

# Teachers as curriculum-makers

Professional learning implications for enacting a new curriculum in Wales, perspectives from the Humanities and Mathematics and Numeracy Areas of Learning and Experience

*Sioned Hughes\**, Kara Makara Fuller, David Morrison-Love and *Rachel Wallis\**

\*presenting



University  
of Glasgow



# Teachers as curriculum-makers: the situation in Wales

- Donaldson, G. (2015) Successful Futures: Independent Review of Curriculum and Assessment Arrangements in Wales.
- Curriculum ‘pioneer’ schools from across Wales identified teachers to support development of a national curriculum framework for ages 3-16, for six Areas of Learning and Experience (AoLEs) (2016 – 2019).
- Schools are required to develop their own school level curricula, operational from September 2022.

Areas of learning and experience



[Expressive Arts](#)



Health and Well-being



Humanities



Languages, Literacy and Communication



Mathematics and Numeracy



Science and Technology

Images from WG (2020c)

#### 4 CORE PURPOSES:

- ambitious, capable learners who are ready to learn throughout their lives;
- healthy, confident individuals who are ready to lead fulfilling lives as valued members of society;
- enterprising, creative contributors who are ready to play a full part in life and work; and
- ethical, informed citizens who are ready to be citizens of Wales and the world

#### 3 Cross-curricular responsibilities:

- Literacy
- Numeracy
- Digital Competence

# Progression and CAMAU involvement

## Progression Steps

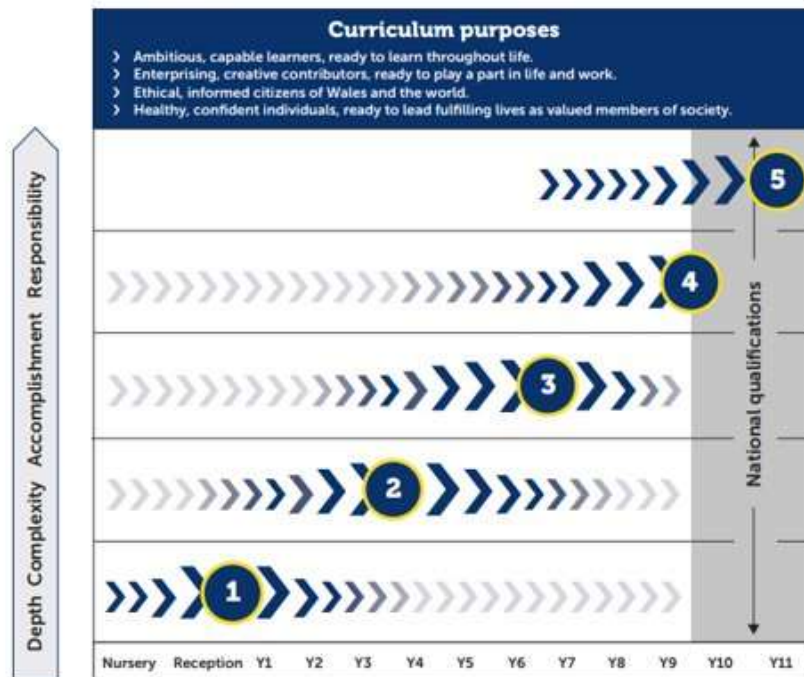


Image from Donaldson (2015)

## Aims of the CAMAU Project

To work with AoLEs in ways that are consistent with subsidiarity to explore:

1. How might curriculum, progression and assessment be conceptualised and developed in this context to promote better alignment between research, policy and practice?
2. In what ways do models of curriculum progression relate to progression in learning derived from empirical evidence within classrooms?
3. To what extent, and in what ways, is it possible to conceptualise assessment as the use of evidence to enable future learning, as 'progression steps', rather than as a summary of past achievement?
4. What implications arise from the CAMAU work with AoLEs that will be essential to consider in the next phase of the programme (i.e. implications for professional learning)?
5. What implications arise from this exploratory partnership project for research, policy and practice in Wales and beyond?

