Dyfodol llwyddiannus i bawb:
Ymchwiliadau i ddiwygio'r cwricwlwm

Successful futures for all:
Explorations of curriculum reform

Adroddiad terfynol

Final report

July 2019

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Findings on emergent issues in curriculum development:
Overall, the majority of teachers in Pioneer Schools are excited about the new curriculum. They are frustrated with the current system, seeing it as a prescriptive curriculum which places burdensome accountability demands on schools. In general, teachers and other stakeholders did not often mention the implications for disadvantaged learners and schools. There is the implicit assumption that the curriculum will be universally beneficial, without any clarification of how this will happen – or of the risks entailed. When probed on this issue, Pioneer Practitioners were able to identify a range of possible benefits that might emerge for the disadvantaged, the disengaged and the disillusioned young person. These can be categorised in terms of: valuing progression; fostering wellbeing; a more experiential curriculum; increasing flexibility and relevance.

While making the curriculum more experiential and progression-based seems self-evidently worthwhile, in practice we know that this will require a significant level of investment if the benefits are to be universally experienced. It is clear from our research that there are disparities in engagement and investment that will need to be addressed if the benefits are to be more universally experienced. There are also clear disparities associated with the 'Pioneer' process of curriculum development itself. Our mapping of the profile of Pioneer Schools reveals that they are disproportionately advantaged in terms of the socio-economic profile of their student intake. There are clear disparities in levels of engagement and enthusiasm *within* Pioneer Schools, which are likely to be magnified *between* Pioneer and Partner Schools. Similarly, there are concerns about disparities in investment. A frequent issue raised by the Pioneer Schools related to the expense associated with developing and implementing the curriculum. Even with the extra money these schools had received, they were unable to provide the out-of-school learning activities for all their students – and worried about how they would implement the curriculum after the development funding ceased. This was especially a concern in schools in more economically deprived areas which

cannot draw on the generosity of affluent parents to supplement budgets. Again, these disparities are likely to be even more pronounced across non-Pioneer schools.

In addition to between-school disparities in engagement and investment, there are issues about the needs of particular groups of learners that need to be addressed. Teachers in Pioneer Schools appear unconvinced that the new Curriculum will be of particular benefit to disadvantaged students in their own schools. However, the teachers who were most positive about the potential benefit of the new curriculum for disadvantaged learners were teachers in Pioneer Schools with the higher levels of socio-economic disadvantaged pupils. While this may be reassuring on one level, if their enthusiasm rests on the possibility of offering their students a more 'flexible' and 'vocationally relevant' curriculum, there must be real concerns about a shared entitlement to an intellectually challenging curriculum.

In short, there has to be recognition that this reform needs to be underpinned by a significant new investment. It may be possible to mitigate against these negative implications, but our research shows that for this to happen the Welsh Government, the education consortia and the Pioneer Schools need to ensure their planning for the success of the new curriculum gives more attention to the needs of disadvantaged learners and schools.

Progress in research capacity-building:
This capacity-building dimension of this research programme was designed on the basis of extensive experience of undertaking and evaluating research capacity building activities in the UK. The model was based on the principal that new researchers were best supported by a combination of expert guidance, collaborative inquiry and a sense of individual ownership. A key aspect of this was the 'hub and spokes' structure of the programme. The hub component provided not only guidance but a comprehensive research project that could inform the 'spoke' projects being undertaken by the partners. In addition to workshops and meetings, collaboration was encouraged through frequent mentoring and advice. The comments of the participants indicate that the combination of formal input through workshops and collaboration with other researchers, alongside ownership of their own research projects, has been a positive experience. Key findings from the partner feedback highlight the following aspects as important components of their development:

- o Formal workshops, tailored to the needs of the individual projects
- o The opportunity to collaborate with researchers from other HEIs on related but different projects
- o The sense of ownership of directing one's own project

As with all research, the major obstacle was finding the time. However, our impression is that the collective nature of the endeavour and the regular meetings meant that research remained a priority in partners' work schedules.

Another indicator of the success of this model of capacity building is that all of the participants intend to take forward their research and develop new projects with colleagues.

In short, the evidence indicates that this model of capacity-building has been largely successful and can provide a template for future projects.

Successful futures for all: Explorations of curriculum reform

Background

Wales is in the process of developing a curriculum that is designed to transform the nature of teaching and learning in primary and secondary schools. The 'Curriculum for Wales'[1] promises a radical shift – particularly for secondary schools – towards a more interdisciplinary and experiential education. The content of the curriculum will be structured around six broad Areas of Learning and Experience (AoLEs) which draw together what have been up until now distinct academic and vocational subjects. In short, pupils will encounter knowledge very differently from previous generations. While there is much to commend such a radical re-think, there are also significant risks.

This programme of research aims to add value to the Welsh Government's work in developing and evaluating the new curriculum through examining some of these risks – particularly as they relate to the needs of disadvantaged learners and schools. We know that schools serving disadvantaged communities face additional challenges in implementing radical reforms and it is important that these are recognised early on.

The aims of the research programme

There were two aims to the programme of research: the first relating to the need to identify emergent issues in the development of the curriculum as they relate to disadvantage; the second related to the need to build education research capacity in Wales:

Identifying emerging equity issues in the development of the curriculum

This aim has focused on undertaking exploratory research into the new curriculum as it is being developed. Clearly, as the curriculum is in the process of being developed, our findings are only tentative and reflect the current state-of-play. This means that much of what we have to say relates to 'hopes' and 'fears' about what will happen, rather than being based in evidence of implementation or impact. Nevertheless, we hope that these early explorations will provide the Welsh Government with insights into the new curriculum as it develops, as well as some foresight of the challenges and opportunities that it will inevitably bring in the future. We also believe that many of the questions that have emerged from the study should form the basis for further research.

Research capacity building in higher education in Wales

The second aim of the research sought to build capacity in Welsh universities, and in particular, those engaged in initial teacher education. As we have documented elsewhere,[2] recent decades have seen a decline in education research capacity in Wales that needs to be reversed if Wales is to develop an evidence base to support its own distinctive education agenda. Building on extensive experience of capacity-

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[1] Donaldson, G. (2015). *Successful Futures: Independent Review of Curriculum and Assessment Arrangements in Wales*. Cardiff: Welsh Government; Welsh Government (2017) *Education in Wales: Our National Mission, Action plan 2017-2021*. Cardiff: Welsh Government
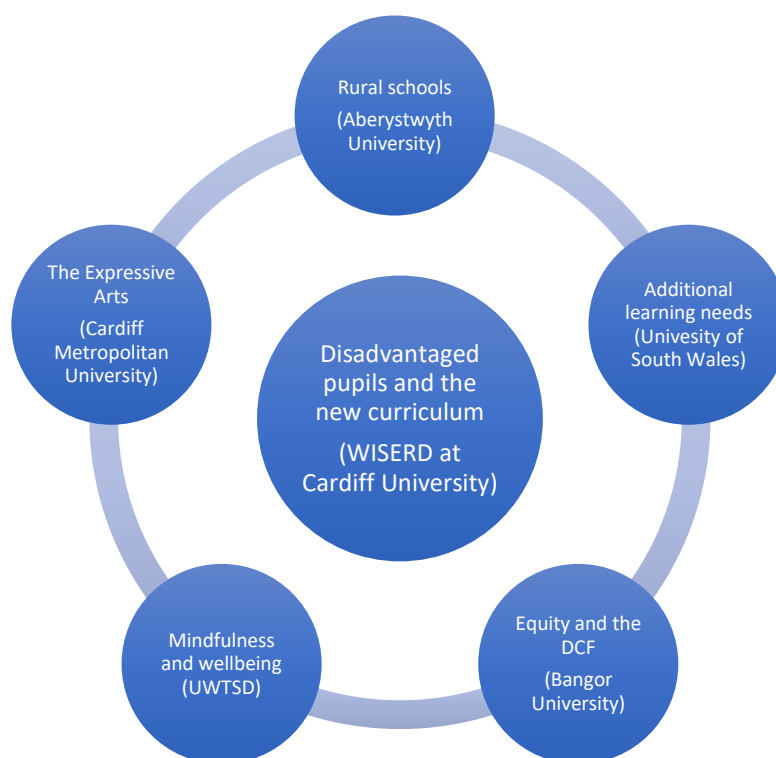
[2] Power, S. and Taylor, C. (2017) Educational Research in Higher Education in Wales: findings from a national survey. Cardiff: WISERD.

building,[3] this programme of research sought to build capacity through a combination of collaboration and expertise. It involved less experienced researchers working alongside more experienced researchers on a series of discrete but connected projects. In addition to developing the partners' own research capacity, it was hoped that it would also help to develop knowledge and expertise of the new curriculum within Initial Teacher Education departments – critical for the development of new and existing teachers in Wales.

Hub and spoke model

In order to meet both of the Programme's aims, we developed a 'hub and spoke' model (Fig 1). The 'hub' project provided a more comprehensive overview of the how the new curriculum might relate to the socio-economically disadvantaged. This project then connected with five satellite projects that each focused on a different dimension of disadvantage. The foci of these projects were identified by the research partners so that we could build on existing interests and expertise. Two focus on schools and pupils that are likely to experience particular challenges – schools in rural areas and learners with additional needs. Two focus on particular areas of learning – the Digital Competency Framework (DCF) and the Expressive Arts – in order to explore the equity issues that were emerging. One project has explored one particular intervention, that of mindfulness, that is being widely used in Pioneer Schools as a way of promoting health and wellbeing – as well as other cross-curricular skills. Brief synopses of the projects are outlined below. Full reports of each of the projects are available on the WISERD website.[4]

Figure 1. Programme Design for Successful Futures for All

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[3] Rees, G., Baron, S. Boyask, R. and Taylor C. (2007) Research-capacity building, professional learning and the social practices of educational research, *British Educational Research Journal*, 33, 5, 761-779.
[4] https://wiserd.ac.uk/research/research-projects/successful-futures-for-all/more-info

Six explorations of curriculum reform

The new curriculum and disadvantaged learners and schools
Co-Is: Nigel Newton, Sally Power & Chris Taylor, WISERD at Cardiff University

Focus: The aim of this project was to explore the implications of the new curriculum for disadvantaged learners and schools. Although the new curriculum is still in development, we were concerned to explore the socio-economic profile of the Pioneer Schools, and the extent to which teachers perceived there were any particular challenges or benefits for disadvantaged learners and schools.

Methods: We undertook a mapping exercise of the distribution of Pioneer Schools by their proportion of socio-economically disadvantaged pupils. Semi-structured interviews were then carried out with 10 Pioneer Leads and 25 teachers in 10 schools (primary and secondary, Welsh and English medium) serving the more economically disadvantaged communities. Interviews were carried out with teachers developing each of the six Areas of Learning and Experience. Following analysis of the interview data, a survey was developed to be administered to *all* teaching staff within Pioneer Schools nationally. Survey data were collected from 634 teachers across 81 Pioneer Schools. The data also reflected the perspectives of teachers with different levels of responsibility within their schools and differing levels of involvement with curriculum development and also allowed us to compare the perspectives of teachers working in different socio-economic contexts.

Findings: Teachers' responses to the new curriculum were seen as considerably influenced by what they perceive as bad about the current curriculum, particularly its perceived prescriptiveness and the burdensome accountability measures used to evaluate school performance. Many teachers believe that the greater autonomy over content and the more experiential focus afforded by the new curriculum will enable them to offer learners a more engaging educational experience. 85% of respondents felt these benefits would be achieved if teachers were given greater flexibility over how pupils are assessed and more than 50% felt this should involve fewer exams. Findings also show that many teachers, with the exception of those who have received the most training, have considerable levels of uncertainty and ambivalence towards core aspects of the new curriculum. This raises questions about the levels of funding that will be required for training and support. Overall, few teachers either in interviews or through the survey data identified children from more disadvantaged backgrounds as potentially benefitting from the new curriculum. While those working in schools with above average numbers of pupils eligible for Free School Meals (FSM) were significantly more optimistic about it and felt better informed, it is unclear why this is the case. It would be a cause for concern if this enthusiasm for flexibility in content were used to increase the differentiation in provision to learners between more vocational and academic pathways.

SF4All and additional learning needs
PI: Carmel Conn, University of South Wales

Focus: The aim of this research was to explore how additional learning needs (ALN) are being considered in the development of the new curriculum, including what discourses, values and beliefs are being drawn on by key professionals. Educational

discourse is an important source for teachers to draw on in making professional judgements about children's learning, including those who experience challenge in terms of their learning. A further aim of the project was to explore alignment of the development of the new curriculum and current reform of ALN.

Method: Key professionals in the policy and practitioner communities were invited to participate. Participants included ALN policy leads and practitioners in Pioneer schools, one secondary school and one primary school. Semi-structured interviews were used to gather information. Participants were asked to describe their involvement in the reform process as well as their views about ALN and pedagogy, pupil progression, teacher knowledge and accountability.

Findings: Findings indicate that the new curriculum is perceived as broader, less prescriptive, and less driven by standards by all policy-makers and practitioners who participated in the research. Curriculum reform was seen to be focused on the quality of teaching and the achievement of all learners, and so reinforcing an approach to education that already exists within Wales but viewed as not yet fully embedded. Critical issues for the reform programme in relation to pupils with additional learning needs included the presence of more learners with complex additional learning needs in mainstream classrooms and the increased accountability of schools under new arrangements. There were also divergent opinions concerning key aspects of the reforms. Some professions see the new curriculum as an opportunity to ensure pedagogies considered beneficial to ALN learners are adopted universally in Wales. Other ALN specialists believed there would be little significant change for ALN learners under the new curriculum and as a consequence it would be important to ensure specific support systems, such as small group work and specialised teaching, remain in place. Together these issues were seen by some participants as necessitating arrangements for ALN in their current form.

Rural schools and the new curriculum
PI: Susan Chapman, Aberystwyth University

Focus: The aim of the research was to gain insights into the experiences of teachers in rural Pioneer Schools using semi-structured interviews. While there is a lot written about curriculum reform, very little considers the significance of the geographical context. Rurality, in particular, offers schools opportunities and challenges that are quite different from those experience by their urban counterparts.

Method: There are relatively few Pioneer Schools in rural areas, so the sample is small in number. However, it includes all secondary Pioneer Schools in rural mid Wales. Within these schools, interviews were undertaken with all the Pioneer Leads, headteachers and other teachers not directly involved on a voluntary basis according to availability.

Findings: The research revealed that the Pioneer Lead teachers are highly committed to the process, but with some reservations. Headteachers and Pioneer Lead teachers were optimistic about the reform seeing opportunities to develop a more inclusive curriculum with a focus on skill. Some schools are working with their local community to enhance the curriculum, collaborating with local businesses to broaden learners' experience and skills for the workplace. In some ways, the relative isolation of rural

schools has made them better placed to adapt to the processes of curriculum reform. Staffing patterns in some rural schools, where teachers routinely teacher more than one subject, may facilitate working in AoLEs in the future. However, the Pioneer process has presented some logistical problems in terms of engagement and communication. Pioneer Practitioners commented that the greater demand in terms of time, owing to travelling. Pioneer Leads also expressed concern about the challenges of sharing their work with colleagues in other schools, again owing to time constraints and distances. There are also concerns about access to a wider range of out-of-school learning opportunities.

Implementing the Digital Competency Framework
PI: Owen Davies, Bangor University

Focus: The first element of the new Curriculum for Wales to be made available is the Digital Competency Framework (DCF). Digital competence is defined by Welsh Government as the set of skills, knowledge and attitudes that enable the confident, creative and critical use of technologies and systems. Of particular importance is the development of 'computational thinking' which is designed not only to support IT skills but thinking skills more generally. This project sought to look at how key stakeholders are developing this aspect and the challenges of ensuring widespread implementation of DFC and computational thinking.

Methods: Semi-structured interviews were undertaken with key practitioners at school and consortia level. Questions included their roles in the development of the curriculum, and their views and experiences of computational thinking and their perceptions of the alignment between curriculum reform and the impact of funding and infrastructure.

Findings: This exploratory study indicates that computational thinking developed through coding activities is a growing trend across Wales. However, the interviews also indicate suggest that some classroom practitioners require further training and professional learning in regard to computer coding. There are also concerns about ensuring that there is adequate resourcing and that some geographical areas are not disadvantaged. Finally, while teachers and stakeholders shared their hopes and fears for the New Curriculum and welcomed the opportunities that curriculum reform give teachers to make decisions, they voiced concerns about the feasibility of developing a shared vision across their region and Wales in general.

Curriculum integration in the Expressive Arts
PI: Judith Kneen, Cardiff Metropolitan University

Focus: This research project explored how a group of Pioneer Lead Teachers have developed the Expressive Arts (EA) Area of Learning and Experience (AoLE). As part of the consideration of how the Pioneers have conducted this work, this study focuses particularly on the experience of primary and secondary Pioneers (and how it differs) and on the implications for disadvantaged learners from the EA AoLE.

Methods: Using a case study approach, the main methods used were semi-structured interviews with a sample of Pioneer Teachers from the AoLE Group and observations of the Group in one of the monthly meetings. Eleven teachers were interviewed from

a range of schools, including primary, secondary and special schools across Wales. Welsh-medium/bilingual schools were included.

Findings: The study highlights the complex roles performed by the Pioneers, a role which included working collaboratively on writing the framework for the EA AoLE, trialling materials in school and, for some, outreach work with other schools. While frustrations and impediments did arise, including issues for some in trialling new ways of working in their schools with colleagues who were reluctant to try out new approaches, there was a high level of commitment to the process. In general, teachers held high hopes for a curriculum that will engage and inspire learners. There was a difference between the experience of Pioneers from primary and from secondary schools. Primary schools were more familiar with the strategies, and had more flexibility in effecting change. Secondary colleagues encountered more difficulties in terms of areas such as staffing and timetabling. In terms of the needs of learners, there was little evidence of the Pioneers considering the needs of particular groups (apart from the needs of learners in special schools), although the Pioneers could see obvious benefits of the EA for learners from disadvantaged backgrounds in terms of equality of provision. This would indicate a need for future consideration of schools can ensure that the new curriculum for EA meets the needs of disadvantaged learners.

