AoLEs are provided in Appendix 3.

The decision tree approach was very well received by AoLE members and the proposals submitted to the Coherence Group provided them with a strong evidence base from across AoLEs to allow collective, well informed decisions to be taken.

The next and final CAMAU research report will begin by examining the agreed progression framework and will consider the development and enactment of its principles as they begin to emerge in practice.

Figure 13: Decision Tree



* Q3 follows from Q2 and is only relevant if the preferred possibility for Q2 is B or C

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Zimmerman, C. (2007) The development of scientific thinking skills in elementary and middle school. *Developmental Review,* 27, 172-223

Appendix 1

CAMAU Project

International Policy Review Guidelines

STEP 1: Notes on progression for the country

Name of Country:

Year the curriculum was written/published/updated:

Website(s) where materials were found:

How is the curriculum structured? E.g., Is there a curriculum document as well as achievement outcomes or are these combined? Are there supporting materials for teachers? Is there one curriculum across all ages or is it split into primary and secondary?

How many stages/levels/benchmarks are included? Are they aligned with specific years?

What components/subjects/themes related to the AoLE are covered in this country's curriculum? What seems to be missing?

How does the documentation define 'what matters' in this AoLE? Does this include content knowledge, competencies, skills, etc? What is the balance between knowledge and understanding, skills, attributes, and capabilities?

How is progression defined? Is it defined explicitly or implicitly? You may need to look outwith the statements themselves at the supporting documentation and introductions to the curriculum. Give some specific quotes or examples.

Are key progression points identified as expected standards for specified ages? Or as descriptions of knowledge, skills, capabilities needed for further progression in learning? Or is it some combination?

What form do statements of progression take? Are they detailed or broad? Are they in pupil-first language or written for the teacher? Provide some examples.

To what extent does the curriculum for this AoLE seem to align with what is written in Successful Futures? Does it seem to align with Donaldson's vision for progression? Give some examples.

Is there anything else worth noting? E.g., Is there anything particularly unique, innovative, or useful about this curriculum? Are there any aspects of the AoLE that are included in cross-curricular aims? Was there anything within this portion of the curriculum that seems to have connections with any other AoLE?

STEP 2: Summary Statement

Please write a summary of how this country has tried to describe or incorporate progression into their curriculum for the AoLE. Please include your own evaluation in terms of its potential advantages and disadvantages as an example of incorporating progression for this AoLE. This summary should be less than a page (less than 500 words) but can of course be shorter or longer as needed, and should complement the notes you have taken above.

STEP 3: Collating Across Countries

We will combine the information you have provided for each country into one document and write an overall summary statement comparing across the countries. We will then send this final document out for your feedback to make sure your country is represented appropriately and to seek your insight on

Appendix 2

Guidelines for H&WB Literature Review

Aim:

To describe what published evidence exists that might inform our understanding of how pupils progress within the domain of health & wellbeing

Scope:

Successful Futures defines the scope of this AoLE as: "This Area of Learning and Experience draws on subjects and themes from PE, mental, physical and emotional well-being, sex and relationships, parenting, healthy eating and cooking, substance misuse, work-related learning and experience, and learning for life. It is also concerned with how the school environment supports children and young people's social, emotional, spiritual and physical health and well-being through, for example, its climate and relationships, the food it provides, its joint working with other relevant services such as health and social work, and the access it provides to physical activity."(Successful Futures, p. 45). Our review, in line with Successful Futures, will aim to cover these core areas of the field. In accordance with the health and wellbeing report that the AoLE presented in June 2017, we will also include a brief overview of character education, which is somewhat aligned with the competencies that the teachers deem important: readiness, reflectiveness, resilience, respectfulness, resourcefulness and responsibility.