# Elements that are essential for successful and sustainable educational change

- **Educational integrity:** positive learning outcomes for learners and/or practitioners
- **Personal integrity:** a belief that what is being changed matters
- **Professional integrity:** gains in professional identity, a sense of being listened to or part of a professional community
- **Systematic integrity:** a commitment from the whole education system (e.g. change is credible or 'research informed', inspectorate, policy agendas support change)

\*Theoretical Framework: The Integrity Model of Change (Hayward & Spencer, 2010)

# Methodological Framework

- **Online survey** (through JISC online survey) for two categories of Pioneers: curriculum pioneers and professional learning pioneers (172 survey responses: Curriculum = 107 (17 in Welsh, 90 in English); Professional = 65 (11 in Welsh, 54 in English))
- **Semi-structured interviews** with individual teachers, Welsh Government leads and Consortia leads for each AoLE (n=25)

## Exploration of:

Interacting factors which influenced thinking of AoLE group

Key factors likely to be significant for the effectiveness of enactment and continuing development of curriculum

(Hayward et al. 2020)

# Findings ('teachers as curriculum-makers')

6 Areas of Learning and Experience (AoLEs)

Areas of learning and experience



Expressive Arts



Health and Well-being



Humanities



Languages, Literacy and  
Communication



Mathematics and Numeracy



Science and Technology

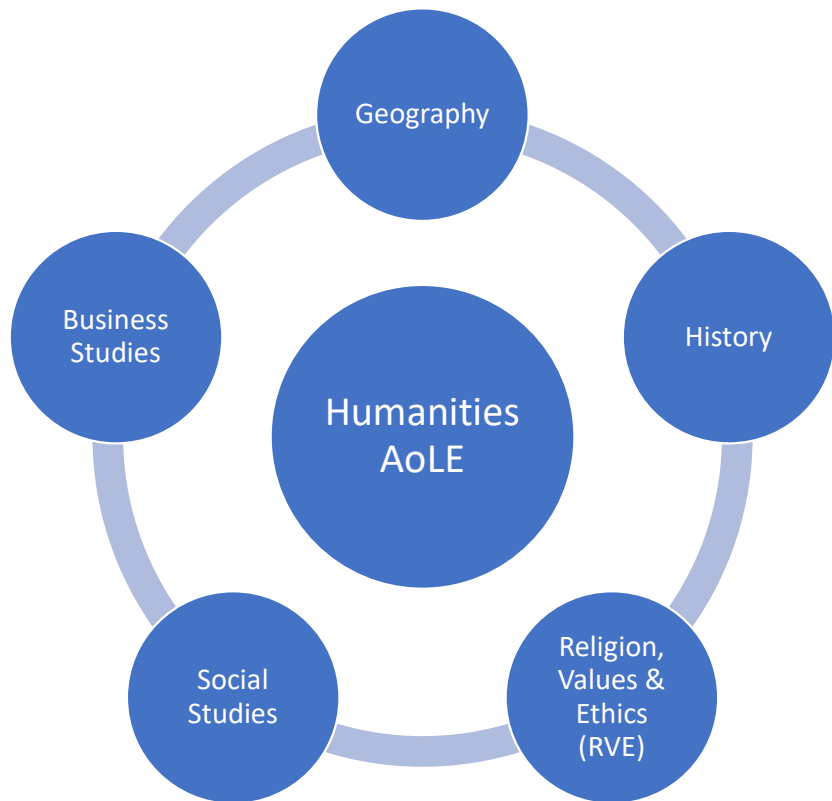
## Humanities AoLE

## Mathematics & Numeracy AoLE

Each AoLE focused on  
descriptions of  
learning for  
'What matters' and  
based on principles of  
progression

Images from WG (2020c)

# Humanities Tension 1: Relationship between disciplines & progression in disciplinary & interdisciplinary aspects



- Should progression steps adopt progression in **individual disciplines** across schooling, a **multidisciplinary approach** or some **combination**?

“I think good primary practitioners teach in an interdisciplinary way... and I think we as secondary colleagues, very much in our silos: I’m a geography teacher, I’m an history teacher...”

Secondary teacher Humanities AoLE

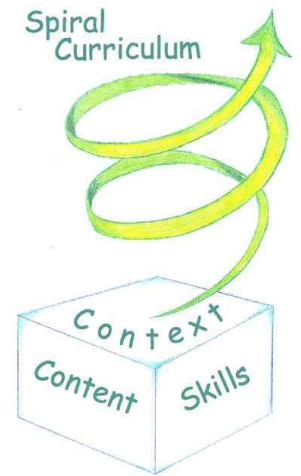
“It was clear from the start that teachers had gone down a very broad approach to the humanities and they were then kind of frustrated at some points about the need to think about disciplines and how that would fit in... find a reasonable balance between the vision and the whole tensions around disciplines and how they should be included in the curriculum...”