Mindfulness and wellbeing in the new curriculum
Co-Is: Helen Lewis, Swansea University & Sioned Hughes, University of Wales Trinity Saint David

Focus: This study explored the introduction of a programme of 'mindfulness' into the curriculum – an intervention that is increasingly being used in Pioneer and other schools to fulfil some of the aims of the Health and Wellbeing AoLE. With the aims of this programme of research in mind, there is evidence that mindfulness interventions might be particularly relevant for children and their families with an increased risk for exposure to socio-contextual stressors. This study therefore explored the impact of a Mindfulness intervention (Paws b) on daily experiences and on pupils' attitudes to learning in a Pioneer primary school in south Wales. The school has a high percentage of pupils eligible for Free School Meals (approx. 35%).

Methods: A mixed-methods approach was used to explore perceptions from a variety of stakeholders. Interviews were conducted with pupils, teachers and parents, and pupils' attitudes to learning pre- and post-intervention were measured. To explore longer-term impact, children who had undertaken the intervention the previous year were interviewed.

Findings: The main findings suggest mindfulness helped children concentrate and ready themselves, for instance, when engaging with 'tricky' learning. For many, this had a positive impact on views of themselves as learners. Pupils also reported improvements in peer and family relationships. Older pupils remembered many key messages after the formal input ended, and felt they continued to apply these throughout school and home life. Teachers also reported that they perceived positive impact on pupils, and also commented on how mindfulness techniques helped them to deal with their own personal and professional stresses.

The promise of the new curriculum

Although the six projects all explore different dimensions of disadvantage, there are some notable similarities in their findings both in terms of what the new curriculum promises, and its potential perils, which we discuss in the next section.

Overall, the majority of teachers in Pioneer Schools are excited about the new curriculum. They are frustrated with the current system, seeing it as a prescriptive curriculum which places burdensome accountability demands on schools. For many, the new curriculum promises to give them greater autonomy, enabling them to shape provision that they consider will be more engaging and relevant to their learners. Given a choice of words to describe their feelings about the development of the new curriculum, 'excitement' and 'optimism' were the most commonly chosen by teachers.

However, the focus of this programme of research is on the implications of the new curriculum for learners rather than teachers – and for disadvantaged learners and schools in particular. In general, and across all of the projects, teachers and other stakeholders did not often mention the implications for disadvantaged learners and schools. To some extent, as with the Welsh Government literature on the curriculum, there is the implicit assumption that the curriculum will be universally beneficial, without any clarification of how this will happen – or of the risks entailed. When probed on this issue, Pioneer Practitioners were able to identify a range of possible benefits that might emerge for the disadvantaged, the disengaged and the disillusioned young person. These can be categorised in terms of: valuing progression; fostering wellbeing; a more experiential curriculum; increasing relevance.

Valuing progression
Teachers believe that the new curriculum emphasises progression over attainment, and emphasises stage of learning over age-based criteria. They also see benefits in breaking down the boundaries between stages and subject areas. For example, primary and secondary school colleagues are working together cohesively. This means that the curriculum is being conceived of, right from the start, as one continuum, rather than as different phases. They also believe that the new curriculum may allow for greater recognition of the different ways in which learning achievement takes place.

Some participants noted that the new curriculum put a particular emphasis on the use of formative assessment as a process within teaching and learning and saw this approach as more likely to support multiple pathways to learning. Emphasis was also seen to be on pupil progress rather than simply pupil attainment and qualification. This was felt by some as more likely to ensure recognition of pupil achievement in different forms, including small steps in learning. Overall, learners with ALN were seen as benefitting from the focus on stage not age in terms of measures of achievement, and from the emphasis on practices such as assessment for learning, experiential learning and skills development.

Fostering wellbeing
Through designating Health and Wellbeing as one of the six AoLEs, it is hoped that schools will pay greater attention to a range of psychological (and physical) issues that affect young people's capacity to learn. Mental health, in particular, has become a serious issue for schools.

It is often claimed that disadvantaged children in primary schools are more likely to lack ambition and self-esteem. Additionally, some research indicates that children from disadvantaged backgrounds may be less well placed to develop competencies related to their wellbeing. It is contended that strategies promoting wellbeing will disproportionately benefit disadvantaged learners.

Experiential curriculum
Providing pupils with a more experiential curriculum was clearly something that many teachers felt would benefit pupils who were disengaged or disillusioned. Several teachers mentioned whole-school activities relating to topics which they have organised with community groups and specialist educator. These experiences were felt to particularly benefit the more socially and economically disadvantaged pupils for whom these kinds of experiences might be prohibitive due to their family circumstances.

Additionally, the greater recognition given to the expressive arts, was seen to be beneficial. It entailed shifting the focus from what is perceived as the narrow 'tick box' delivery of content of the current curriculum to something more free and exploratory. Arts-based subjects in particular are seen as providing a more 'engaging' education and enjoyable experience.

Increasing flexibility and relevance
Finally, the majority of those interviewed felt children from disadvantaged backgrounds would benefit under the flexibility of the new curriculum and the potential for more 'appropriate' content. Several teachers we spoke to felt that the new curriculum might benefit these pupils inasmuch as it would give them greater flexibility to individualise learning and provide more 'relevant', vocationally-oriented teaching. As one teacher described it, the new curriculum is about "Letting them (teachers) choose topics that are current and relevant in terms of industry jobs."

The potential perils of the new curriculum

As we have seen, there is clearly considerable enthusiasm for the curriculum as a whole. There is the implicit assumption that it will benefit all pupils. When pressed to consider the advantages for disadvantaged learners in particular, Pioneer Leads identify a number of potentially beneficial aspects. However, it is not clear what these will entail in practice, and there are concerns that increasing flexibility and relevance may lead to a highly differentiated, even stratified, curriculum that will compound disadvantages.

Our evaluation of the Foundation Phase,[5] which shares many similarities with the principles underpinning the emerging new Curriculum for Wales, showed that while well-being improved across the sector, there was no narrowing of the attainment gap. Our analysis, based on observational data, suggested that learners in schools with higher levels of socio-economic disadvantage received a slightly different curriculum – one which focused more on the basic skills and covered slightly fewer areas of learning.

While making the curriculum more experiential and progression-based seems self-evidently worthwhile, in practice we know that this will require a significant level of investment if the benefits are to be universally experienced. While there was a significant increase in investment in the Foundation Phase, it would appear is if this was not sufficient to address already-existing disparities between schools. With the Curriculum for Wales, it is clear from our research that there are clearly disparities in engagement and investment that will need to be addressed if the benefits are to be more universally experienced.

Disparities in engagement

There are clearly disparities that are associated with the 'Pioneer' process of curriculum development. The Pioneer Teachers we have spoken to have been very positive about the process of curriculum development and express a strong sense of 'ownership'. However, those who are not Pioneer Leads or not in Pioneer Schools do not.

Our survey showed considerable variations in attitudes towards the new curriculum *within* Pioneer Schools. For example, while Pioneer Leads were largely supportive of the current content of the AoLEs (as described in the *What Matters* statements), this was not the case for other teachers in Pioneer Schools. The majority were 'unsure', and over one quarter were 'unhappy' with the content.

These disparities are likely to be even more pronounced *between* schools. And there are socio-economic dimensions to this disparity. For example, our mapping of the profile of Pioneer Schools reveals that they are disproportionately advantaged in terms of the socio-economic profile of their student intake. In addition, despite the emphasis

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[5] Taylor, C., Rhys, M., Waldron, S., Davies, R., Power, S., Maynard, T., Moore, L., Blackaby, D. & Plewis, I. (2015) *Evaluating the foundation phase: Final report*. (Cardiff, Welsh Government). See also Taylor, C., Rhys, M. and Waldron, S. (2016) Implementing curriculum reform in Wales: the case of the Foundation Phase, *Oxford Review of Education*, 42, 3, 299-315 and Power, S., Rhys, M., Taylor, C., & Waldron, S. (2019) How child-centred education favours some learners than others. *Review of Education* 7, 3, 570-592.

on collaboration and sharing insights that is built into the development phase, schools are still in competition with each other in terms of attracting students. We know of at least one Pioneer School where a request by a neighbouring school for some insights into the new curriculum was denied because the headteacher perceived the school to be a 'competitor'. Our research also suggests that rural isolation will lead to increasing disparities in engagement.

Disparities in investment
A frequent issue raised by the Pioneer Schools related to the expense associated with developing and implementing the curriculum. Even with the extra money these schools had received, they were unable to provide the out-of-school learning activities for all their students – and worried about how they would implement the curriculum after the development funding ceased. This was especially a concern in schools in more economically deprived areas which cannot draw on the generosity of affluent parents to supplement budgets, "It won't work if money isn't given to schools". For schools without even this level of additional resource, the issue is more acute. We know from other research, that schools in rural areas and with higher levels of FSM offer fewer out-of-school learning opportunities.[6]

This was also clearly evident from the research into the infrastructure needed to implement the DCF. Teachers across all types of schools expressed concerns about whether there will be funding to provide the same levels of opportunity to pupils, and access to technology, when the new curriculum is fully rolled out. It would seem that the bigger more successful schools, especially if they have a sixth form, being well-placed to get the latest 'kit'. There were also concerns about regional inequalities.

Who are likely to be the winners and losers?
There are clearly between-school disparities in engagement and investment that will need to be overcome for there to be an equitable level of provision. But there are also issues about the needs of particular groups of learners that need to be addressed.

When teachers in Pioneer Schools were asked to identify which kind of learners would experience benefits from the new Curriculum for Wales, their responses were surprisingly low. The group that was identified by the highest proportion of teachers as benefiting from the new curriculum was students of 'lower academic ability', but even here only 44% indicated this. For students with ALN, the proportion as 39%, for boys 36%, for FSM eligible pupils 31% and for Black, Asian and minority ethnic pupils is was only 19%.

It is the case that those teachers who were most positive about the new curriculum in general, and for disadvantaged learners in particular, were teachers in the Pioneer Schools with the higher levels of socio-economic deprivation. While this may be reassuring on one level, if their enthusiasm rests on the possibility of offering their students a more 'flexible' and 'vocationally relevant' curriculum, there must be real concerns about a shared entitlement to an intellectually challenging curriculum. We need to ensure that giving teachers increased flexibility over what they teach does not

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[6] Power, S., Taylor, C., Rees, G. and Jones, K. (2009) Out-of-school learning: variations in provision and participation in secondary schools, *Research Papers in Education*, 24, 4, 439-460.

result in some children ending up with a less 'academic' curriculum - resulting in their opportunities for progression post-16 being restricted.

In short, there has to be recognition that this reform needs to be underpinned by a significant new investment. It may be possible to mitigate against these negative implications, but our research shows that for this to happen the Welsh Government, the education consortia and the Pioneer Schools need to ensure their planning for the success of the new curriculum gives more attention to the needs of disadvantaged learners and schools.

Explorations in research capacity-building

The model

This capacity-building dimension of this research programme was designed on the basis of extensive experience of undertaking and evaluating research capacity building activities in the UK. This experience has revealed that the provision of formal training alone is not enough to build capacity and that 'grass roots' developments are too slow and uncoordinated to lead to sustainable and systemic capacity building.

We have argued elsewhere[7] that many of the early initiatives did not pay sufficient attention to other forms of professional learning which are based upon participation in the conduct of research and the development of experience through critical reflection and, most significantly, interaction with more experienced researchers and peers. Accordingly, this programme is based on a framework for capacity building which emphasises the importance of actually *doing* research.

We first developed the kind of model we are using here for our HEFCW-funded WISERD Education programme. And while the earlier version generated some success, engagement from other researchers in Wales was not as high as we had hoped. For this reason, we have modified the model to give our partners greater levels of ownership of the research process through putting in place a 'hub and spoke' model that has enabled them to develop their own research interests.

These various projects have been co-ordinated by a WISERD Hub Team that has provided support and guidance throughout the programme. The Hub Team has also provided a programme of more formal workshops in order to ensure the research has rigour. The programme of workshops is outlined below:

Table 1: Matrix of skills and outputs

Phase	Skills and outputs			
Project development	Logic models	Ethical issues and clearance	Project design	Future project development
Data collection	Sampling	Documentary evidence	Survey design	Interviewing
Data analysis	Descriptive statistics	Inferential statistics	Discourse analysis	Thematic analysis
Dissemination	Project report	Blogs	Presentations	Journal article

The shaded areas are activities that each team were required to undertake.

Workshops covering these research skills have been delivered at each of the four project meetings that have been held at Llandrindod Wells. And, wherever possible, we have ensured that these workshops relate closely to their actual projects.

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[7] Power. S & Taylor, C. (2016) Educational research in higher education in Wales: Findings from a national survey. Cardiff: WISERD. Available online:
https://wiserd.ac.uk/sites/default/files/documents/Educational_Research_Activity_in_Wales_Final_Report_23_Feb_KW.pdf

In addition to the project meetings, the Hub Team have ensured that all project members are supported through regular emails and guidance. These include links to relevant news items and updates concerning the Welsh curriculum, uploading relevant research material to a shared a Google group and responding to partner queries concerning research activities and the project agenda.

In the following section, we provide reflections on the experience of this model of capacity-building from the perspective of the partners.

Adding value through collaboration around the hub
The stages of the hub project were designed to inform and support the research carried out by the partners (spokes). First, interviews were conducted with PL and teachers in schools with above average numbers of pupils eligible for Free School Meals (eFSM). These interviews provided helpful information relevant for all the projects. This included an overview of the training Pioneer Leads had had in relation to the curriculum development process; experiences of teachers planning and teaching aspects of the new curriculum in difference school contexts; an overview of the perspectives of a range of teachers concerning the new curriculum. Data from these interviews was collated, analysed and shared before the majority of partner researchers had begun their own field work, thus helping them focus their own questions and observation in a more informed manner.

The second stage of the hub research involved design and administration of a survey aimed at all teachers and teaching support staff in Pioneer schools. The survey was designed to explore whether dominant perspectives emerging from the interview data were representative of opinions and perspectives shared by other teachers working in Pioneer schools. It was also designed to collect data that could help explore factors which might influence teachers regard and confidence for the new curriculum. Items within the survey also reflected themes of interest to partners. For example, the survey asked whether teachers thought specific groups of pupils would be benefited by the new curriculum, including pupils with Additional Learning Needs (ALN) and pupils in small schools reflecting our interest in rural schools. We had also asked teachers which school they were working in and about their subject specialism. This data allowed us to explore whether school type and environment affected teachers' perspectives, as well as whether there were differences between teachers by subject, reflecting partner research focused on primary education and a specific Area of Learning and Experience (AoLE). Finally, all researchers asked participants about their hopes and fears for the new curriculum and these questions were included within survey. Responses to these questions, including coding and analysis of the survey responses, allowed comparisons and contrasts to be identified and considered which informed interpretations of findings. The data from the survey are available to all the partner researchers to use.

Each of the spoke projects benefited from collaborations with the hub in different ways, as outlined below:

SF4All and additional learning needs
PI: Carmel Conn, *University of South Wales*
The research explored the perspectives of policy makers and practitioners working in the field of Additional Learning Needs (ALN) education. Hub data was useful to

compare overall perspectives on the reforms from individuals interviewed in the spoke project with other teachers working in Special Schools or with a background in ALN education within mainstream school. The hub team also offered advice and support to Carmel in the design of an interview schedule and analysis of data, which was collected with the participation of a colleague from the University of South Wales.

Rural schools and the new curriculum
PI: Susan Chapman, *Aberystwyth University*
The hub team supported Susan as she worked through the challenges of collecting data within a small population of accessible rural schools. We also provided guidance in terms of approaches to data analysis and discussed relevant data from the survey. Susan also valued talking to colleagues who had interviewed head teachers and policy leads as part of their projects and comparing findings from other partner researchers who had visited rural schools. Susan's data also helped consideration of the significant differences between members of senior management in Pioneer Schools and classroom teachers. Interviews conducted within the hub project also drew attention to the potential challenges some schools may face in working with their local communities to provide learning opportunities, something Susan was also able to explore.

Implementing the Digital Competency Framework
PI: Owen Davies, *Bangor University*
Data from interviews conducted within the hub project had raised concerns about the potential resourcing challenges for some schools. This issue was something that Owen's research was able to examine and explore with particular focus on the digital and computing dimensions of the reforms. Owen was supported in relation to the design of his interview schedule and appreciated the opportunities the project organisation provided to discuss his progress and review his data. Owen's deep knowledge of computing was also valued by all and informed all of our considerations of this aspect of school education. Data from Owen and Susan's research also helped us appreciate the way geography and the relative isolation of schools may affect teachers' confidence in the emergence of a shared vision for implementation of the new curriculum. This in turn leading to concerns by teachers relating to variability of provision.

Curriculum integration in the Expressive Arts
PI: Judith Kneen, *Cardiff Metropolitan University*
Judith's research was focused on the development of one of the Areas of Learning and Experience (AoLE) and data collection included both observations of the Expressive Arts group and interviews with teachers. This in-depth exploration of how one of the AoLEs was being developed was valuable to the project team and informed our understanding of some of the experiences Pioneer Leads reported as having had in other projects. Judith worked with colleagues at Cardiff Metropolitan University and collected a relatively large body of interview data. She valued support from the hub team in relation to analysing this data and using qualitative research software. Judith's research also helped the team understand why teachers working within different AoLEs may have different views of the reforms, something that we observed in the survey data. Differences between the perspectives of teachers working in primary and secondary schools was also highlighted by Judith's research. Discussion of this was helpful to several of the projects in their consideration of data.