Thus our review will examine what evidence exists on progression in pupils' learning related to the following themes:

- physical education, physical literacy, physical wellbeing (Nanna)
- mental wellbeing and mental health (Sarah Stewart)
- healthy relationships, peer relations, sex, and parenting (George Wardle)
- nutrition, including healthy eating and cooking (Kara)
- substance misuse, abuse, and personal safety (Sue James)
- work-related learning and learning for life (Rachel Bendall)
- character education (Kara)

Stage 1: Finding Literature:

It is important to by systematic in the steps that we take so that we can communicate to others how we conducted our review so that it can be evaluated by others, be replicated if desired, and also to allow for consistency across the members of the group. In order to do this, we should follow the following guidelines:

1) Independent search with keywords: It is recommended that we use Ebscohost or a similar academic database and keep track of the keywords that we have used to search for literature. Certainly we should search for "progression" but be aware that it may not be a word that is commonly used so additionally we may look for similar keywords such as "child development" or "developing" + various keywords for the topic we are exploring. When looking through results, we can scan the title and abstracts to decide what may be relevant, and we should keep a running list of the sources that we plan to review. If a source sounds particularly relevant but one of our Universities do not have access we can use interlibrary loan to try to obtain the relevant source.
2) Expanded search: The next set of searches will involve exploring the work and authors that are cited within the original sources we have found. For example, one paper (such as the article by Margaret

Heritage) may cite very useful literature that we can then follow up with, or we may start to recognize some names of authors who are experts in our area and can do an author search within Ebscohost to explore their work. Again, we should keep track of the process we have used and keep a running list of the sources we plan to review.

3) Advice from Professors: We will ask our professorial consultants to also recommend papers or authors that would be relevant for our purposes.
4) Collegiate advice: If we come across something that may be relevant, share with one another. If we have a colleague who studies this topic, ask them. Keep track of which sources were recommended in this manner.

During this phase it is important to consider screening and excluding any papers that seem less useful. We may want to keep a list of all the papers we have considered and the ones we end up using for the review. Given our short time frame, the important thing is that we read enough core pieces in the area in order to begin describing with some confidence what is known in this area of progression.

Stage 2: Analysis for the Review:

Our literature review should be a synthesizing statement about the broader literature within a particular area that answers some critical questions related to progression (rather than just a summary of individual articles). It should be clear that this is an informed perspective and evaluation of the field, citing relevant sources for each point that we are making. When it is helpful we can use quotes and specific examples from the literature, or to create tables to help make points of comparisons or contrasts.

Next, using the papers that are relevant, we will want to report/describe substantial elements from the papers, consider the extent to which they inform our work of progression, note similarities/differences across the papers, and at the highest level, consider the sources themselves and their relevancy.

When reviewing the articles, we may wish to consider the following questions:

- What evidence exists that informs our understanding of progression in this domain?
- In what ways have researchers described how children develop their knowledge/skills/capacities in this area? In other words, how do they model progression? For example:
    - According to the literature, are the changes that children make qualitative jumps (with big steps at key moments) or more gradual sophistication (children seen to gradually add more of the same skills over time)?
    - Is progression linear or could children move backwards and forwards?
    - Do the researchers see children's progression as something that can be impacted on by the environment and open to change, or is it fixed?
    - Is there one path that children seem to take in this area, or are there multiple paths? Do the researchers acknowledge that children may have different paths based on the context in which they grow up/learn?
    - Are there different models of progression for the same topic and to what extent do they overlap, complement, or conflict?
- To what extent does the literature focus on how children develop in terms of their knowledge/understandings vs. behaviours/skills?
- To what extent is the progression that is described at a micro-level (for one lesson/unit) or at a macro-level (across multiple years)?
- What ages are covered when describing how pupils learn in this area? Which ages seem to be missing or receive less adequate attention?
- What is the theoretical background of the relevant literature (e.g., education, public health, psychology, etc.)? We may get some insight by looking at the journal it is published in as well.

- Importantly, what seems to be missing in this area? What do we still not know? Is there not a lot of research on this topic?
- To what extent could the research in this area help to inform models of progression that could be useful for teachers and for learners?
- What can we use from this literature for our purposes of writing a framework of how children progress in this area?