Government Lead Humanities AoLE

# Humanities Tension 2: Differences between models of progression

*'Unlike mathematics or science where the subject content intrinsically gets more complex, in the social studies, it is possible to ask 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’*

(Brant, Chapman & Isaacs, 2016, p.72).



“We have talked lots about having these sorts of lot more overlapping, I think we had concentric circles and all sorts at one point, different layers, and perhaps having a 3D model – I just worry, have we been, have we lost the creativity because we are trying to fit in with a model that suits the other AoLEs? Are we trying to have something that fits nicely into a piece of paper that can be printed out and people can use, whereas actually a 3D model might work with different layers and again you are revisiting skills?”

(Primary Teacher, Humanities)



## Humanities Tension 3: Different ways of thinking based on learning progression (old v new curricula)

“It’s about moving the child’s learning forward. Again, I keep saying it, but their journey, the way in which they need to move forward, I feel that has got very lost in schools – my own classroom included. You know you get driven by end points and actually that awareness of the different journeys that children are going on and actually I am very mindful of now not capping the way in which we are teaching because it is stopping the next part of the journey.”

Primary Teacher Humanities AoLE

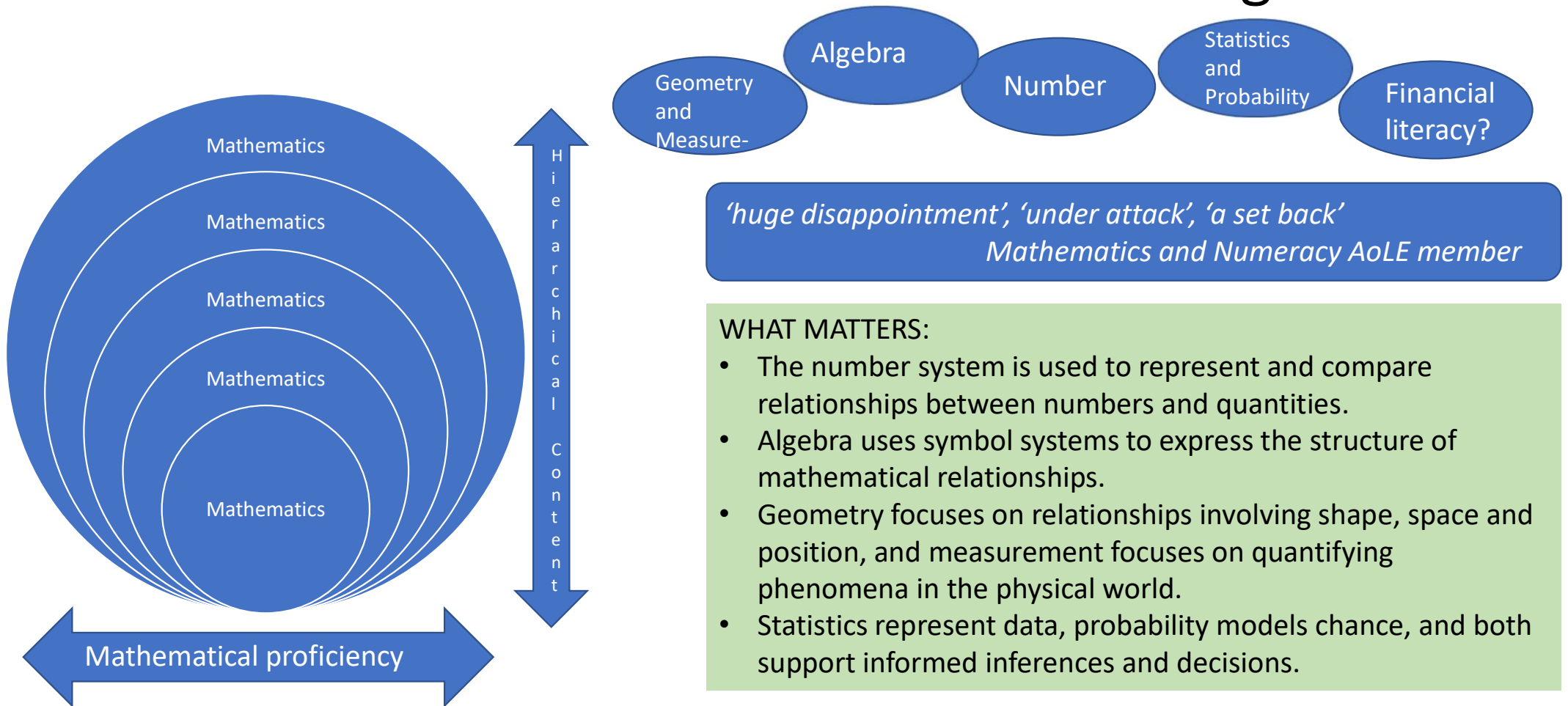
“It is hard to break away from your current experience with levels and your current experience with exam board specifications”