Mindfulness and wellbeing in the new curriculum
Co-Is: Helen Lewis, *Swansea University* & Sioned Hughes, *University of Wales Trinity Saint David*
Helen and Sioned's project was more distinctive than others in that the focus was on an intervention being carried out within a Pioneer School. As with other researchers within the overall project, the partner researchers were not experts in the specific area of study, mindfulness in this research. However, one of the benefits of the hub and spoke model was that all researchers were supported to develop a rigorous approach to conducting empirical educational research. In Helen and Sioned's case, this resulted in mixed-methods research, including a learning survey and interviews with children, parents and teachers. Analysis of their data was complemented by findings from the main hub survey, which asked teachers whether they had received training in a range of approaches and pedagogical techniques, including mindfulness.

Reflections
All the researchers reported feeling supported both practically and intellectually through the hub and spoke model. In particular, all felt they had grown in confidence as researchers and in their use of research methods. The regular meetings and reporting process, including participation in writing blog articles and presenting their findings at policy sessions and conferences, has also contributed to the researchers establishing a stronger research voice as academics. A range of methods and approaches to research were used to complete the projects and the outcomes are testimony to the value of the interdisciplinary model. At the end of the project we invited participants to reflect on the benefits of this approach. Their comments are outlined below:

In relation to the formal workshops, for example, our partners commented:

> Inputs we received from the project leaders on aspects of research, such as developing a logic model, using a theory of change, developing a sample and employing specific methods, have been particularly useful to me. These inputs have increased my capacity to design research projects and use the language of research and I find that I employ many of these strategies regularly in other projects

> The training days and support from WISERD has been excellent.

> Participating in a project with WISERD and gaining valuable experience and confidence from working under the guidance of very experienced researchers

> ... have gained a more in-depth understanding of research design and methodology, and have benefited from input from WISERD colleagues in these areas.

> This project has provided me with some brief but systematic training in social science research. The hub team at WISERD have provided guidance and feedback at every stage of the process.

Partners were similarly very appreciative of the opportunities to collaborate with researchers from other HEIs:

> I have found meeting regularly with academics from other HEIs in Wales has been helpful and has widened my professional network. I have already used contacts I gained from this project in other aspects of my work and hope to maintain links into the future.

> I have also benefited from the collaborative nature of the project as it has created a group of ITE tutors who both share their work and interests and support each other as members of the Welsh educational research scene.

> Working with the other researchers – and developing valuable contacts

> The regular meetings in Llandrindod have provided opportunities for peer support and feedback throughout. I am fortunate to work in a supportive department but this project has been invaluable in providing experience of a wider research culture.

> I have enjoyed working with colleagues from different HEI institutions in a supportive and collaborative environment. It has been useful to hear more about their selected areas of focus as the project has progressed.

And taking ownership of a research project was also seen to be important:

> The experience of carrying out and writing up a research project has been a valuable one. The project employed methods with which I was not that familiar and, though at times this was challenging, I see the project as contributing to my portfolio of experience as an early career researcher as well as my publications. I very much appreciate being invited to participate.

Challenges

While partners have enjoyed the collaborations, support and workshops, their engagement has not been without challenges. Perhaps not surprisingly, the major obstacle has been time. Although their involvement was partly costed, it has proved difficult to 'protect' their research time from the intrusions of teaching, and particularly, the obligations associated with ITE, such as school visits and Estyn inspections. These challenges are clearly evident in their following observations:

> Time and workload are ongoing challenges within an academic role and I think that it has, at times, been difficult for me to manage the competing demands of different roles. I found that organising my time on this project into designated weeks worked more successfully for me than devoting one day a week. I have been allowed my appropriate allocation of time for this project by my institution and appreciate the fact that I have been given the freedom to organise this as I felt best.

> It has been a challenge to balance and manage meetings. The nature of the role of an ITE tutor/Lecturer is defined by academic responsibilities, school visits and the welfare and support of associate teachers.

The one day a week funding has had a positive impact, however academic and welfare factors can still make it hard to balance research with full time lecturing and school visits.

Managing and balancing workload is an ongoing issue when you have considerable workload commitments related to ITE, and jealously protecting time for research is the only solution here.

Protecting research time is always a challenge and since this project has coincided with the additional workload of preparing for ITE reaccreditation, that challenge has been greater still.

Taking the research forward

For the capacity-building to be considered successful, the engagement with research needs to be sustained and even increased at the end of the project. This appears to be the case, particularly when partners have involved their own colleagues in their projects.

Many of the partners identified future writing projects that they would work on, but there is also evidence of greater confidence and capability in applying for further research funding:

I recently submitted a successful bid with my colleagues at USW to undertake an evaluation of the early impact of the Excellence in Teaching and Leadership Framework (ETLF) in schools in the Education Achievement Service (EAS) consortium region.

Providing me with the confidence to successfully bid for funding for another research project.

I am in the process of applying to the Economic and Social Research Council for a New Investigator grant for a project entitled 'Enactment of inclusion and equity by education professionals in mainstream primary schools in Wales'.

There is also evidence of developing research collaborations within their own university:

Working with a team of interested researchers in my own university, and developing our own research skills

I am currently working with another member of the group, on a separate research project (unrelated to this project). This project, however, provided the networking opportunity which led to the subsequent project.

Currently working with ERW and UWTSD on a project on rural advantage. The presentation of the poster on the current project at the Welsh Government BERA Conference led to the invitation from a colleague at ERW to share findings on similar projects.

The findings of the challenges of collaboration in rural areas will also inform a number of professional learning project currently in development in the School of Education, Aberystwyth University.

Collaboration with colleagues in other ITE centres has provided opportunities for further projects in unrelated fields.

In short, we believe that this model of capacity-building has been largely successful and can provide a template for future projects.

Recommendations for future research

This programme of research was designed to be exploratory, recognising that the development of the new curriculum in Wales is ongoing and reflecting the levels of expertise of the researchers involved. Therefore, it is inevitable that this programme of research has led to more research questions than it has answers.

Whilst each research project in this programme will have led to very specific research questions for further consideration there are some general recommendations for future research that can be made.

We can also draw some general conclusions about how a research programme such as this that is designed to build research capacity should be taken forward.

In general the hub and spokes model has been very successful. Whilst it may have only involved a relatively small group of researchers, the ownership, responsibility and intensive support that this approach has allowed has been beneficial. The central role of the Hub (as research participant *and* research support) has also been crucial to its success.

We would therefore recommend the use of a hub and spokes model in future research capacity building initiatives. This requires a hub that provides expertise and support and spokes that require leadership and ownership.

Nevertheless, this experience has also shown how important trust, collaboration and honesty is to supporting researcher development. We also believe that the researchers in this programme will require further support if they are to realise the ambition of becoming nationally-leading independent researchers. This initial project has provided the foundations for this, but we believe this cohort of academics would still benefit from expanding their methodological skills and experience, getting their work published, and preparing research proposals for external funding.

Therefore, we would suggest it may be more beneficial to allow this group of academics to continue to be involved if this programme were to continue rather than begin with a new group of researchers.

If the programme was able to expand its reach then we would recommend creating a second cohort of academics who would follow the same pathway as this current cohort have done. As before, this second cohort would come from each university in Wales. However, we would recommend that they develop and be responsible for their own spoke project. They would be encouraged to collaborate with other members of the project, including members of the first cohort. But we believe from our experience that ownership, autonomy and responsibility are important factors in helping academics become nationally-leading independent researchers, which in help create future research leaders.

This exploratory study has made some important observations about the development of the new curriculum in Wales. Each spoke project have identified a number of interesting research questions that warrant further investigation, each reflecting the expertise and interests of the project members. However, for capacity building

purposes we believe that any future research continues to have a core purpose, much like the first set of projects were focussed on disadvantage in the new curriculum.

We would recommend that a further round of research projects should focus on the development of the curriculum *inside* schools. This has two key advantages. The first is that it would reflect the next stage of curriculum development in Wales, when schools and practitioners will be expected to start developing and trialling their interpretation of the curriculum. And second, it would seem essential that this next phase of the curriculum development be appropriately studied objectively by researchers with experience in undertaking high quality social research. This would assist schools in the development of the curriculum and encouraging high quality reflexive practice. A key finding from this study has been what the implications of the curriculum reforms will be for different groups of pupils, within and between schools. A structured and detailed study of how schools are enacting the curriculum is central to understanding what the implications of these reforms will be on learners.

To that end we would highly recommend that a next phase of research be based on an ethnographic study of the enactment of the new curriculum. This would have to involve the selection of a random sub-group of primary and secondary schools across Wales. It would then require researchers spending time inside schools observing the processes and practices of curriculum reform and development (to whatever degree each school sets out to achieve). This would include spending considerable time in schools, talking to a wide variety of practitioners inside those schools and attending senior management and departmental meetings, governors' meetings, regional consortia events, professional learning days and other activities the school organises in preparation for the new curriculum.

We could foresee that each academic would be expected to contribute to the ethnographic study based in schools near where they are located. Whilst contributing to the overall ethnographic study of curriculum enactment each academic could focus on their specific area of interest and building on the first completed phase of research. This could still include, therefore, a focus on pupils with additional learning needs, the enactment of a particular Area of Learning and Experience in schools, how schools collaborate with one another, and how practitioners draw upon existing research and resources to develop their own approach and materials to the curriculum.

Such a study would take at least one academic year. The level of resource would have to be commensurate with the amount of fieldwork required for such an approach and would require a significant time commitment of those researchers involved. From our experience from the completed phase of research it might be unrealistic to expect academic staff having more than one day a week available to visit schools (and even this would be challenging without strong support and commitment of their home institution). But the study would still be valuable if researchers were able to at spend at least one day a week throughout one full school term in at least one school. This could then be repeated in a second school in the following term. As long as schools were randomly selected, detailed observations of the enactment of the next phase of curriculum development in approximately 12 schools across Wales would still help provide a national 'picture' of what is going on. If a broader view of how the curriculum is being enacted is required, then it might be more beneficial to only include primary or secondary schools in the study. Similarly, if the impact of the reforms on

disadvantaged pupils was seen as a key area for further enquiry then the ethnographic study could focus on just those schools with relatively large proportions of pupils eligible for free school meals.

Appendix 1: Final report: 'The new curriculum and disadvantaged learners and schools'

Executive Summary

The aim of the project was to better understand how schools are developing the new curriculum in a manner which ensures all students benefit. We were particularly interested in the ways pupils from more disadvantaged communities may be affected by the introduction of the new curriculum. The research was designed to explore several themes, including: teachers' perceptions of the new curriculum and preparations for delivery; the training and support they have received; their perspectives on the nature of knowledge in the new curriculum; expected changes to pedagogy; what schools are doing to ensure all learners benefits from the changes.

Semi-structured interviews were carried out with 10 Pioneer Leads and 25 teachers in 10 schools serving more economically disadvantaged communities. The interviews provided the opportunity to explore themes in depth and included Primary and Secondary, Welsh and English medium schools. We ensured that interviews were carried out with teachers developing each of the six Areas of Learning and Experience. The data collected provide both detailed description of actions taken as well as information about teachers' opinions.

Following analysis of the interview data, a survey was developed and administered to all teaching staff within Pioneer schools nationally. The items of the survey reflected perspectives emerging from the interview analysis and addressed questions raised by partner researchers working on curriculum development issues. The survey was designed to allow us to explore issues faced by different Pioneer schools in different local contexts. Both open-ended and closed questions were included, providing an opportunity for teachers to express their opinions as well as providing us with data that could be analysed statistically.

Survey data was collected from 634 teachers across 81 Pioneer schools. There was good representation from primary, secondary and special schools, as well as English and Welsh medium. The data also reflected the perspectives of teachers with different levels of responsibility within their schools and differing levels of involvement with curriculum development. Importantly, the survey data also allowed us to compare the perspectives of teachers working in different socio-economic contexts, reflected in percentages of pupils eligible for free school meals (eFSM).

Data revealed considerable variation in teachers' perspectives on the new curriculum. Those working in schools with above average numbers of pupils eligible for Free School Meals were significantly more optimistic about it and felt better informed. However, teachers across schools also expressed considerable levels of uncertainty and ambivalence towards core aspects of the new curriculum. The majority of teachers did not think the new curriculum would benefit a varied range of groups of learners. Despite this many teachers hoped the new curriculum would be implemented successfully. Strong support for the reforms appears to be motivated by wide spread frustration and dislike of the current curriculum and the reforms are seen as providing, at the very least, a move away from this and to a model that gives teachers greater flexibility. Many teachers believe that with greater autonomy over

content and a more experiential focus, they will be able to offer learners a more engaging educational experience. Few teachers either in interviews or through the survey data identified children from more disadvantaged backgrounds as potentially benefitting from the new curriculum.

Our findings suggest that teachers will require considerable support both to feel more confident in their understanding of the new curriculum and in their capacity to contribute to its development in a way that ensures more disadvantaged learners benefit. There is also a danger that some schools will use any flexibility in content introduced under the reforms to increase the differentiation in provision to learners between more vocational and academic pathways. Much care will be needed to ensure this does not result in some groups of learners having their access to knowledge at school and post-16 progression options narrowed.

PROJECT REPORT

Successful futures for all: Explorations of curriculum reform in Wales and potential impact on learners from disadvantaged backgrounds

Introduction
The new curriculum is seen as promising teachers greater flexibility and freedom in relation to their choice of topics and how they engage pupils with subject content. It advocates an interdisciplinary approach to delivery of curriculum knowledge and is perceived as indicating a move away from focus on student performance in standardised tests as the key means of measuring pupil progress. Teachers who are well trained and inducted into modes of thought related to their respective specialised disciplines will need to adapt and make use of the new flexibility provided. The research can thus be seen as exploring the interplay between official pedagogic discourse and the recontextualising of this by teachers in Pioneer schools (Figure 1). More specifically, it explores how teachers are developing the new curriculum in a way that addresses the needs of children from disadvantaged backgrounds.

Figure 1: Official and recontextualised fields, derived from Bernstein (1996)
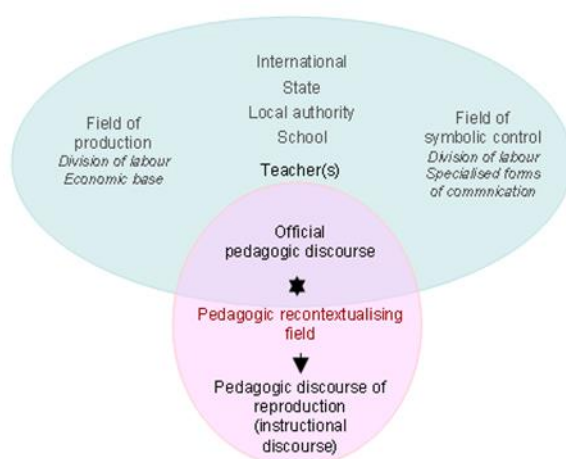
Evidence from Scotland and New Zealand (Priestley et al., 2014; McPhail & Rata, 2016), countries which have both undergone recent radical curriculum reform, suggests that clarity concerning the overall aims of the changes and theoretical coherence in relation to the interplay between content, pedagogy and assessment are crucial to success. Hence one of the key objectives of this project was to collect teachers' perspectives across a range of themes as a means of identifying areas of possible tension and weak coherence.

Disadvantage
The Welsh Government has held a long-term objective of reducing the attainment gap between the 67,000 school pupils (Years 1 to 11) eligible for Free School Meals (eFSM) and more economically advantaged pupils (Dauncey, 2018). The predicative power of free school eligibility means it remains a useful and practically expedient measure to include within analysis (Ilie et al., (2017). The wider project within which this research formed a 'hub' component also acknowledges the influence of school

context in understanding disadvantage beyond the economic criteria underpinning eligibility for Free School Meals (Thiele et al., 2016; Thrupp & Lupton, 2006). Some items within the survey administered to teachers in Pioneer schools reflects these broader concerns. We have also recognised the importance of pupil well-being, something that has been highlighted as important to address by the current Secretary of State for Education, Kirsty Williams[8], and something which also reveals a gap between pupils based on economic background (Collishaw et al., 2019; RCPCH, 2017).

The differences between the outcomes for eFSM pupils and their more advantaged peers is particularly pressing given the subsidiarity approach adopted in relation to curriculum reform. A recent report by the Sutton Trust reveals how top performing comprehensive schools in Wales have nearly half as few pupils eFSM than the average school (Van den Brande et al., 2019). There are disproportionately fewer schools with higher percentage numbers of eFSM pupils within the Pioneer school model of curriculum development. Consequently, it is all the more important to hear the views of teachers working with more disadvantaged learners and be able to identify any differences in perspective through the sound of dominant discourses on the development process. Taking this into account, the first stage of the research collected data from schools with above average numbers of eFSM pupils and we have used information about school demographics to compare teachers' responses to items within the survey based on eFSM pupil percentages. The qualitative data from the interviews also provided a means to examine in more detail the meanings attached to ideas expressed in the survey's open-ended questions.

Narrowing the attainment gap
School practices contributing to the gap include lower quality teaching (particularly less qualified teachers). This is often coupled with ability grouping, undermining pupils' confidence and lowing their expectations of school success. Less experienced and less qualified teachers are often allocated to lower ability classes which are more likely to be populated by disadvantaged pupils. Unconscious bias has also been shown to contribute to the disproportionate numbers of pupils eFSM in low ability groups. These pupils experience less access to a broad curriculum because schools are heavily focused on improving performance in core subjects. Disadvantaged pupils are also likely to participate in fewer out-of-school educational experiences (Crenna-Jennings, 2018). Overall, these factors contribute to a less fulfilling, less equitable school experience for disadvantaged learners, within which advantages children from middle-class families enjoy even before starting school are exacerbated further (Smyth & Wrigley, 2013).