This literature review will serve two purposes. 1) to inform teachers about what is known in the literature that may inform their understanding of progression in this area, 2) to be a systematic review that would be appropriate for journal publication.

Stage 3: Writing the Review:

What will the overall review look like? Proposed outline for the literature review:

A. Introduction with description of H&WB for Wales based on Successful Futures
B. Literature reviews for each of the sub-areas we propose to examine
C. Overall summary comparing and contrasting literature across areas as well, as well as evaluation of the scope and depth of literature on progression in the H&WB area, and unanswered questions
D. Implications and issues, based on the literature, for creating assessment frameworks of progression in H&WB

How long should the review be? The overall review for our AoLE will likely be approximately 6-10 pages but could be up to twice as long if we happen to find a lot of relevant literature. That means approximately 1-2 full page per sub-area (about 500-1000 words if using Arial 12pt single spaced), with an understanding that some will be longer and others will be shorter depending upon what is or is not available.

Most of the work is done before writing, through coming up with a list of relevant sources, reading the literature, taking notes, and reflection and synthesis. Our point is not to be comprehensive but to read enough core pieces in each area in order to begin describing with some level of confidence what is known in this area. What we end up writing is a concise critique and summary of the literature in this area. Readers can refer to our cited sources if they want to learn more.

How many sources should I read? Again this depends strongly on each of our topics and what is available in the literature. We may be making several points that need to be justified by sources but the sources are only peripherally related to the main topic in which case we could have dozens that we are drawing upon for each part of the review. Or we may find just 3 or 4 highly relevant sources that cover the topic in great depth that we are focusing on and deem this to be sufficient for the sub-area.

Appendix 3

Mathematics & Numeracy: Points in the Journey

Points in the Journey

	Possibilities	*Points to Think About*
Q1. How do you identify beginning and end points in the journey?	A. Beginning point - The skills/ understandings/ dispositions/ experiences young pupils bring to the classroom B. End point - What a Welsh citizen should know/be able to do within the AoLE C. End point – Requirements for transition into different phases of the education system, e.g., higher education, vocational education D. Beginning point Pupils assessed for their starting point using formative assessment and taken forward from the point they are at.	Points to consider for identifying the journey starting point • According to Successful Future (p. 53), 'Initial Progression Steps should take full account of guidance on Routes for Learning' • Black et al. (2011) suggests that you "start from a learner's existing understanding' • Not all young pupils enter the classroom with the same experiences, meaning some flexibility may be required • _____ Points to consider for identifying the journey end point • Elective/non-core subjects in some countries mean pupils leave the system with different types of specialised knowledge • Identifying an end point as a minimal competency/skill/understanding may not allow all students to see the next step for reaching for their full potential, especially if they reach the highest progression at a young age • According to Successful Futures (p. 54), the curriculum should enable most children and young people to reach, or go beyond, each Progression Step • _____
Q2. Do different parts of the journey start at different points?	A. No, all skills, understandings, and/or competencies are represented at every step in the progression framework B. Yes, some skills, understandings, and/or competencies may begin at later points in the journey or end at earlier points in the journey C. _____	• Students can increase in knowledge/skills at any point in their learning experience and even young children can develop skills or have experiences that set the basis for future learning • Similar to Option B, some country's curricular frameworks (e.g., Quebec) that were reviewed do not introduce certain skills/understandings until later points in the journey and/or do not continue them through the full progression framework • Other countries that were reviewed repeat the same skill/understanding at multiple steps in order to represent that learning is happening over a longer period of time • _____ • _____
Q3. How do you break up the journey in ways that make the best sense for learning, e.g., number of progression points?	A. Five points in the learning continuum, relating broadly to expectations at ages 5, 8, 11, 14 and 16 (staging points for reference rather than universal expectations) B. The number of points may differ across learning depending upon the number of conceptual shifts that mark sophistication/development in the learning journey C. Descriptions of learning linked to each grade level, similar to standards D. Descriptions of learning needed to move into different phases of education, e.g., primary, secondary, subject choice E. _____	• Successful Future recommends Option A (see p. 53). There are also five progression points in the learning continuum in Scotland • Research on progression appears to align more closely with Option B, in the sense that many of the progression frameworks that were reviewed across AoLEs have no indication of age and range widely in the number of steps they have. On a continuum of learning you may need more, or fewer, points depending upon the skill/understanding. • Having the same number of points across each skill/understanding may be easier practically in terms of coherence across teachers and schools, but may require a compromise in terms of representing meaningful shifts in each skill/understanding, the latter of which is ideal for assessment for learning • Many countries tend to follow Option C (e.g., Australia, British Columbia), with some exceptions (e.g., New Zealand has 8 steps/points in the learning journey). However, Option C is critiqued in the literature as it links to grade level expectations (Heritage, 2008). • _____ • _____