Secondary Teacher Humanities AoLE

“It’s the remits of being in a school at the moment, because you are not encouraged with the policies that exist to think in that way. You do fall into the trap of, it’s an assessment tool, it’s endpoint, it’s end of a context, end of a module, end of year.’

Primary Teacher Humanities AoLE

# Mathematics and Numeracy Tension 1: Articulating 'What Matters' – how do we define the 'Big Ideas'?



# Mathematics and Numeracy Tension 2: Encapsulating progression

Briefly describe the most significant challenge you encountered in describing progression in your chosen area.

Capturing progress of pupils in reasoning/problem solving/confidence and 'struggle in learning' pit. 2) Difference between assessment/progression.

## Principles of progression: Proficiencies

Conceptual understanding  
Communication using symbols  
Fluency  
Logical reasoning  
Strategic competence

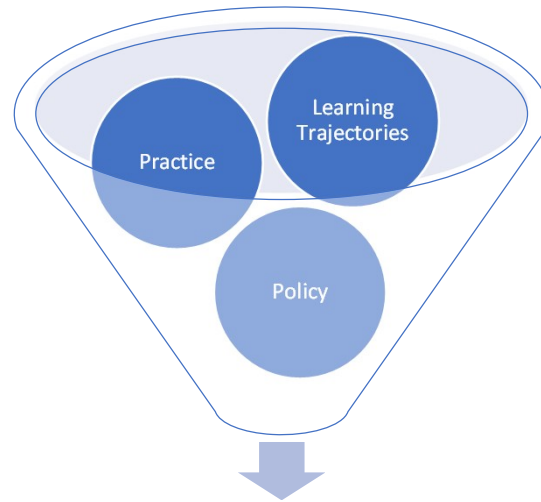
*'The key issue is how do learners progress through the Statements of What Matters to the Four Purposes? Progression looks different in different curricular areas: e.g. progression through concepts in science, in mathematics progression through subject areas but now described in terms of growth in 'proficiencies'*

*Participant in curriculum development*

*'y newid mwyaf i fi ydy cael trosolwg llawer gwell o beth sy'n digwydd o 3-16.'* [translated into English as 'the biggest change for me is having a much better overview of what's happening from 3-16.']

*Secondary Teacher, Mathematics and Numeracy AOLE*

# Mathematics and Numeracy Tension 3: Specificity



Broad descriptions of learning encapsulating progress over typical periods of 2-3 years

*'To create these really succinct and broad Progression Steps was a constant challenge for the group, because we felt that we were producing something that we were not sure was going to be that helpful, because we felt (it) needed more detail. So it was a constant battle.'*

Primary Teacher, Mathematics and Numeracy AoLE

*'dyna un o'r tensiynau oedd yn y grŵp, yn union faint o fanylder i'w rhoi yn y datganiadau'*  
*[translated into English as 'that was one of the tensions within the group, exactly how much detail to put into the statements']*