There are many factors that could contribute to improving the attainment of pupils from disadvantaged backgrounds (Pirrie & Hockings, 2012; Demie & Mclean, 2015). Some of these are compatible with the new curriculum but all would require a clear sense of purpose in relation to achieving change for this purpose. These factors include:
- Rigorous monitoring and use of data;
- Raising pupil aspirations using engagement/aspiration programmes;
- Engaging parents;

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[8] Welsh Government (2017) Written statement—providing for the emotional and mental health needs of young people in school. https://gov.wales/written-statement-providing-emotional-and-mental-health-needs-young-people-schools

- Developing social and emotional competencies;
- Supporting school transitions;
- Providing strong and visionary leadership;
- High quality teaching;
- An inclusive curriculum.

On a school level, other factors have also shown to reduce the attainment gap. These include: good pedagogy supported by high quality professional development; whole-school reform models which address multiple elements of school provision; use of coaching teachers/assistants in evidence-based approaches include cooperative learning (structured group work); frequent assessment and 'learning to learn' strategies. Clearly, planning and resourcing would be required if schools were to use the reform process as a means to address the attainment gap through adoption of some of these approaches.

There is little evidence to suggest adopting new curricula, in general, produces significant improvements in learning outcomes for more disadvantaged learners. The use of ICT (e.g. individualised, self-instructional programmes) as an approach to improving learning has minimal impact on attainment for children living in poverty (Sharples et al., 2011).

Aims and objectives

The aim of the project was to understand better how schools are developing the new curriculum and what the potential impact could be on different groups of students, particularly those from disadvantaged backgrounds. The research was guided by the following questions:

- How are Pioneer Schools developing the new curriculum in a way which benefits all learners?
- What are teachers' perceptions of the new curriculum, preparation and support for its full implementation and potential challenges?
- How might knowledge and pedagogy need to change in order to for all learners to benefit from the new curriculum?
- What are Pioneer Schools doing to ensure that the implementation of the new curriculum benefits all learners, including those from disadvantaged backgrounds?

Methods and sample

An exploratory, sequential, mixed methods design was used. There were two stages of data collection:

Stage 1
- Interviewing Pioneer Leads and teachers involved in curriculum development within schools with moderate to high numbers of pupils eligible for Free School Meals.
- Thematic content analysis of the interview was conducted resulting in a map of significant perceptions and information on the reform process.

Stage 2
- Administration of survey to teachers across all Pioneer schools in Wales. A range of questions were presented to teachers, including both closed and open-ended items. The survey also collected demographic data.

Thematic content analysis, along with statistical analysis and discourse analysis, were applied. The aim was to allow significant themes to emerge from initial analysis of qualitative data derived from interviews with teachers in a small sample of Pioneer schools in more deprived localities. These could then be examined, along with a broad set of questions, with a larger sample of teachers across all Pioneer schools through administration of a survey. The survey data also collected data on teachers' school roles and level of involvement in the reform process. Alongside information which could be obtained about teachers' schools, including percentage of pupils eligible for Free School Meals, the survey data allowed us to explore the potential influence of context and teachers' background on attitudes to the new curriculum.

Sample

Stage 1 - Interviews
The sampling frame for the first stage of the research took into account the following criteria: when schools joined the Pioneer programme; geographical distribution; school type; medium of instruction; number of pupils eligible for free school meals (FSM); curriculum area of focus (corresponding to the six Areas of Learning and Experience (AoLEs). Table 1 describes the characteristics of schools included in the sample. We ranked all schools in relation to percentage of pupils entitled to FSM, then selected the schools with highest percentages ensuring we had a representative balance against the other criteria. Preference was also given to schools that had joined the Pioneer programme in November 2015. Finally, we also included at least one Special school and invited participation from two all-through schools (one Welsh medium and one English medium). Several schools declined to be involved in the research. Where schools contacted us, they cited recent involvement in other research and time pressures on staff; one all-through school had also dropped out of the Pioneer programme. Further schools were contacted following the same sampling approach and, in all, ten schools agreed to participate in the research. The schools include both Primary and Secondary, Welsh and English medium and are geographically spread across the South of Wales. The sample ensures that interviews were carried out with teachers developing each of the six Areas of Learning and Experience.

Table 1: Characteristics of schools within sample

Stage 1 sample

10 schools:
3 Primary
6 Secondary (three 11-19; three 11-16)
1 Secondary Special school (11-16)

Pupils entitled to Free School Meals: Lowest = >12%; Highest >50%; Mean FSM = 30%

Distributed by region:
CSC = 2
EAS = 4
ERW = 2
GwE = 2

Medium:
Welsh or Bilingual: 1
English: 9

School population: Smallest = 135; Largest = 1579
Mean size = 620

Support categorisation:
Green = 4
Yellow = 4
Amber = 2

AoLE focus:
Mathematics and Numeracy = 2
Expressive Arts = 2
Humanities = 2
Languages, Literacy and Communication = 2

Semi-structured interviews were carried out with Pioneer Leads and groups of teachers in ten schools with a high proportion of children eligible for free school meals). The interviews provided the opportunity to explore important themes relating to both the planning and implementation of the new curriculum, through to issues relating teacher preparedness, training and development of suitable pedagogies. Themes discussed in interviews include: Experience of the curriculum development process (CPD, resources), dissemination and development activities within school, the place of knowledge within the new curriculum, organisation of what will be taught, how pupils will experience the new curriculum.

Stage 2 - Survey
The research provided the opportunity to hear the perspectives of teachers working closely with the development process and those who despite teaching within a Pioneer

school may have little involvement in the reform process. The opportunity to compare the perspectives of these differing groups of teachers will be valuable to any future training plans. The mixed methods, exploratory approach was adopted which sought not to predetermine how teachers might conceptualise the reforms or interpret the process of curriculum development. This was important because surrounding the new curriculum is a considerable body of discourse produced by the Welsh government and other agencies (notably the regional consortia) and it is easy for language to become adopted from within this discourse which loses its original meaning. Developing a survey from interview data and working with partner researchers exploring related themes provided an important means to reveal some of the more nuanced and ambiguous perspectives of teachers.

During the second stage of data collection over 600 teachers completed the survey from over 80 schools across every region of Wales. Table 2 shows the numbers of respondents who identified which school they were working within, which was the majority of all respondents, and Figure 2 shows the percentages by region.

Table 2: Sample by school type

	POPULATION N=	SAMPLE N=	% SAMPLE	N= RESPONDENTS
ALL PIONEER SCHOOLS	181	81	45	634
PRIMARY	98	38	39	213
SECONDARY (& ALL-THROUGH)	66	36	55	357
SPECIAL	11	7	64	18
ENGLISH MEDIUM	116	49	42	466
WELSH (& BILINGUAL)	48	25	52	97

Figure 2: Respondents by local authority

Percentage of respondents by region
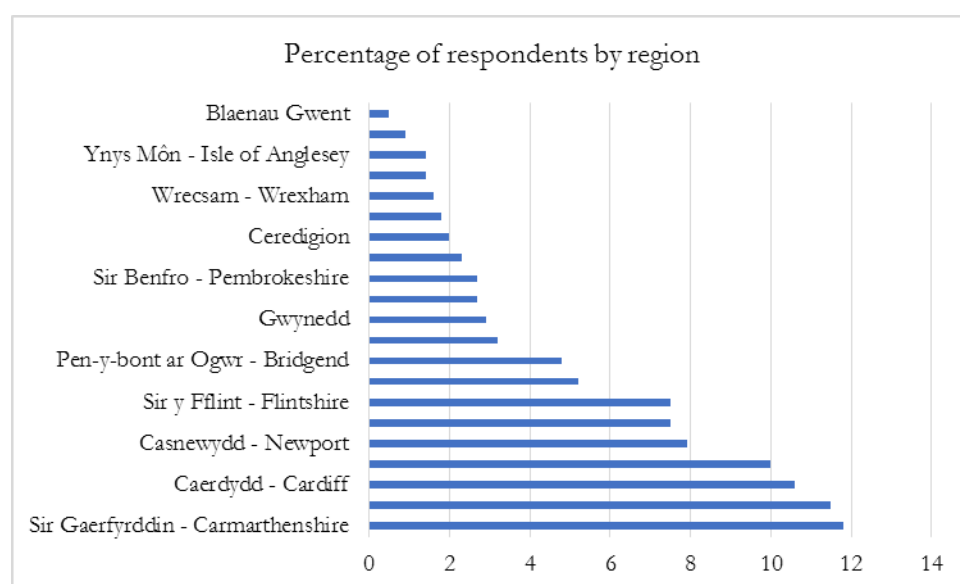
The research focused on schools involved in curriculum development as opposed to the other two areas of the reforms, namely professional learning and digital competency. However, several schools are also working on more than one area and 35% and 4% of respondents were also involved in these areas of the reforms respectively. Teachers were asked to indicate which of the Areas of Learning and Experience (AoLEs) their schools were working within and data suggests that they were reasonably distributed (sample proportions ranging from 13% to 23%).

Figure 3: Role in school of respondents

Role in school
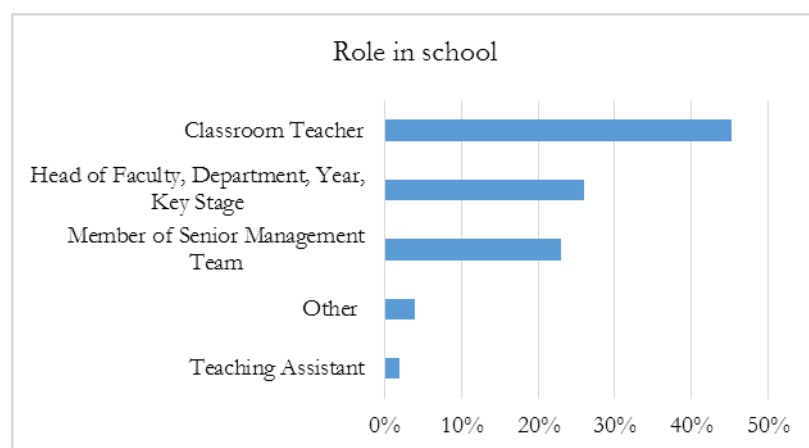
It was important to collect data from a range of perspectives within the Pioneer schools, including staff holding differing levels of responsibility and differing degrees of involvement with the developments (see Figure 3 & 4). 45% of respondents described themselves as classroom teachers, 26% as heads of department, and 23% as members of their school's senior management team. Over 60% of respondents had more than 10 years teaching experience and 90% said they worked full-time.

Figure 4: Role in relation to Pioneer work

Involvement in 'Pioneer' work
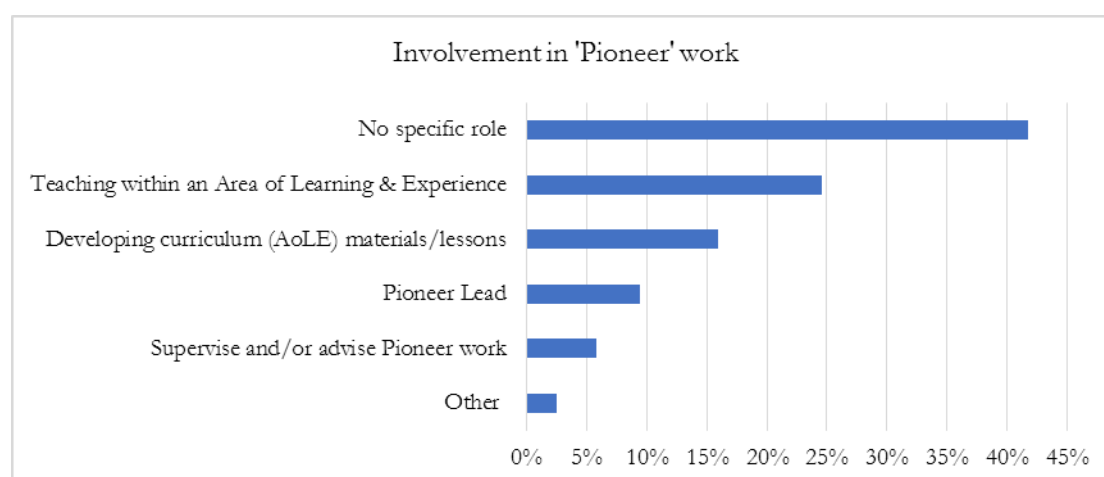
9% of respondents were Pioneer Leads within their schools, 42% had no specific involvement in the development work on the new curriculum. The variation within the sample between teachers more closely involved with the development of the curriculum and those who although working in Pioneer schools expressed having no involvement in the process was valuable. One of the challenges for any reform process is building teachers' regard for and confidence in the changes, the Pioneer model aims to foster this through specific schools who have received additional funding and whose appointed Pioneer Leads have engaged in intensive training over many months. Understanding the perspectives of teachers within these schools but not involved in curriculum development provides a means to gauge the possible levels of regard and confidence of teachers in partner schools, those not involved in the Pioneer process (Sinnema, 2011).

The survey also allowed us to ask teachers the name of their school, the majority of respondents provided this information, which allowed us to filter responses by school profile in relation to percentages of pupils eligible for Free School Meals (eFSM). We grouped schools into three categories representing schools with below average numbers of eFSM pupils, medium and above average (high). There was a good balance of numbers of both schools and respondents in each category (Figure 5).

Figure 5: Sample by school profile in relation to percentage of pupils eFSM

Sample distribution in relation to teachers' schools eFSM%

eFSM group	No. respondents	No. schools
> 17.4%	194	28
17.3 to 10%	197	25
< 10%	165	23
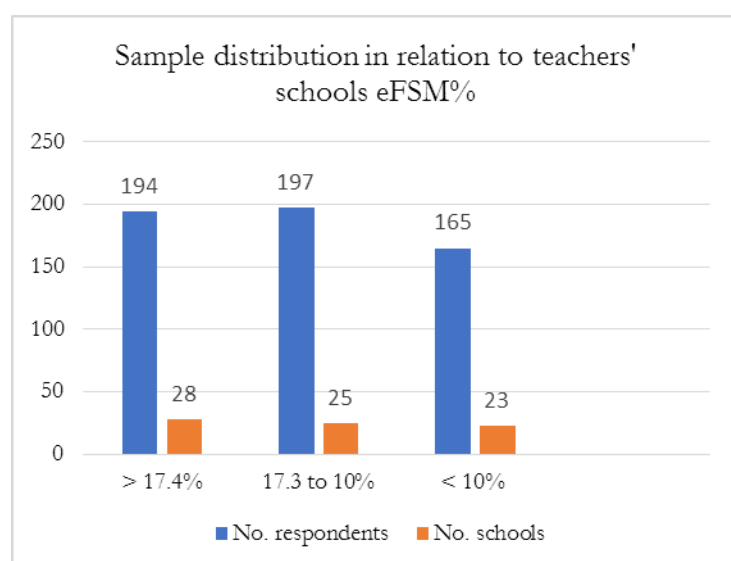
Findings

Interview data

Semi-structured interviews were conducted with 10 Pioneer Leads and over 30 teachers in 10 schools, providing opportunity to discuss at length a range of topics relating to their perceptions and experiences of developing the new curriculum. The majority of Pioneer Leads, and several teachers, had been to curriculum development meetings and were able to reflect on the broader implementation process.

Overall, teachers felt supported by the school leadership and felt that involvement with 'Successful Futures' had helped them develop professionally. Teachers spoke with confidence about their engagement with approaches to lessons they saw as reflecting the new curriculum. The data collected provide both detailed description of actions taken as well as information about teachers' opinions.

Thematic content analysis revealed that common issues and perspectives do appear to be present in the majority of schools. Teachers were hopeful the new curriculum would provide them with greater flexibility to teach in ways more likely to engage their pupils. They expressed concern about the potential resistance of some teachers to the reforms, not least because of what they described as the significant mindset change it necessitated. Whether the resources would be available both to deliver the experiential teaching seen as valuable and for professional development was also a worry.

The majority of Pioneer schools were described by their teachers as innovative and progressive. Several teachers believed that some of the initiatives and methods that they had discussed as part of their Pioneer work, they would have done regardless of the school's involvement with the new curriculum.

> "There's nothing really new in Donaldson it's just good teaching, and the good teachers have been teaching in an Donaldson-esque way for a considerable length of time, it's just they didn't know what it was. It's just good teaching – making sure that it's relevant to the pupils."
> Banwen School, Secondary PL

Teachers who are currently most heavily involved with the new curriculum are on the whole very experienced teachers. Many of the Pioneer Leads are Assistant Heads or holding more or equally senior positions within their schools. Other teachers engaged in developing the new curriculum had been teaching for on average more than 7 years. Consequently, those involved in the Pioneer work are teachers with either fewer teaching responsibilities than the majority of their colleagues or with a significant amount of experience to draw from in order to deal with additional preparation burdens.

The new curriculum is viewed positively by the majority of teachers. They see it as providing them more freedom and flexibility to select content that will better engage and interest pupils. Linked to this, it is seen as providing the opportunity to offer more relevant content, particularly in relation to world of work helping pupils gain transferable 'life skills'. Some teachers also feel that they have been able to provide learning opportunities that have better developed pupils' conceptual understanding, as well as providing experiences that some pupils may not have otherwise. Teachers report secondary benefits of the new curriculum in terms of improved teacher-pupil relationships, pupils showing more confidence and independence, and evidencing less fear about making mistakes.