Choice and Rationale

Rationale for Choice of Possibilities for Q1
Beginning Point - The teacher needs to use formative assessment to acknowledge what the learner has already achieved/ experienced / dispositions so they can assess the 'readiness' of the learner to continue their journey. (Singapore).
End point – Step achieved / reached towards the Four Core Purposes and the signal for where the next step will be.

Rationale for Choice of Possibilities for Q2
No, all skills, understanding, and/or competencies are represented at every step in the progression framework due to the way maths builds on the previous step. Each step is appropriate to the child's stage of development and introduced through play etc as appropriate. This is true for all "What Matters" within the Maths and Numeracy AoLE.

Rationale for Choice of Possibilities for Q3
Choose B – Discussion – evidence from practitioners during CAMAU research. We agree.
Point A – Discussion - Why are the ages chosen? 5 allows a child to settle into primary at the end of Reception. 8 acknowledges the infant / junior school situation and allows children to settle in a new school but then 11 when children move from primary to secondary is separating the two stages again. Dislike the clear distinction and not a journey more of a reaching different end points.

Point C – Discussion – Teachers needs guidance children do not need to be labelled and Welsh government label schools.

Point D – Discussion – Different phases of education seperating us too much still. 'Not our problem' idea.

AoLE proposal

Example: The aspect of the learning journey should be structured as… because…
Question 1 How do you identify beginning and end points in the journey?
The group proposes…
The teacher needs to use formative assessment to acknowledge where the learner is at , at the beginning of the journey. This will need to identify what the learner has already achieved/ experienced and the dispositions they have so they can assess the 'readiness' of the learner to continue their journey. (Singapore).
Step achieved / reached at the end of the journey should be measured against what steps the learner has taken towards the Four Core Purposes and the signal for where the next step will be.

Question 2 Do different parts of the journey start at different points?
The group proposes..
All skills, understanding, and/or competencies are represented at every step in the progression framework due to the way maths builds on the previous step. Each step is appropriate to the child's stage of development eg introduced through play etc as appropriate. This is true for all "What Matters" within the Maths and Numeracy AoLE.