Secondary Teacher, Mathematics and Numeracy AoLE

Current curriculum (outcome driven)	New progression framework – focused on description of learning
Reception -count reliably up to 10 objects -use ordinal numbers to 10 in daily activities and play	Progression Step 1: I have experienced and explored numbers, including <b>cardinal</b> , <b>ordinal</b> and <b>nominal</b> numbers, in number-rich indoor and outdoor environments. I can use my experience of the counting sequence of numbers and of <b>one-to-one correspondence</b> to count sets reliably. I can count objects that I can touch, and ones that I cannot.
Year 2 -recall and use 2, 5 and 10 multiplication tables -begin to link multiplication with simple division, e.g. grouping and sharing in 2s, 5s and 10s	Progression Step 2: I have explored and can use my understanding of <b>multiplicative relationships</b> to multiply and divide whole numbers, using a range of representations and models, including sharing, grouping and arrays
Year 5 -calculate fractional values of quantities (e.g. $\frac{1}{8}$ of 24, $\frac{5}{8}$ of 24)	Progression Step 3: I can demonstrate my understanding that a fraction can be used as an <b>operator</b> or to represent division. I understand the inverse relation between the denominator of a fraction and its value.
Year 9 -use the nth term rule to determine whether a number is in a sequence -determine the position number of a given term	Progression Step 4: I can explore, generate, identify and represent both numerical and spatial linear sequences, including finding and using a general term.

*'It will help teachers look forward and plan for the future if they have a good level of professional understanding of all levels of Maths. A huge amount of professional learning will be required to use them as they are intended. I also think the broadness of them could potentially lead to misinterpretation.'*

Teacher in survey

# Key learning

Although there were challenges, teachers involved in the curriculum development process were developing sophisticated understanding of progression.

*'Well, I think the main thing that we had to take from it was that it was about moving forward and it wasn't going to be about summarising anymore. That it was always going to be written in mind with making progress as in getting from one point and then how you then move the learning forward.'*

Primary Teacher, Mathematics and Numeracy AoLE

*'It was (previously) out of our remit, we can talk about assessment, we had never been asked to describe learning; and I think that journey of describing learning is hugely different for teachers and I think that is a massive mindshift change that has to come across to teachers.'*

Primary Teacher, Humanities AoLE

# Recommendation 1: Place understanding of progression and school level curriculum design at the heart of professional learning

*'...one of the most important parts of learning anything new for the brain is that it has got to come from something before, that you build a schema by knowing other things. Putting all that together, it is no wonder that a child can't do a multiplication problem when they can't add. It seems so simple now, it is almost embarrassing to think that you didn't know it before but those are some of the really strong things, you know, looking at how the brain learns things.'*

Primary Teacher, Mathematics and Numeracy AoLE

Interviewees spoke of a need to develop practitioners' research literacy – e.g.

- closer working with higher education and schools
- qualifications in curriculum design
- improving accessibility to research
- supporting the synthesis of research findings
- commissioning specific research
- addressing issues of differing availability of research in different areas

## Recommendation 2: Develop and share new understanding of assessment

*'I worry it will turn into tick lists – you know, all those things that we have battled through.'*

Primary Teacher, Humanities AoLE

*'So we were very mindful that we didn't want to create an assessment tool and that we were very keen and interested to have this new and innovative way of looking at progression.'*

Primary Teacher, Humanities AoLE



## Recommendation 3: Ensure that the model of professional learning remains consistent with the model of change in Curriculum for Wales

*“I have learnt so much from the secondary schools and I would like to think they have learnt a lot from primary settings as well. We came together originally as separate subjects. Actually working with other subjects has helped us to see it in different ways.”*