Many of the perceived benefits of the new curriculum described by teachers were framed in relation to their negative perspectives concerning the current curriculum. In particular, teachers see the current curriculum as too prescriptive and examination focused. They describe it as outdated, fact focused, and creating dependent learners who are disengaged by curriculum content. Furthermore, when asked to describe their work developing the new curriculum teachers described a range of methods, pedagogies and schemes that reflect a breadth of theoretical perspectives on learning. For example, teachers described using ideas relating to Growth Mindset, the Leonardo Effect, introducing 'rich' tasks, collaborative learning activities, enquiry learning, and incorporating problem solving into their lessons. Many of these methods derive from constructivist and cognitive theories of child development, they reflect teachers' interest in alternative pedagogies that are viewed as more child-centred and less teacher directed.

The Pioneer work is mainly focused on Years 7 in secondary and in primary there is more variation with the exception of Year 6, where schools continue to see the importance of preparing pupils for transition to secondary by adhering to the focus of the current curriculum.

Teachers recognised that not all pupils appeared to benefit from implementation of aspects of the new curriculum. Higher ability learners were said to have become frustrated by the more experiential teaching, while lower ability learners struggled with the absence of more clearly defined structures. One teacher described how pupils from disadvantaged backgrounds may lack some of the resources at home needed to make the most of the new curriculum but the majority of teachers felt the new curriculum would have no adverse effects on this group of learners. In fact, when asked specifically about pupils from more disadvantaged pupils most teachers felt that it would provide more relevant content and offer them cultural experiences they lack at home.

Survey
A number of themes were identified from analysis of the interviews which warranted further exploration through items within a survey. These included teachers' sense of involvement and feeling of being well informed about the reforms; teachers' experience of professional development and the factors limiting this; and views on the potential benefits to learners of the new AoLEs and curriculum changes as a whole. We also asked teachers about specific groups of learners they felt could be benefited or adversely affected by the new curriculum and about approaches to assessment that they felt would help the reforms to work successfully.

In analysing the data, it became clear that there were many statistically significant differences between different groups of teachers. Some of these differences can be seen by comparing the responses of teachers working in schools with differences in the percentage of pupils eligible for Free School Meals (eFSM).

How involved and informed do you feel in the curriculum reforms?

There were statistically significant differences between schools, based on numbers of pupils EFSM, in relation to teachers' feelings of involvement in the curriculum development process. Teachers in schools with above average eFSM pupils felt more involved in the process that those in schools with relatively low numbers of eFSM pupils.

The interview data revealed that responses to the new curriculum were largely shaped by attitudes towards the perceived failings of the current curriculum. The greater involvement and more positive attitudes of teachers in schools with above average numbers of pupils eFSM could reflect the way these schools seen more to gain from moving to a different system. However, curriculum reform on its own does little to tackle the underlying causes that result in fewer pupils from disadvantaged backgrounds succeeding educationally.

Teachers from schools with above average numbers of pupils eFSM also said they felt more informed than those in schools with fewer pupils eFSM, low eFSM (LeFSM) mean 6.09, high eFSM (HeFSM) 6.89. This difference needs to be taken into account when considering other differences between types of schools in response to the new curriculum.

Do you consider your school open to trying new things?

On the whole, teachers in Pioneer schools saw their schools as open to trying new things. This corresponds with comments made by teachers who were interviewed. Many felt that their schools would have done the things they were doing to develop the new curriculum regardless of being a Pioneer school or not. A whole range of initiatives and methods were referred to that teachers saw as representing new curriculum thinking, these included the Singapore Method, DIRT approach, Mastery Maths, Mindfulness and Growth Mindset techniques. Many teachers responding to the survey indicated that they had received training in some of these approaches.

The prevalence of these pre-packaged techniques and the training or resources required to initiate teaching influenced by them should cause some concern. First, it reflects a tendency even within specially funded Pioneer schools, to pay private contractors for access to ready-made solutions to problems that may well have their origins in local contexts. Second, it reveals a lack of confidence and expertise on the part of teachers to respond to local needs and factors contributing to poor performance. It is likely that part of the reason for this is the limited time teachers say they have to engage in their own professional development and reflection. Thirdly, if teachers in Pioneer schools already see their schools as open to new things and yet see this openness as linked to adoption of methods and approaches requiring additional external resources and training, replicating this curriculum development would require considerable investment. Furthermore, few teachers could confidently explain how methods and techniques described reflected aspects of the new curriculum and no teachers surveyed offered explanations in a follow up open-ended question. What this suggests is that teachers are still a long way from ownership of the process of curriculum development embodied within the subsidiarity approach of the reforms.

The 10 most frequently mentioned approaches in relation to which teachers have received training is presented in Table 4.

In total teachers reported having received training in 43 different methods, techniques and approaches covering a breadth of teaching areas and drawing on a plethora of theories.

Table 3: Mean score (out of maximum of 10) in agreement that their school was open to try new things.

	N	Mean	
Low FSM	164	8.54	
Medium FSM	196	8.67	
High FSM	215	8.95	
Total	575	8.74	

Table 4: Ten most frequently experienced teaching methods & approaches teachers have had training on.

	%	No.
Growth Mindset	24.92	369
Mindfulness	16.34	242
DIRT approach	11.75	174
Rich Tasks	7.43	110
Engagement with research	6.62	98
Flipped lessons	6.55	97
Mastery Approach	5.94	88
Habits of Creative Minds	5.54	82
Philosophy for pupils	3.85	57
Singapore Method	3.65	54

Professional learning of teachers in Pioneer schools
One key consideration emerging from the data was teachers sense that considerable professional learning will be required for the new curriculum to be successful. Reviewing teachers' experiences of professional learning at present within Pioneer schools thus became important. 62% of teachers surveyed (N=372) said they had engaged in collaborative learning with colleagues and/or external partnerships/network frequently or on an ongoing basis, 40% said they had used research evidence reflectively in their teaching and participated in a mentor (N=236) or coach scheme (either as a mentor/coach or mentee) (N=235). Similar numbers of teachers said they had undertaken some sort of action research and engaged with a subject specialist or specialist association. Few teachers reported involvement in post-graduate study or research (<6%) and only 2% (N=13) said they were studying on a Masters of Educational Practice (MEP) programme.

There were no significant differences between teachers' experience of professional learning based on the type of school or profile of school population. This is important to note because it suggests that differences between teachers' perceptions of the new curriculum seen when comparing data segmented by school pupil percentages eFSM could exert an influence on opinions beyond access to training and other forms of professional support. The findings also illustrate that there are a considerable number of teachers within schools that currently only have limited engagement in professional learning.

When asked about their use of educational research the majority of teachers stated that they knew where they could find relevant research to inform their teaching, that they were able to understand and use research evidence, and that they felt their schools encouraged the use of this to improve teaching practice. However, fewer teachers felt they had sufficient time to apply research in their teaching as they would like.

Table 5: Response to statement, 'I understand the new AoLEs and could describe which subjects they include.'

	FREQUENCY	%
YES	307	51.5
SOMEWHAT	232	38.9
NO	57	9.6
TOTAL	596	100

When asked whether there were any factors limiting their access to professional learning 45% said time was a factor and 18% funding. Other factors which were reported were work load pressures (7%) and difficulties with provision of cover (6%). These issues may more greatly affect teachers working in HeFSM schools due to the increased demands on teachers in these contexts.

Attitudes towards the new curriculum
Attitudes towards the new curriculum affect teachers' regard for the reforms and confidence in the positive value of change. We asked teachers about how informed they felt about key aspects of the new curriculum and about their level of support for these changes. A little over half of teachers said with confidence that they understood the new Areas of Learning & Experience (AoLEs) (Table 5). Similar proportions of teachers expressed degrees of confidence and uncertainty about the idea of becoming an AoLE teacher, with a sizeable minority saying they did not wish this (16.6%) (Table 6).

Table 6: Response to statement, 'I understand the new AoLEs and could describe which subjects they include.'

BECOMING AN AOLE TEACHER	FREQUENCY	%
YES	267	45.6
SOMEWHAT	221	37.8
NO	97	16.6
TOTAL	585	100

Table 7: Response to statement, 'I would be happy about becoming an AoLE teacher' by school profile.

BECOMING AN AOLE TEACHER		LOW FSM	MEDIUM FSM	HIGH FSM
YES	%	41.1	46.0	52.5
	Count	62	81	107
SOMEWHAT	%	39.7	36.4	35.8
	Count	60	64	73
NO	%	19.2	17.6	11.8
	Count	29	31	24
TOTAL	%	100	100	100
	Count	151	176	204

Table 8: Response to question, 'Are you familiar with the 'What matters' statements?' by school profile.

		LOW FSM	%	MEDIUM FSM	%	HIGH FSM	%	TOTAL
	Yes	86	56.2	127	70.9	146	70.2	359
	No	67	43.8	52	29.1	62	29.8	181
TOTAL		153		179		208		540

There were significant differences in teachers' perspectives on the new AoLEs in relation to school profile. As we found throughout the data, teachers in HeFSM schools were more optimistic and positive about the reforms than their colleagues in LeFSM schools. For example, in relation to becoming an AoLE teacher there is a more than 10% difference between positive agreement with this from teachers in HeFSM schools as opposed to LeFSM schools (Table 7).

These findings were replicated in responses to questions about the 'What matters' statements. Overall nearly two thirds of teachers say they are familiar with the statements. However, when the data is considered by school population profile, we find that that there is a significant difference between levels of awareness in LeFSM schools and those with medium and above average numbers of pupils eFSM (Table 8).

Table 9: Response to question, 'Are you happy about the current content of the 'What matters' statements for AoLEs related to your subject specialism(s)?' by school profile.

	LOW FSM	%	MEDIUM FSM	%	HIGH FSM	%
YES/SOMEWHAT	65	75.6	95	77.2	123	86
NO/NOT SURE	21	24.4	28	22.8	20	14
TOTAL	86		123		143	

These differences are also present when we review teachers' support for the statements, first removing responses from teachers who had said they were unfamiliar with this aspect of the new curriculum. Nearly a quarter of teachers in schools with low numbers of eFSM pupils were unsure or in opposition to the 'What matters' statements compared to only 14% of teachers in schools with above average numbers of eFSM pupils (Table 9).

We also asked teachers to express their level of agreement to more specific statements about the new curriculum including in relation to what they perceive as its potential to benefit learners and effect on their teaching. The data presented in Table 10 has had removed responses by teachers who said they were unfamiliar with the 'What matters' statements. As would be expected, these teachers' expressed less agreement than teachers who said they were familiar with this aspect of the reforms. However, even accounting for teachers' level of familiarity we see that there remains

a significant group of teachers (ranging from 41% - 24%) who are unsure or have negative perspectives on the benefits of the new curriculum to their pupils and experience of teaching. The greatest area of concern relates to pupils' levels of engagement with subject specific knowledge under the new curriculum, a concern also emerging strongly within teachers' open-ended responses to questions about their fears.

Table 10: Responses to statements about the AoLEs and curriculum content.

	Strongly agree		Somewhat agree		Neither agree nor disagree		Somewhat disagree		Strongly disagree		Total
On the whole, my pupils will benefit from being taught within the new Areas of Learning & Experience.	34%	128	35%	131	20%	74	8%	30	3%	12	375
The new curriculum will provide me with more opportunities to choose curriculum content.	38%	144	38%	141	16%	60	6%	21	2%	9	375
It will be easy to adapt my teaching to the new curriculum.	33%	123	42%	159	11%	43	11%	41	3%	10	376
Pupils will learn as much subject specific knowledge under the new curriculum as they currently do.	20%	74	40%	151	20%	74	16%	61	5%	17	377

Teachers in HeFSM schools were again significantly more positive in their attitudes to the new curriculum than their colleagues in LeFSM schools (Figure 6). The greater the involvement teachers had with the new curriculum the more positive they were about the new curriculum (Figure 7). This is to be expected, but still there was a considerable difference between Pioneer Leads perspectives and those of all others, including teachers involved in classroom delivery of the new curriculum (Figure 8).

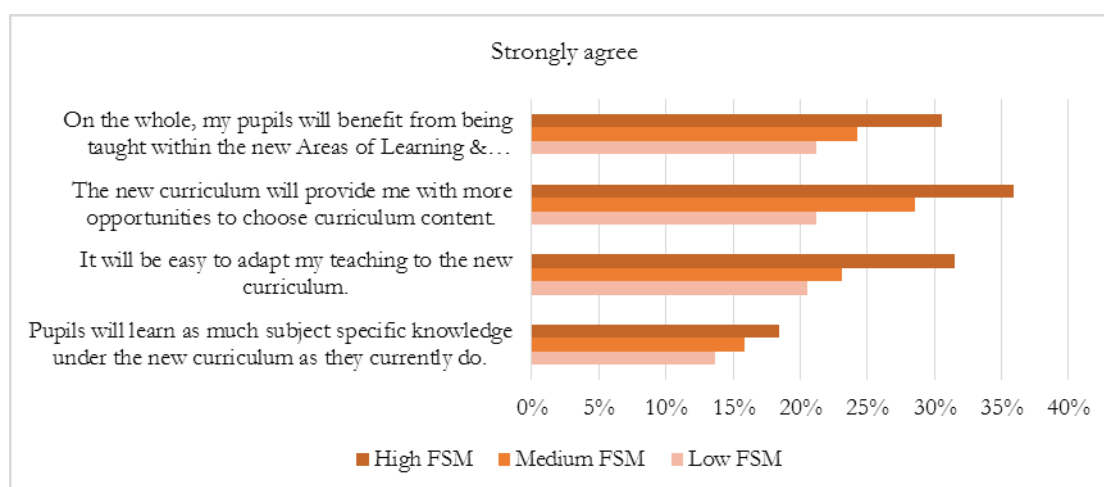**Figure 6. Responses to statements about the AoLEs and curriculum content by school profile**

Figure 7: Responses to statement about becoming an AoLE teacher by level of curriculum reform
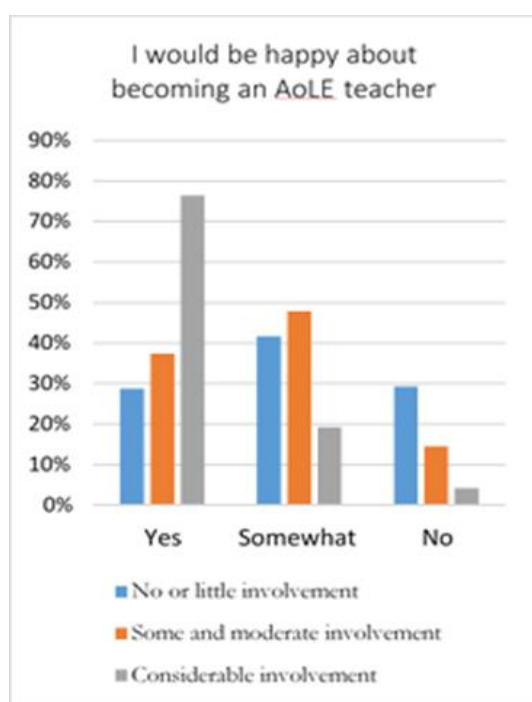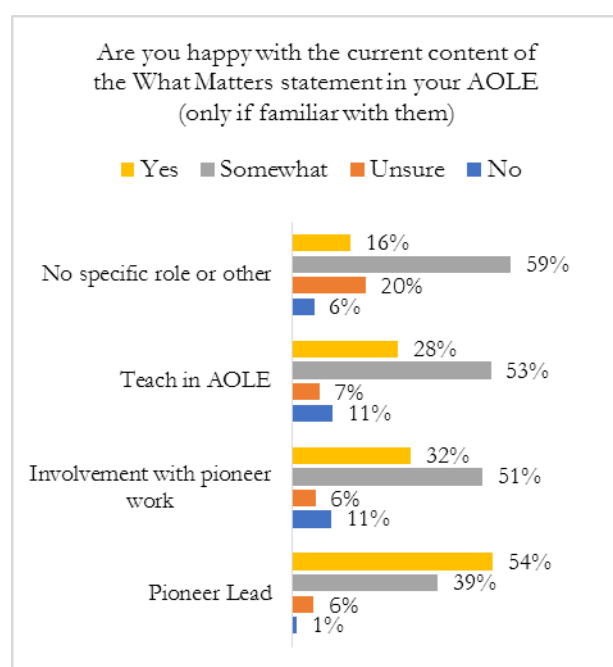

Figure 7: Responses to statement about becoming an AoLE teacher by level of curriculum reform

Figure 8: Responses to statement about the content of the 'What matters' statements by role in Pioneer development process

These differences may prove complex to address particularly as teachers we interviewed often explained that getting to grips with the new curriculum took a considerable change in 'mindset':

> "It's a difficult one because it's change your mindset more than resources."
> "I think a lot of heads will need to become far more creative and change their mindsets, look at the curriculum design issue. It's not going to be a box ticking exercise thank god, we've had that. This has got to be a lot more evolved and it's got to be a change of mindset."
> "Have they got the skills to do those things because we've never taught in that particular way and you can't just suddenly change the mindset of a profession that's almost going to take a generation to re-educate that profession to do things differently."

Potential benefit of the new curriculum to different groups of learners
Uncertainty about the benefits of the new curriculum or the chances of any benefits being successfully realised were seen in teachers' response to a survey item asking them to indicate which, if any, groups of learners they felt might be benefitted from the reforms. As can be seen in Figure 9, no more 45% of teachers responding to any category of learner thought that that group would be benefitted by the reforms. For the majority of teachers most groups of learners will neither be benefited nor disadvantaged by the changes to the curriculum.