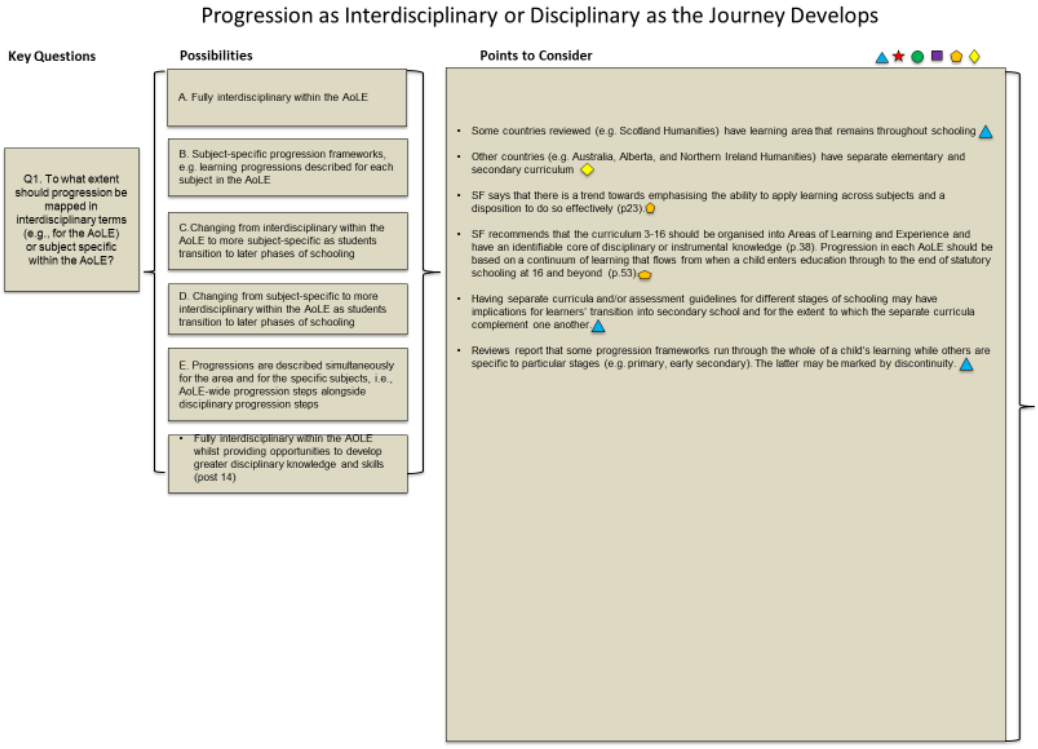
Question 3 How do you break up the journey in ways that make the best sense for learning eg number of progression points?
The group proposes….
The number of points may differ across learning depending upon the number of conceptual shifts that mark sophistication/development in the learning journey. This is evidenced from practitioners during CAMAU research. This is continous formative and summative assessment rather than just a point at a certain age for each child.

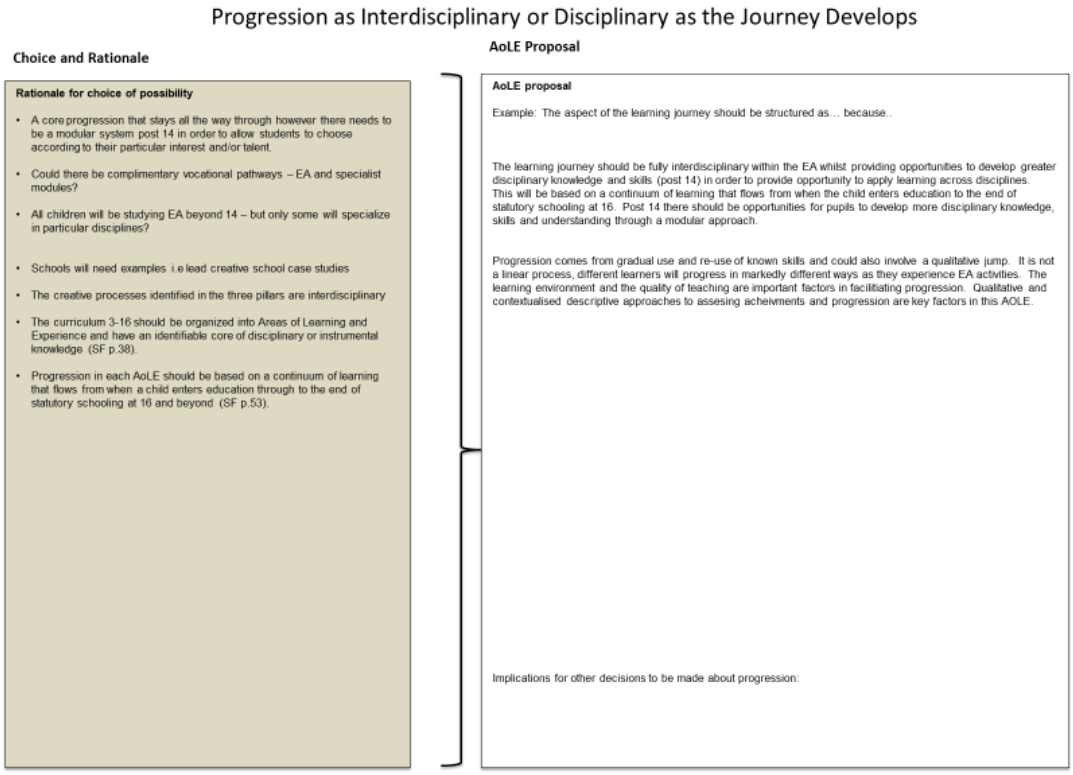
We dislike the clear distinction by age as not a journey more of a reaching different end points.
Teachers needs guidance for stages of development. Children do not need to be labelled and Welsh government then measure or label schools at artificial points of time. Support should be given to learners and schools without publicly shaming.