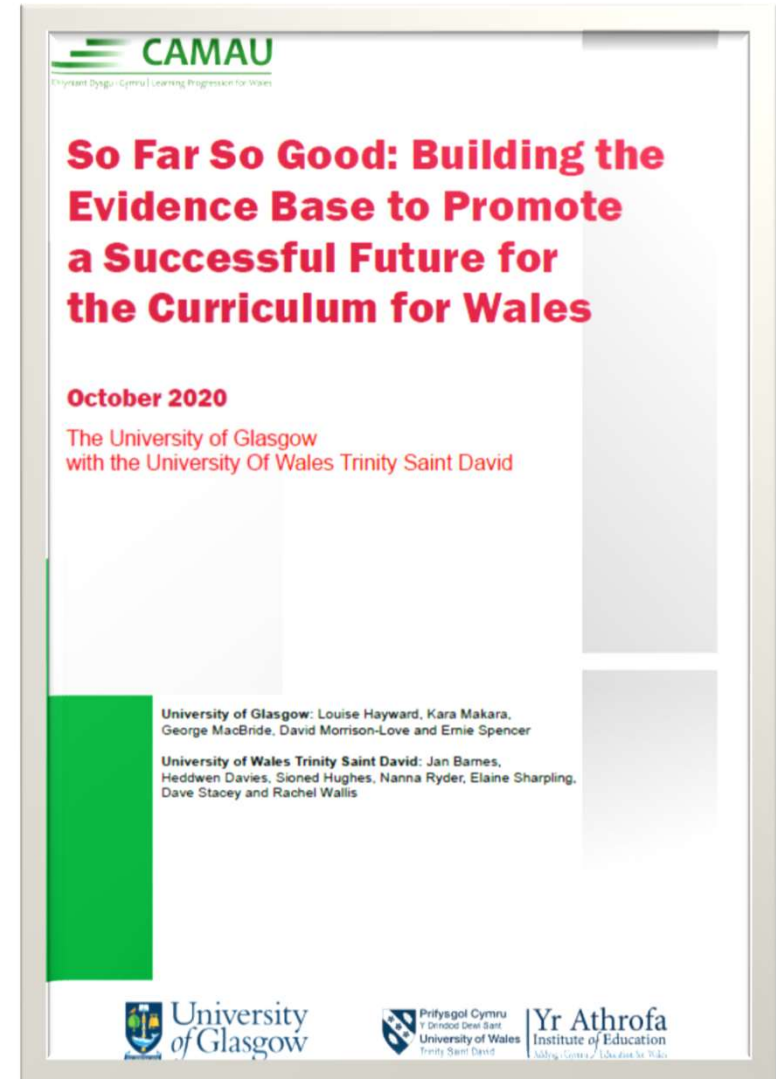
Primary Teacher, Humanities AoLE

It was argued that the involvement of those who developed the initial framework in the future professional learning of others would strengthen it. Specific points suggested in interviews included:

- Combination of formal and informal action.
- Engagement in dialogue with colleagues and with those who had the experience of developing the initial framework.
- Short, snappy accounts of what action is needed. Key documents only – to avoid overwhelming the profession with documentation.
- Guidance material usable by teachers without expert support.
- Collaboration across stages (foundation, primary, secondary).

***‘The engagement of those involved in the initial development of the framework had made them strategic thinkers: the profession as a whole, including school leaders, needs to go through the same processes of developing their thinking.’***

***(Hayward et al, 2020, p.57)***



# References

Brant, J., Chapman, A. & Issacs, T. (2016) International instructional systems: social studies. *The Curriculum Journal*, 27(1), 62-79.

Donaldson, G. (2015), *Successful Futures: an independent review of curriculum and assessment arrangements in Wales*, Welsh Government, Cardiff, UK, <http://dx.doi.org/10.1080/00220271003759249> (accessed 17th June 2021).

Hayward, L, Jones, D., Waters, J., Makara, K., Morrison-Love, D., Spencer, E., Barnes, J., Davies, H., Hughes, S., Jones, C., Nelson, S., Ryder, N., Stacey, D., Wallis, R., Baxter, J., MacBride, G., Bendall, R., Brooks, S., Cooze, A., Davies, L., Denny, H., Donaldson, P., Lewis, I., Lloyd, P., Maitra, R., Morgan, C., Pellew James, S., Samuel-Thomas, S., Sharpling, E., Southern, A., Stewart, S., Valdera-Gil, F., Wardle, G. (2018) *Camau Project: Research Report* <http://athrofa.cymru/wp-content/uploads/2018/06/CAMAU-Learning-about-Progression-Research-Report-2018-21.06.pdf> (accessed 17th June 2021)

Hayward, L., Makara, K., MacBride, G., Morrison-Love, D., Spencer, E., Barnes, J., Davies, H., Hughes, S., Ryder, N. Sharpling, E., Stacey, D. & Wallis, R. (2020) *So Far So Good: Building the Evidence Base to Promote a Successful Future for the Curriculum for Wales* <http://eprints.gla.ac.uk/223822/> (accessed 17<sup>th</sup> June 2021)

Welsh Government (2020) *Curriculum for Wales* <https://hwb.gov.wales/curriculum-for-wales> (accessed 17th June 2021)