Figure 9: Teachers views of which groups of learners will be benefitted by the new curriculum
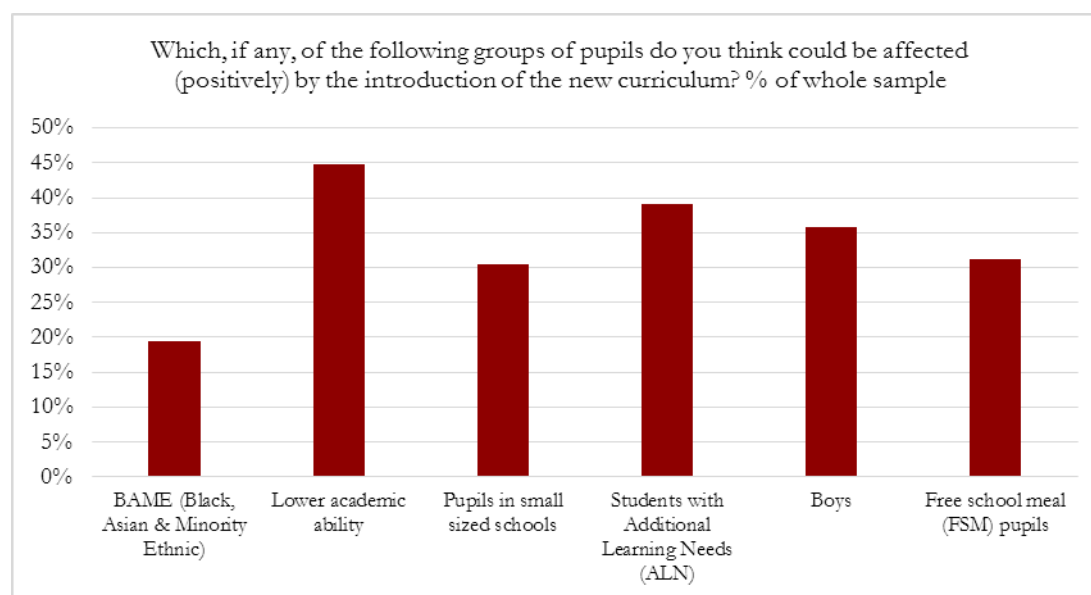
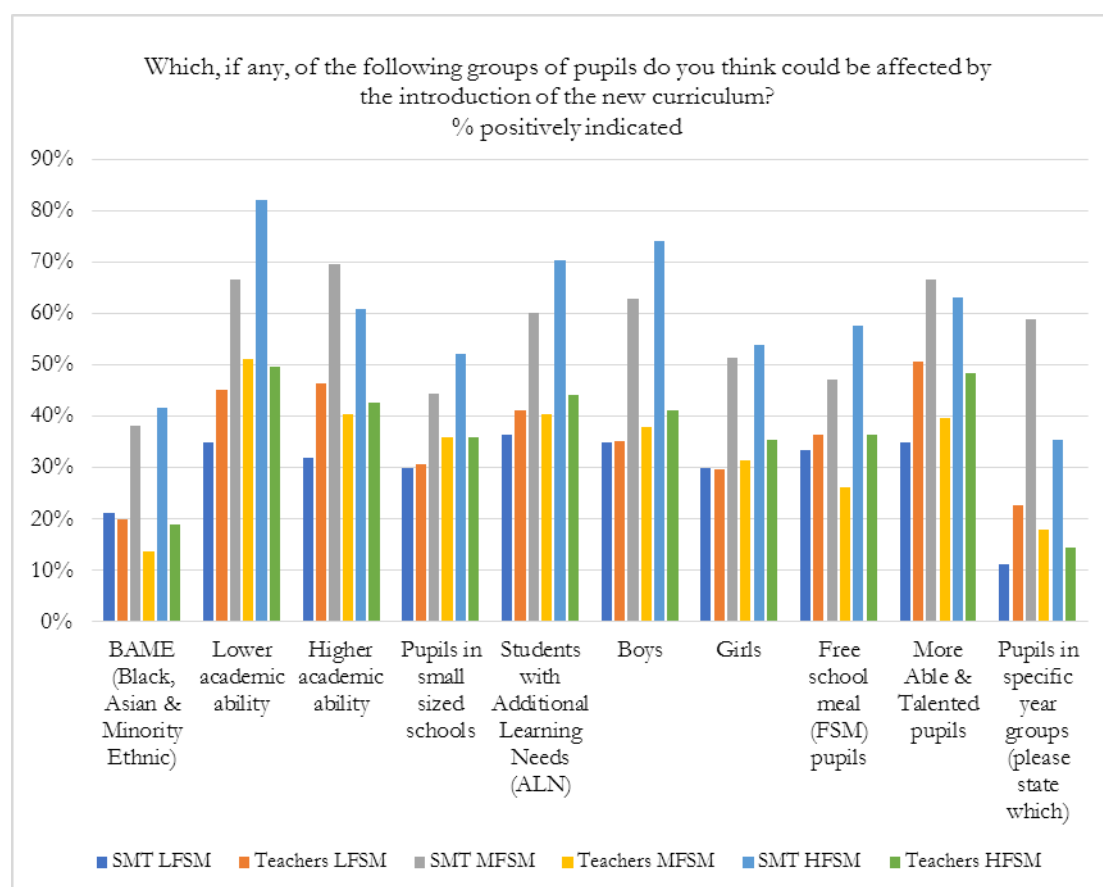However, this overall picture masks considerable variations in perspectives based on the role of teachers within schools and the pupil profile of the school population. This can be seen if we present the same findings segmented by teacher role and school pupil profile. The columns to consider in Figure 10 are those in the darker shade of blue and those in grey. These are considerably higher than the rest, reflecting a significantly more positive perspective by SMTs in schools with medium and higher levels of FSM pupils that the new curriculum will benefit different groups of learners. This table represents the responses of SMTs who were not also Pioneer Leads. It is striking how different their views on many issues relating to the new curriculum were from classroom teachers across several question responses in the survey. For example, here 63% of SMTs in HeFSM schools believed the new curriculum would benefit learners from more disadvantaged backgrounds compared to only 36% of classroom teachers. On average SMTs in LeFSM schools tended to be considerably less enthusiastic about the benefits of change.

What these data reveal is the extent to which teachers' perceptions of the new curriculum appear to be influenced by the issues that affect them most in their particular school role and context. Again, this should come as no surprise. However, consistent with the interview data, what is evidenced is the relatively limited consideration that has been given to seeing the reforms as an opportunity to reduce the attainment gap for pupils from more disadvantaged backgrounds.

Figure 10: Teachers views of which groups of learners will be benefitted by the new curriculum by role in school

Which, if any, of the following groups of pupils do you think could be affected by the introduction of the new curriculum?
% positively indicated

Teachers' perspectives on what changes are needed to assessment of pupils for the new curriculum

Finally, teachers were also asked to indicate which forms of pupil assessment would be needed for the new curriculum to be successful (Figure 11). Teachers across schools strongly supported the view that they should have greater flexibility in relation to assessment methods used (85% of all respondents). There were greater differences of opinion in relation to specific options. For example, overall 55% supported the idea of fewer exams, whereas in high eFSM schools this figure rose to 60%; 49% of teachers in high eFSM schools want to see more reporting of pupil progress through teacher observations, the percentages for other schools was 40%. One the more recurring concerns of teachers when expressing their fears about the new curriculum was that there might not be consistent changes to the way pupils are assessed. Greater flexibility is the one thing teachers appeared to agree on when it comes to stating what approach they would favour.

Figure 11: Teachers views how pupils should be assessed under the new curriculum (presented by school eFSM profile)

'In order for the new curriculum to be successful which of the following do you think needs to happen in relation to pupil assessment' Percentages of respondents by eFSM school profile

■ HeFSM % ■ MeFSM % ■ LeFSM %
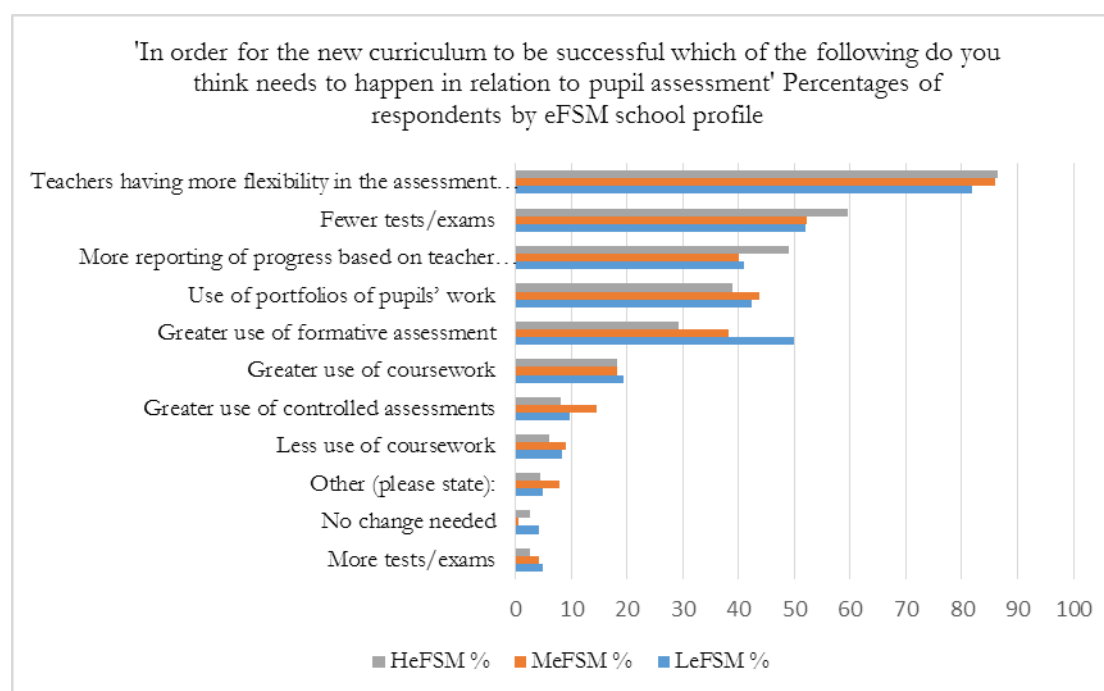
Discussion

Evaluating the significance of the findings from this mixed methods study is complex and requires careful consideration of both interview and survey data in order to gain a clearer sense of how pupils from more disadvantaged backgrounds may be affected by the way teachers are developing the new curriculum and how they hope it develops. This task is all the more difficult because the data revealed differences between teachers' perspectives on the new curriculum based on percentages of pupils eFSM in their schools and in relation to the role they have within school. There were also significant differences between teachers more involved with the development process and those with no specific role. These differences may reflect the way the new curriculum is seen as potentially addressing problems and weaknesses with the current curriculum, a theme that was commonly mentioned in the interview data.

We have seen that HeFSM schools are more involved, more positive and better informed about the new curriculum. Teachers in these schools are more willing to become AoLE teachers and hold the 'What matters' statements in higher regard. There is evidence to suggest that they particularly value what is perceived as the opportunities within the new curriculum to provide pupils with a more vocationally orientated curriculum within which pupils are tested by examination less often. A greater proportion of teachers in HFSM schools would like to see increased flexibility for teachers in relation to pupil assessment, many would like fewer exams and greater use of teachers' observation as the basis for evaluation of pupil progress.

There were no significant differences by school type or composition in relation to teachers' experience of professional learning. The majority of teachers have recent experience of collaborative learning; few are participating in post-graduate study. Approximately half have been involved in action research. There are two observations

that can be made in relation to these findings. First, it shows that differences between teachers' perspectives of the new curriculum are unlikely to have been influenced by experiences of professional learning. Second, the subsidiarity model under which the new curriculum is being developed places a considerable responsibility on teachers to fully participate in shaping how it is implemented. One of the most prevalent hopes for the new curriculum is that teaching improves and learners experience a more exciting classroom experience. Data on teachers' experience of professional learning suggest that across schools teachers struggle to find time and opportunity to engage with this. They cite time and cost as the two key factors inhibiting their participation. One of the greatest fears of teachers is that there will not be sufficient support given by the Welsh Government to enable all teachers to experience the level of professional learning deemed necessary to successfully implement the curriculum. Several Pioneer Leads interviewed discussed the intensive training they had received which was viewed as necessary to allow them to experience the change in 'mindset' felt to be required by the new curriculum. Teachers in more deprived areas are often required to provide additional levels of support to pupils that their colleagues working in more affluent areas (Wrigley & Smythe, 2013). Despite the extra funding these schools receive, teachers' time is keenly stretched. Finding space in their week for the added demands of developing a new curriculum is going to be hard.

Despite overall enthusiasm for the new curriculum from the majority of teachers, when asked more specifically about how different groups of learners might benefit from it there was much less confidence. Even when factoring out responses of teachers who reported not being familiar with the 'What matters' statements, for example, we find significant numbers of teachers unsure about potential benefits of the new curriculum. The ambivalence might be excusable but the data also revealed how little consideration has been given to the potential of the new curriculum to benefit more disadvantaged pupils. This is despite the various features of the reforms that have the potential to achieve this aim. For example, changes to the way pupil progress is measured, the potential to reshape groupings of pupils under the new AoLEs, could in theory lead schools to consider grouping by ability (setting pupils) as less necessary and desirable. This could have a particularly beneficial effect on eFSM learners who make up a disproportionate percentage within lower sets and experience stigma and lowered aspirations as a consequence. But lack of confidence in the reforms to achieve this aim is unlikely to lead to changes in practice.

If we consider the differences between teacher perceptions based on eFSM, it is important to remember that fewer eFSM pupils attain 5 or above grade C GCSEs, as a consequence fewer progress to study A-Level. Whereas children from more affluent homes are more likely to study A-Levels and more likely to progress to university instead of into employment at 18. Teachers' concepts of progression, engagement, and attainment are likely to be influenced, albeit often only implicitly, by the backgrounds of the learners who they encounter and support.

The greatest hope for the new curriculum is that schools and teachers will be able to provide pupils with a more engaging and positive educational experience. Their greatest fear is failure of implementation. However, all reform requires changes of behaviour by teachers. Teachers typically expressed hopes in terms of the potential outcomes of the reforms and described fears in relation to failings of others. What remains unclear is whether teachers have sufficient regard for the new curriculum to

use the limited time available to them to adequately prepare to make changes in their practice.

Variability between schools
One fear of teachers was that the new curriculum could create variability between schools which might lead to some pupils being disadvantaged. There is evidence to suggest that different kinds of school are interpreting the possibilities of the new curriculum in different ways. It must be a concern for all that this does not lead to segregated school experiences for pupils, either within individual schools or within catchment areas.

Language and expectations
An important insight that can be gleaned from this mixed methods research is that people say similar things about the new curriculum but often mean something different. This is probably to be expected given the considerable political discourse surrounding the changes and the evidence that suggests teachers' perspectives are shaped by their roles, their participation in the development process and the pupil composition of their school. The new curriculum is often described as more 'child-centred' but for some this means it allows the opportunity for more pupil-led decisions about topics to be studied, for others it refers to the flexibility teachers will have to respond to their perceptions of pupils' needs. Many teachers mentioned the curriculum offering the chance of more relevant teaching content. For some this appears to mean a more local and Welsh perspective or related to developing life skills such as confidence or creativity, for others relevant means increasing the vocational choices available to pupils. Teachers want pupils to achieve but again the concept of achievement means different things to different people. For some it is the offer of different pathways to gain qualifications, while for others it is about ensuring subject knowledge and rigour are not lost and that pupils have the knowledge to progress academically.

What our data shows is that teachers are on the whole very enthusiastic about the potential benefits of the new curriculum. However, there is also genuine uncertainty and at times unease about important issues that they do not yet see resolved. These can be seen in some of the tensions within teachers' responses: they want flexibility but worry about inconsistencies across schools; they want to move away from the current assessment system but worry that pupils may not be able to progress post-16 as well; they value the more holistic elements of the new curriculum but are concerned that pupils will not gain the same levels of subject specific knowledge. What should cause concern is that consideration of these dimensions of the reforms does not appear to be influenced by any clear examination of how the changes might affect and potentially benefit learners from more disadvantaged backgrounds. No action in regard to these pupils is a form of action.

The new curriculum provides opportunities to develop approaches to teaching and classroom management that have been shown to positively contribute to narrowing the attainment gap. But the more teachers encounter the reforms, wrestle with having to reconcile their personal exceptions to the practical realities of enacting a new curriculum, the less likely it is they will find space to reflect on how disadvantaged learners can benefit from the changes. In this sense the often subtle but clear differences of opinion between teachers found in the data are worrying and need to be addressed. Key to success is clarity, developing a shared narrative about the new

curriculum and encouraging teachers to think beyond how they may benefit from the experiences of the new to how all of their pupils may succeed as a result of the changes.

References

Bernstein, B. B. (2000). *Pedagogy, symbolic control, and identity: Theory, research, critique* (No. 4). Rowman & Littlefield.

Collishaw, S., Furzer, E., Thapar, A. K., & Sellers, R. (2019). Brief report: a comparison of child mental health inequalities in three UK population cohorts. *European Child & Adolescent Psychiatry*, 1-3.

Crenna-Jennings, Whitney (2018). *Key drivers of the disadvantage gap: Education in England Annual Report 2018.* Education Policy Institute: London.

Dauncey, Michael (2018) *Research Briefing. Key Stage 4 Attainment Data*. National Assembly for Wales. February 2018

Demie, F., & Mclean, C. (2015). Tackling disadvantage: what works in narrowing the achievement gap in schools. *Review of Education*, 3(2), 138-174.

Ilie, S., Sutherland, A., & Vignoles, A. (2017). Revisiting free school meal eligibility as a proxy for pupil socio-economic deprivation. *British Educational Research Journal*, 43(2), 253-274.