If we only assess different phases of education it is still separating primary and secondary schools too much and becomes the 'Not our problem' idea.

Implications for other decisions to be made about progression:

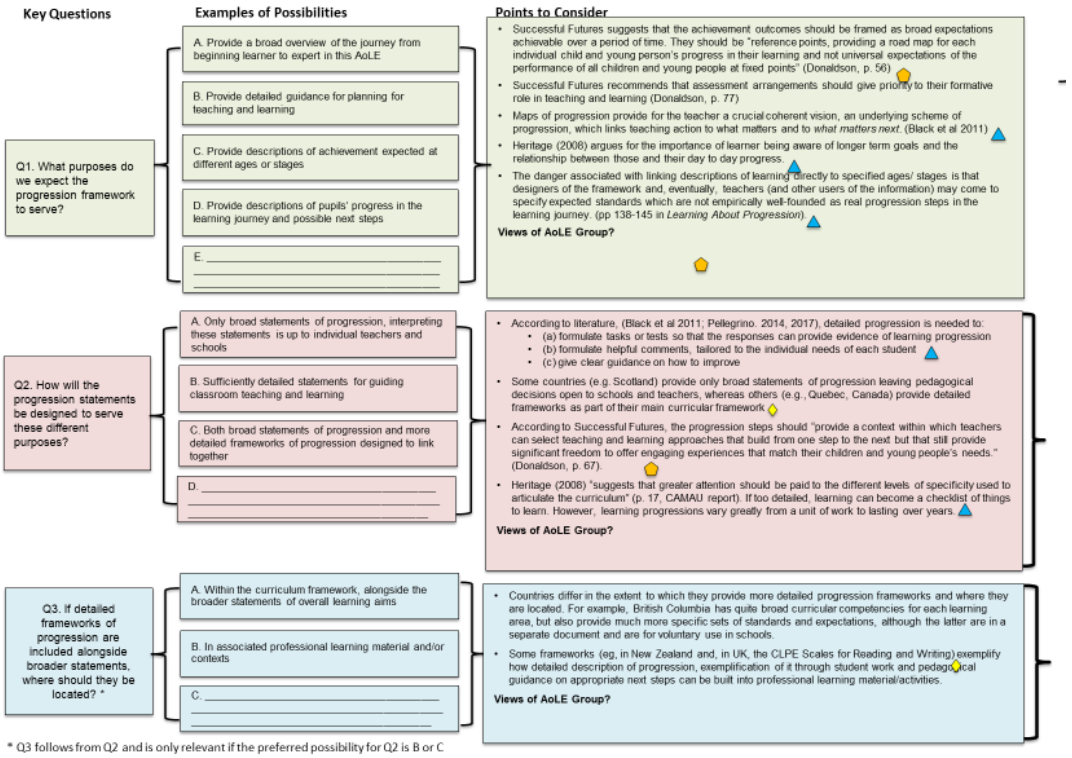
Expressive Arts: Progression as Interdisciplinary or Disciplinary