McPhail, G., & Rata, E. (2016). Comparing curriculum types: 'Powerful knowledge 'and '21st century learning'. *New Zealand Journal of Educational Studies*, *51*(1), 53-68.

OECD (2014) *Improving schools in Wales: An OECD perspective*. Paris, France: OECD

Pirrie, A., & Hockings, E. (2012). *Poverty, educational attainment and achievement in Scotland: a critical review of the literature*. Scotland's Commissioner for Children and Young People: Edinburgh.

Priestley, M., Minty, S., & Eager, M. (2014). School-based curriculum development in Scotland: Curriculum policy and enactment. *Pedagogy, Culture & Society*, *22*(2), 189-211.

Rata, E. (2016). A pedagogy of conceptual progression and the case for academic knowledge. *British Educational Research Journal*, *42*(1), 168-184.

Royal College of Paediatrics and Child Health (2017) *State of Child Health. Report 2017*. RCPCH, London.

Sharples, J., Slavin, R., Chambers, B., & Sharp, C. (2011). *Effective classroom strategies for closing the gap in educational achievement for children and young people living in poverty, including white working-class boys*. London: C4EO.

Sinnema, Claire (2011) *Monitoring and Evaluating Curriculum Implementation: Final Evaluation Report on the Implementation of The New Zealand Curriculum 2008-2009*. Ministry of Education, New Zealand.

Smyth, J., & Wrigley, T. (2013). *Living on the edge: Rethinking poverty, class and schooling*. Peter Lang Publishing.

Thiele, T., Singleton, A., Pope, D., & Stanistreet, D. (2016). Predicting students' academic performance based on school and socio-demographic characteristics. *Studies in Higher Education*, 41(8), 1424-1446

Thrupp, M., & Lupton, R. (2006). Taking school contexts more seriously: The social justice challenge. *British journal of educational studies*, 54(3), 308-328.

Appendix 2: Final report: 'SF4All and additional learning needs'

Executive Summary

Wales is in the process of developing a new curriculum that promotes good teaching and quality in professional practice and is designed to support the achievement of all learners.

The aim of this research was to explore how additional learning needs (ALN) are being considered in the development of the new curriculum, including what discourses, values and beliefs are being drawn on by key professionals. Educational discourse is an important source for teachers to draw on in making professional judgements about children's learning, including those who experience challenge in terms of their learning.

A further aim of the project was to explore alignment of the development of the new curriculum and current reform of ALN.

Key professionals in the policy and practitioner communities were invited to participate. Participants included ALN policy leads and practitioners in Pioneer schools, one secondary school and one primary school.

Semi-structured interviews were used to gather information. Participants were asked to describe their involvement in the reform process as well as their views about ALN and pedagogy, pupil progression, teacher knowledge and accountability.

Findings indicate that the new curriculum was perceived as broader, less prescriptive, and less driven by standards by all policy-makers and practitioners who participated in the research.

Curriculum reform was seen to be focused on the quality of teaching and the achievement of all learners, and so reinforcing an approach to education that already exists within Wales but viewed as not yet fully embedded.

Critical issues for the reform programme in relation to pupils with additional learning needs included the presence of more learners with complex additional learning needs in mainstream classrooms and the increased accountability of schools under new arrangements. Together these issues were seen by some participants as necessitating arrangements for ALN in their current form.

PROJECT REPORT

Consideration of additional learning needs (ALN) in the development of the new curriculum for Wales

Introduction

This report provides a background to the project titled 'Consideration of additional learning needs in the development of the new curriculum for Wales' in terms of the theoretical and policy background, methods and findings. An outline of specific aims and objectives, a summary of the methods used and research activities undertaken, a discussion of findings and ideas for further research activity are included. The researcher, Dr Carmel Conn, is a senior lecturer in Professional Learning in the School of Education, Early Years and Social Work at the University of South Wales and has a background in inclusive education, diversity in schools and individual learning needs. In developing her project, Carmel identified pupils with additional learning needs as a disadvantaged group and sought to formulate questions about these learners in relation to the development of the new curriculum for Wales.

Background to the project

Wales is in the process of developing a new curriculum that is designed to transform pedagogical practices in primary and secondary schools. The proposed new curriculum, *A curriculum for Wales - a curriculum for life*, allows teachers autonomy in creating a school-based curriculum, but gives prominence to the idea of an educational system that advances equity, supports well-being and promotes social justice (Welsh Government 2015). There is an emphasis on good teaching and quality in professional practice that supports the achievement of all learners with a strong inter-relationship between curriculum, assessment and pedagogy located at the heart of the reform. Teaching and learning relationships, professional judgement, assessment for learning practices and a holistic approach to development are seen as key to delivering good outcomes for the greatest number of learners (Donaldson 2015). The concept of progression replaces more generalised stages of attainment and underpins the idea of a learning continuum that is more suited to those who experience the most challenge in terms of their learning (Camau 2018).

Taking place alongside curriculum reform is a transformation programme for ALN as set out in the recently passed Additional Learning Needs and Education Tribunal (Wales) Act 2018. An important rationale behind this reform concerns the need to address systems that are inequitable and introduce new systems, processes and practices that are more flexible in nature, that can be delivered more consistently and that are more efficient. The new Act reforms the legal framework for learning needs and is a response to a series of reviews and consultations that found large variation in the way that learners were provided for across Wales and to the 'complex, bewildering and adversarial' nature of the SEN process for all stakeholders (Welsh Government 2016). The new Act provides a unified legislative framework for children and young people across the broader age range of 0-25 years and introduces a single category of 'additional learning needs' (ALN) to replace the statutory definition of special educational needs (SEN). The reform is seen as a way of establishing fairer and more integrated systems for assessing, planning and monitoring provision for additional learning needs and for resolving conflict and appeals (Welsh Government

2018). Statements of SEN are replaced with Individual Development Plans (IDPs) and the category of ALN is intended to cover a wider range of learning difficulties and disabilities, including post-16 students in further education. The new legislation sets out a requirement for more collaborative practices between health, education and social services and seeks to provide families with enhanced rights and better experiences in relation to the identification of and support for learning needs.

In terms of the new curriculum, underlying principles locate effective pedagogy in good quality teaching, assessment for learning and teacher reflection (Welsh Government 2015), and aligns the reform programme with current theorising about inclusive pedagogy. This defines effective pedagogy as the ability of teachers to adapt ordinary teaching methods in a way that supports learning, but also respects diversity (Florian and Beaton 2018). Specialist pedagogies for this group of learners are currently seen as of much less importance in terms of delivering achievement, well-being and improved outcomes, with little evidence to support a prescriptive programme-based approach for learners who are deemed as belonging to a designated category of need (Florian 2008). Within education, the term 'inclusive education' now refers to education for all children and young people, not only those with a disability or learning need.

Teachers are currently viewed as well-placed as 'agents of change' since it is their personal sense of responsibility for all learners and confidence in taking a critical stance on their practice that ensures inclusion is enacted as part of on-going and ordinary pedagogical interactions (Pantić and Florian 2015). How teachers understand learners, what teachers believe in relation to inclusivity, and what they do in practice are interrelated and the most important determinants of learner access to the curriculum, processes that are also supported by a non-judgemental openness on the part of teachers. The challenge of professional development in meeting the needs of all learners is seen as bringing about change in any one of these areas – knowing, believing and doing – with development in one domain resulting in change in the other two (Florian and Graham 2014). Findings in relation to the implementation of Scotland's *Curriculum for Excellence* indicate, however, that a major issue for this reform programme was the existence of a gap between teachers' practices and beliefs about education and the implicit aims of the curriculum (Priestley et al. 2013). In developing this research therefore, there was an interest in exploring what beliefs about practice are held by policy and practitioner communities within Wales during the process of reform, particularly in relation to pupils with additional learning needs.

Aims and objectives
The overall aim of the project was to investigate how additional learning needs are being considered in the development of the new curriculum for Wales. It was hoped that this aim could be achieved by realizing the following key objectives:

To investigate what discourses, values and beliefs are being drawn upon by key professionals in thinking about curriculum reform and the additional learning needs of learners in schools and colleges.
To find out about individual experiences of and involvement in processes of reform.
To explore the alignment of the reform of ALN and the development of the new curriculum for Wales.

The focus of the project was specifically on mainstream education since it is within this sector that teaching and learning takes place for the majority of learners with additional learning needs. Specific research questions were as follows:

> What features of the new curriculum as it is developed are seen as key for ALN learners?
> What opportunities and challenges does curriculum reform present for learners with ALN?
> How far is there perceived alignment between curriculum reform and the ALN transformation programme?

The objectives of the project concerned investigating professional beliefs and ideas and it is believed that the rich and detailed information gathered from key professionals has meant these objectives have been realised.

Methods and activities

In terms of the sample, it was felt that talking to policy leads as well as educational practitioners involved in reform provided an approach to investigating discourses and beliefs at different levels, that is, at the level of policy and the level of practice. Key professionals involved in curriculum reform and/or the ALN reform programme were therefore identified through professional contacts and were recruited alongside practitioners in two Pioneer schools (n=8). In schools, the Professional Learning Lead was identified as a potential participant since this role includes developing the progression framework for the new curriculum as well as the consideration of teachers' practice under new arrangements. The school SENCO in each setting was also recruited. The schools, one primary and one secondary, were also recruited on the basis of professional contacts.

The research sought qualitative information since this was considered most suited to gathering knowledge about a topic that is constructed and nuanced (Denzin and Lincoln 2018). Information was gathered using semi-structured individual interviews. Two slightly different interview schedules were created for the two groups – policy leads and Pioneer practitioners – and included questions that addressed the participant's role, if any, in the development of the curriculum, their views on ALN and pedagogy, and their views in relation to the following four themes: how ALN will be perceived under new arrangements, the idea of pupil progression, teacher innovation and accountability, and teacher training and knowledge with particular reference to ALN. These themes were developed in order to explore key ideas within the reform programmes, including the nature and purpose of inclusive education, beliefs about appropriate pedagogy for learners with ALN and the perceived role of the teacher. Participants were also asked about their views on the alignment of curriculum reform and the transformation of ALN. In addition, questions that were shared across all the projects involved in the 'Successful Futures for All: Explorations of curriculum reform' programme were asked. These addressed participants hopes and fears about curriculum reform and asked them to identify groups of learners, if any, who would benefit from reform or be particularly disadvantaged.

Ethical approval for the project was gained from the School of Education, Early Years and Social work ethics sub-committee in the Faculty of Life Sciences and Education at the University of South Wales following a review process. Participants were

provided with an information sheet about the project as part of recruitment and this informed them about the purpose of the project, management and storage of data and their right to withdraw at any point. A signed consent form was completed prior to the interview taking place and after the participant had been given an opportunity to ask any questions.

Interviews were carried out by Carmel and her colleague, Matt Hutt, who is also a senior lecturer in Professional Learning at USW and acted as a co-researcher for data collection and initial analysis of data. All interviews were carried out in face-to-face meetings in locations convenient to the participants. Interviews were on average for a duration of 40 minutes and all were audio recorded with permission. Interviews were fully transcribed and content analysis applied to the text. Content analysis focuses on issues that emerge within the text, but can also focus on individual sense-making (Cohen et al. 2018). Both of these approaches were used with the data gathered for this project. Issues that emerged from the data were key features of the new curriculum, continuity with existing practices and critical issues for reform. It was evident that participants held their own understandings about the implicit aims of the reform, which involved prioritising certain ideas and constructs and formed a coherent narrative in each case. Interview transcripts were therefore also analysed individually to develop individual narratives of reform.

Findings
Findings indicate that the new curriculum was perceived as broader, less prescriptive, and less driven by standards by all policy-makers and practitioners who participated in the research. It was perceived by many as more focused on the quality of teaching and in this way more relevant to all learners. The curriculum reform was seen as not introducing new ideas about practice, however, but reinforcing ideas that already exist. One Pioneer practitioner described the new curriculum in this way:

I don't think the introduction of Successful Futures changed anything in that respect. I think it might focus people's ideas on the idea of pedagogy – that wasn't a word that anyone used five or ten years ago probably was it… In that respect a good teacher has always been a good teacher, but I suppose it's a sense of knowing how and why you've been a good teacher more than actually just being a good teacher.

Some participants noted that the new curriculum put a particular emphasis on the use of formative assessment as a process within teaching and learning and saw this approach as more likely to support multiple pathways to learning. Emphasis was also seen to be on pupil progress rather than simply pupil attainment and qualification. This was felt by some as more likely to ensure recognition of pupil achievement in different forms, including small steps in learning. The curriculum and ALN reform programmes together with new professional teacher standards were seen as supporting the development of the profession and reinforcing ALN as the responsibility of all class teachers. The collaborative approach to reform was also seen as increasing investment in underlying principles and producing greater likelihood that the aims of reform would be realised in schools and colleges.

All participants expressed ideas about critical issues for the reform programme which, if not addressed, could undermine the success of the programme. Some noted that the Welsh context is distinctive in terms of the wider range of diversity in mainstream

classrooms and saw this as a potential area of difficulty. Many of the participants noted the presence of more learners with complex additional learning needs in mainstream classrooms in recent years and saw this as a particular area of challenge. One participant described the curriculum as aimed at 'the average Joe' and found it hard to conceive how pupil progression steps that are suitable for all learners, including those with complex needs, could be developed. The increased accountability of schools in relation to the education of individual pupils which is also a feature of reform was seen as significant in this respect. The special educational needs coordinators who were interviewed noted that there would be more pressure on schools as the result of reform to be seen to be meeting individual needs, with one stating that this would probably require the continuing use of extra support and withdrawal practices.

A further challenge to reform was described as resistance from some groups of teachers, for example, professionals in non-Pioneer schools and subject specialists. Professional development was viewed as a key feature of reform, but this was seen as vulnerable to teachers not having sufficient time to carry out enquiry and critically reflect on their practice and therefore another challenge to reform. Overall, learners with ALN were seen as benefitting from the focus on stage not age in terms of measures of achievement, and from the emphasis on practices such as assessment for learning, experiential learning and skills development, though learners with more complex needs were seen as possibly disadvantaged.

Analysis of interviews by individual revealed that participants held divergent ideas about the outcomes of reform. Some participants, namely those with more experience of working with learners with ALN, saw reinforcement of the idea that teachers have responsibility for educating all learners in their class as an important aspect of reform. They constructed effective practice as concerning an interactive and complex process of assessing, questioning and making sound judgements about pupils, and saw this as a more sophisticated practice than is encapsulated in the idea of differentiation. One practitioner described it in this way:

Basically, teaching of ALN is just good teaching…the way you care for one child is the same way you care generally for most [pupils]…you should be trying to give them work, you should be varying your pace, you should be varying your questioning.

Within this narrative of reform, one aim of the reform programme was to make these processes of teaching mandatory and high-profile, and in this way embed them more securely in the education system. According to this view, the education of learners with ALN should not be seen as separate from that of all learners, processes of inclusion being essentially the same as those involved in school improvement. All aspects of the programmes of curriculum reform and ALN reform were seen as aligned since they are focused on the quality of teaching as well as, crucially, pupil well-being, and capable therefore of producing real transformation of the education system in Wales.

A second narrative, expressed by other participants, also viewed teachers as having responsibility for all learners and saw the reform programmes as reinforcing this fact. However, this narrative did not see reform as leading to transformation of current systems, but rather that systems needed to remain essentially the same. One version of this narrative focused on the importance of differentiation for learners with ALN, but

saw this as a straightforward process of teachers making minor adjustments to accommodate the differences between learners. Another version focused on the presence of learners who had complex needs and the continuing possibility that some teachers would be unable or unwilling to address these. Within this narrative, the increased accountability of schools, also seen as a key feature of reform, meant finding the right balance between teacher responsibility for all learners and meeting the needs of learners with complex needs. A continuing need for extra support systems in schools, such as small group work, withdrawal, specialised teaching and extra support, was a feature of this narrative.

Discussion

This research has found that key professionals in policy and Pioneer school communities generally welcome the ideas that are promoted by curriculum reform and see these as underpinning an education system that is more inclusive and more able to meet the needs of all learners. Findings also indicate that different ideas exist about the aims of the reform and what reform means to the future of the education system in Wales. In this respect, the research reflects findings in relation to the development of the Scottish curriculum. For example, Wallace and Priestley (2011) and Priestley and Minty (2013) found that, though Scottish teachers welcomed the overarching aims of the new curriculum, they held different ideas about what this meant in practice. They noted that it is possible for teachers and others to engage with ideas as first order beliefs, but also as second order beliefs which are divergent. This seems relevant to this research where all participants endorsed the idea of inclusion and equity in education, but viewed this as necessitating different approaches to practice and ultimately different outcomes of the reform programme.

Similar findings have been noted in relation to other types of educational reform. In Sweden, research carried out by Lidar et al. (2017) into the recent introduction of national tests, found that teachers had different responses to reform, ranging from assimilation to resistance, but that certain beliefs should be viewed as superordinate and especially powerful within professional belief systems. Superordinate beliefs can subsume other less powerful beliefs or may supersede beliefs which are incompatible (Denicolo et al. 2016). In Lider et al.'s study, they found that teachers held a superordinate belief in acting in the best interests of their students though this had different meanings for participants. This is something that resonates with the research reported here. Findings from this research suggest that participants also expressed a belief in working towards students' best interests. However, some saw this in terms of an ideal vision of universal provision that signified a transformation of the current system, whilst others took a more pragmatic stance that was focused on immediate outcomes for learners. Aligned with this latter view was the idea that any future system needed to be essentially the same as current arrangements. These two belief systems did not appear to be contingent on category of participant, that is, policy-maker or Pioneer practitioner, since both views were represented in each of the two groups.