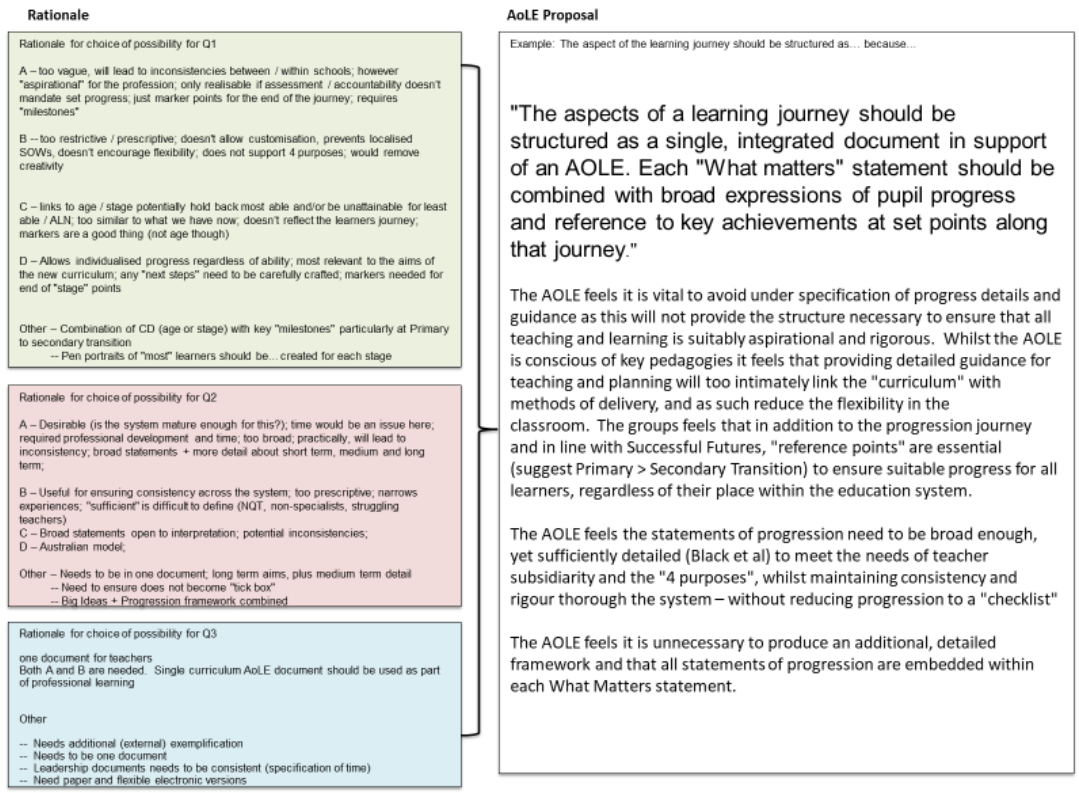
Science and Technology: Purposes of Progression Framework

Purposes of Progression Framework



* Q3 follows from Q2 and is only relevant if the preferred possibility for Q2 is B or C

Purposes of Progression Framework



List of additional documents available online

1. References to 'progression' in *Successful Futures*
2. Health and well-being: links to national curricula
3. Health and well-being: examples of progression statements
4. Humanities: links to national curricula
5. Examples of Religious Education Progression Statements in Scotland

These documents are available at
https://www.dropbox.com/sh/tgtjidlcuze9zt7/AABP34QNYEPcelJsjwlklBrGa?dl=0

Note also that analyses of individual country frameworks in the various curricular areas are available from the CAMAU project team.