In investigating transformation of professional practice in education, Coburn (2004) found that individuals tend to first see what is possible to keep and how changes align with existing habits. Coburn's research showed that professionals seek functional ways of acting in response to a reform programme, which relate to their personal convictions, disciplinary and institutional traditions, and also what they perceive as expected in terms of reform. Such processes seem to be important considerations

within this research and suggest that, if change is to be nothing more than superficial, more is required in terms of engaging with practitioners' understandings, beliefs and sense-making in relation to practice. To this end, further research is planned. An application for ESRC funding for a project entitled 'Enactment of inclusion and equity by education professionals in mainstream primary schools in Wales' is currently being developed by the Professional Learning team at USW. Carmel has been instrumental in producing the case for support for this application and has based the research design partly on findings from the research reported here. The aim of the proposed project is to investigate the nature and quality of educational experiences for pupils with additional learning needs in the Welsh context, but with the further aim of exploring how practitioners and pupils make sense of these experiences. It is hoped that the research will produce greater understanding about how ideas about inclusion, equity and pedagogy are enacted by practitioners through authentic engagement with practitioners' beliefs about practice and constitute a positive intervention in ongoing conversations about policy and practice in relation to additional learning needs in Wales.

References

Camau Project (2018) *Learning about Progression – Informing thinking about a Curriculum for Wales*. Research report (April) University of Glasgow and University of Wales Trinity Saint David. Available: http://athrofa.cymru/2018/06/01/learning-progression-for-wales/ [accessed 16 June 2018].

Coburn, C. E. (2004) Beyond decoupling: rethinking the relationship between the institutional environment and the classroom, *Sociology of Education*, 77(3): 211-44.

Cohen, L., Manion, L. and Morrison, K. (2018). *Research Methods in Education*. 8th edn. London and New York: Routledge.

Denicolo, P., Long, T. and Bradley-Cole, K. (2016). *Constructivist Approaches and Research Methods: A Practical Guide to Exploring Personal Meanings*. London, Thousand Oaks, New Delhi, Singapore: Sage.

Denzin, N. K., and Lincoln, Y. S. (2018) 'The discipline and practice of qualitative research', in N. K. Denzin & Y. S. Lincoln (eds) *The Sage Handbook of Qualitative Research*. Fifth ed. Thousand Oaks, London, New Delhi, Singapore: Sage, pp. 1-26.

Donaldson, G. (2015) *Successful Futures: Independent review of curriculum and assessment arrangements in Wales*. Available:http://gov.wales/docs/dcells/publications/150225-successful-futures-en.pdf [accessed 15 Oct 2017].

Florian, L. (2008) Special or inclusive education: future trends, *British Journal of Special Education*, 35(4): 202-8.

Florian, L. and Beaton, M. (2017) Inclusive pedagogy in action: getting it right for every child, *International Journal of Inclusive Education*, 22(8): 870-84.

Florian, L. and Graham, A. (2014) Can an expanded interpretation of phronesis support teacher professional development for inclusion? *Cambridge Journal of Education*, 44(4): 465-78.

Lidar, M., Lundqvist, E., Ryder, J. and Östman, L. (2017) The transformation of teaching habits in relation to the introduction of grading and national testing in science education in Sweden, *Research in Science Education*. DOI: 10.1007/s11165-017-9684-5.

Pantić, N. and Florian, L. (2015) Developing teachers as agents of inclusion and social justice, *Education Inquiry*, 6(3): 333-51.

Priestley, M. and Minty, S. (2013) Curriculum for Excellence: 'A brilliant idea, but...', *Scottish Educational Review,* 45(1): 39-52.

Priestley, M. and Drew, V. (2016) Teachers as agents of curriculum change: closing the gap between purpose and practice. Paper presented at European Conference for Educational Research, Dublin, 23-26 September.

Priestley, M., Minty, S. and Eager, M. (2013) School-based curriculum development in Scotland: curriculum policy and enactment, *Pedagogy, Culture and Society*, 22(2): 189-211.

Wallace, C. and Priestley, M. (2011) Teacher beliefs and the mediation of curriculum innovation in Scotland: a socio-cultural perspective on professional development and change, *Journal of Curriculum Studies*, 43(3): 357-81.

Welsh Government (2015) *A Curriculum for Wales – A curriculum for life*. Available: http://gov.wales/docs/dcells/publications/151021-a-curriculum-for-wales-a-curriculum-for-life-en.pdf [accessed 20 Oct 2017].

Welsh Government (2016) Additional Learning Needs Transformation Programme. [Online]. Available: http://gov.wales/topics/educationandskills/schoolshome/pupilsupport/additoinal-learning-needs-reform/?lang=en (Accessed 10 Jan 2018).

Welsh Government (2018). *Draft Additional Learning Needs Code for Wales*. Cardiff: Welsh Government. Available at: https://beta.gov.wales/sites/default/files/consultations/2018-12/draft-additional-learning-needs-code-for-wales_0.pdf [accessed 24 Jan 2019].

Appendix 3: Final report: 'Rural schools and the new curriculum'

Executive Summary

The new curriculum in Wales is being developed by teachers from 180 Pioneer schools including a proportion of schools in rural areas. Part of the vision of the reform is that schools will have more scope to design a curriculum appropriate for their learners. Although the contexts are somewhat different, research from the USA and Australia (Barley and Beesley, 2007; Masumoto, and Brown-Welty, 2009; Downes and Roberts, 2018) suggests that rural schools can develop distinctive curricular drawing on local resources and integrating the work of the school the community. The current project sought to investigate whether schools in rural Wales are using the opportunity of pioneer work in a similar way.

The research was exploratory, looking at the process of reform as it happens, giving teachers the opportunity to reflect on their experience as pioneer leads or as teachers without that responsibility. The aim of the research was to gain insights into the experiences of teachers in rural pioneer school using semi-structured interviews. Since the number of rural schools engaged in the process is small, the sample was small in number but included all secondary pioneer schools in rural mid Wales. The sample of teachers interviewed included all the pioneer lead teachers, headteachers and other teachers not directly involved on a voluntary basis according to availability.

The research revealed that the Pioneer lead teachers were highly committed to the process with some reservations. Headteachers and pioneer lead teachers were optimistic about the reform seeing opportunities to develop a more inclusive curriculum with a focus on skill. Teachers not directly involved were also optimistic and enthusiastic but expressed some uncertainty about certain aspects: how will the curriculum meet the needs of learners aiming for the most competitive university courses; will the curriculum equip learners with basic skills?

Some schools are working with the community to enhance the curriculum, collaborating with local businesses to broaden learners' experience and skills for the workplace. Staffing patterns in some rural schools, where teachers routinely teacher more than one subject, may facilitate working in AoLEs in the future.

The reservations expressed by pioneer lead teachers focused more on the process than the outcome. Some small rural schools have worked as pioneer clusters and this has presented some logistical problems in terms of engagement and communication. Pioneer lead teachers and a headteacher commented that the greater demand in terms of time, owing to travelling, creates a greater impact on rural schools. Pioneer teachers also expressed concern about the challenges of sharing their work with colleagues in other schools, again owing to time constraints and distances.

PROJECT REPORT

SF4All in rural schools: What are the organisational implications of the new curriculum for rural schools?

Introduction

The Successful Futures for All? project has a broad focus of investigating how the current curriculum reform might have an impact on groups of disadvantaged learners. This part of the project seeks to explore the impact of the reform in rural schools and whether there is the potential for the new curriculum to address issues affecting rural schools.

There is evidence that rural schools face distinctive challenges although much of the evidence is from research in the USA and Australia (Barley and Beesley, 2007; Masumoto, and Brown-Welty, 2009; Downes and Roberts, 2018). While schools in Wales are not remote on the same scale as those in the USA or Australia, there is evidence of specific forms of disadvantage affecting rural communities in Wales (Williams and Doyle, 2016) so it is important to ask questions about the ways in which a national initiative such as curriculum reform is interpreted in rural schools. While rural schools may not encounter the levels of economic deprivation experienced in some urban and coastal areas, all face the disadvantages inherent in limited public transport and public services. This project focuses on the challenges for the schools in meeting the needs of pupils in this context as well as those facing specific disadvantage. For example, what are the challenges related to recruitment and retention of teachers in the light of the demands of the new curriculum. The research will explore the ways in which these issues are perceived by headteachers, by teachers directly involved in the pioneer process, and by other teachers. It will further explore whether schools see curriculum reform as an opportunity to address any current disadvantage. It may be possible that the framework of AoLEs can be used to meet the challenges facing rural schools, making more effective use of staff specialisms and resources. Geographical isolation can present an additional problem, in that some learners have limited access to wider learning experiences as envisaged in *Successful Futures.* It is not, however, simply a case of disadvantage in rural schools; they may have easier access to opportunities for outdoor education than urban schools which could be valuable across various AoLEs and offer opportunities for collaboration between schools.

The aim of the project is to gain an insight into the process of reform. An additional outcome may be an increased understanding of the strategies that rural schools use to meet the needs of their learners. There is the potential for the research to inform policy decisions relating to the needs of rural schools.

Aims and objectives

The development of the new curriculum potentially presents an opportunity to reframe learning in ways appropriate to local contexts. The overall aim of the research is to explore the ways in which the pioneer rural schools have responded to the reform and to identify the challenges and opportunities they face. Interviews with participants in various roles generated rich data which met all the aims and objectives.

Primary research question	
What are the organisational implications for leaders in rural schools of the way the new curriculum is being developed?	Interviews with two headteachers in contrasting schools provided data on the implications for leaders based on their experience.
The aims of the study	
Identification of challenges and opportunities in respect of teacher recruitment and retention.	Interviews with two headteachers in contrasting schools provided data on the implications for leaders based on the location of their school. In addition one headteacher commented on the practice in rural schools of teaching across more than one subject.
Identification of opportunities to develop curriculum provision which reflects the needs of learners in rural areas.	Interviews with headteachers, pioneer lead teachers and other teachers in the school provided rich data on the development of curriculum provision to meet the needs of learners.
Identification of opportunities for further research into extra-curricular provision and participation in rural areas.	Interviews with headteachers, pioneer lead teachers and other teachers in the school provided data on extra-curricular provision. The pioneer teachers, however, framed some of this work as part of the curriculum rather than extra-curricular.
The specific objectives of the study include the following questions:	
What challenges does the rural location of the school present in the delivery of the curriculum e.g. resources, staffing, professional learning opportunities, access to facilities?	Interviews with headteachers, pioneer lead teachers and other teachers provided data on the challenges faced by rural schools but also on the opportunities available to learners.
To what extent does the development of new curriculum offer opportunities to the school to address the challenges?	Interviews with headteachers, pioneer lead teachers and other teachers provided data which reveals an almost unequivocal welcome to curriculum reform in the hope that it will be an opportunity to address some long-standing challenges.
Have these aspects of the school's provision been a focus in the work on developing the Areas of Learning and Experience?	Interviews with headteachers, pioneer lead teachers and other teachers showed that the development work has addressed these issues to some extent.
Have these aspects of curriculum provision featured in collaboration with external colleagues?	There is limited data to show a direct connection between the challenges facing the schools and collaboration with colleagues. This aspect of pioneer work presented challenges to some schools.
Do you have specific examples of ways in which planning for the new curriculum has addressed the needs of rural schools?	Interviews with headteachers, pioneer lead teachers and other teachers provided examples of the curriculum planning to meet learners' needs in rural schools.

Methods and activities

The research aims to explore the experience of curriculum reform in rural schools. The method chosen was semi-structured interviews with key staff in order to provide rich data on teachers' experiences.

Sample

Schools were selected on the basis of their rural location and their status as Pioneer Schools. The original research design was to focus on two schools, however, a third school was added and the sample now includes schools from the first and second phases of the process. Although all schools are located in small towns, each area is distinctive in its character and profile of learners. A wider range of perspectives on deprivation and on the pioneer process will be available for analysis.

Within each school the Pioneer Lead teacher(s) were interviewed. In addition, headteachers were interviewed in two of the schools. In the third school the headteacher was newly appointed during the data gathering phase of the research so was not in a position to contribute. Other teachers were interviewed to gain some insight into other perceptions of the process within the school. Nine teachers were interviewed in all, as follows: School 1 – HT, PL lead, three teachers; School 2 – PL lead; School 3, HT, PL lead, one teacher.

Evaluation of the sample

The population of rural secondary schools listed as pioneer schools is small (about 14%) so the sample is taken from a limited group. As noted the definition of a rural school is debateable and the schools in the sample self-identify as rural schools. There are approximately 12 rural secondary schools listed so the sample is about 25% of the total. A total of nine participants were interviewed across the three schools giving a range of perspectives. The interviews, ranging from 30 minutes to one hour, generated a wealth of data on the experience of participants. The data provides detailed evidence of the experience of the pioneer process on schools.

Process

Ethical approval having been sought and obtained from Aberystwyth University, schools were visited between May and July 2018. Interviews took place with the staff and were recorded. Interviewees were asked to reflect on the process of development and on their experiences and to focus on how the new curriculum might address the specific needs of learners in rural schools. The interviews were transcribed by the researcher and transcriptions sent to the interviewees for information. There were no comments or amendments made by the interviewees.

Analysis

The interviews were coded for content and themes. Some themes were anticipated from the research questions: hopes and fears; groups of learners; staffing the new curriculum. Other themes arose from the data: degrees of collaboration; challenges of collaboration; isolation; community resources; professional learning. This approach is consistent with the approach in the SF4All? Hub project. While the hub project draws data from a large sample of pioneer schools, the current project allows a greater depth of analysis into a specific type of school.

Findings

Primary research question:

What are the organisational implications for leaders in rural schools of the way the new curriculum is being developed?

School leaders have embraced the opportunity to participate in the pioneer school process. For small schools there have been organizational challenges in releasing teachers to participate and the cluster model has presented additional challenges of co-ordinating with partners in the cluster. Headteachers seem to view curriculum reform as a natural aspect of curriculum review and development which would occur as a matter of course.

> *From my perspective it [the new curriculum] seems as though it will be more of a framework which will allow schools to use their local environment and their local community to a greater degree than obviously the current curriculum allows, and I feel that with the work we've been doing over the last year or two in developing relations with the community and already having community input into our curriculum across the board in many different areas, we are already taking steps towards that.*
> Headteacher, school 3

> *We wanted to embrace the context of Donaldson and a skills-based curriculum, but to be honest before too many recommendations came out we decided that there would be six Big Questions which would be taught in Year 7 and 8.*
> Headteacher, school 1

Practice in rural schools often requires teachers to teach across a more than one subject and the collaboration between departments generated by this practice is seen as a good foundation for more cross-curricular work in delivering the AoLE:

> *Every one of our teachers teaches more than one subject and again that's the nature of rural schools, small rural schools.*
> Headteacher, school 3

When asked whether curriculum reform would have an impact on specific groups of learners, one school drew attention to current practice to mitigate disadvantage:

> *I think it will be good for all students. I don't think there's anybody that's going to be disadvantaged by it, any particular group because, for example, we ensure that our FSM students can still access Passport of Opportunity and Experience and we make that happen so I don't think there's any particular group of learners that would be disadvantaged.*
> PL teacher, school 1

The focus was on learners in general terms without specific reference to the rural location.

Specific objectives:
What challenges does the rural location of the school present in the delivery of the curriculum e.g. resources, staffing, professional learning opportunities, access to facilities?

In discussing resources in the broadest terms, headteachers did not identify curriculum reform as an additional challenge. They spoke rather about their current experience of managing scarce resources to maximise opportunities for learners. Each school gave examples of recent decisions made in the allocation of resources; one school, for example, has a member of the administrative staff whose role is to work with the local community. Headteachers did not see curriculum reform as having any particular impact on staffing. In one school, recruitment and retention were not seen as a problem because the school is perceived as a having a good reputation:

> *You'd have more people who would want to come and work here because they know it's a good school.*
> Teacher, school 1

In another school the headteacher identified isolation as the limiting factor rather than its rural location in attracting staff to the school:

> *We don't have … that many opportunities for work so families are not going to be attracted here.*
> Headteacher, school 3

Interviewees in all schools acknowledged the challenges of ensuring that learners in rural areas have access to a wide range of learning experiences. The concept of 'disadvantage' in this area was framed in slightly different ways in different schools, with some characterising rural life as necessarily limited in its access to wider cultural experience:

> *[I]f one lived in the centre of Cardiff, one might be able to access cultural literacy relatively cheaply.*
> Headteacher, school 1

Other schools saw more opportunities within the immediate community to develop learners' experience while acknowledging that some experiences did involve resource implications for the school.

> *From our perspective as a rural school, we also make the most of what we've got in the community and actually when you go out there and look for it, then there is an awful lot out there. It's whether you can actually take the time to go out there and make those contacts.*
> Headteacher, school 3

Pioneer lead teachers in two schools spoke feelingly about professional learning opportunities, about the '*creative and innovative*' process (PL lead teacher, school 2) and about '*helping to make a difference*' (PL lead teacher, school 3). All teachers were enthusiastic about the opportunities they had been given but for teachers in rural

schools the logistics are a challenge. In the smallest school, part of a pioneer cluster, co-ordination with partners was a challenge:

> *It would benefit us all if we all went to the meetings and all had individual funding and we all did everything ourselves.*
> PL teacher, school 3

For two of the schools, the opportunities for professional learning were compromised by the distance and travelling time

> *[I]f the professional development is going to be on the level they want … for the new curriculum, there's got to be that recognition of the rurality of schools… without the expectation of OK let's all go down to Llanelli for the day, let's all go to Cardiff for the day. To be fair to the Pioneer Schools process every month we've been meeting for two or three days, it's been up in Llandudno, Cardiff, we've had one in Aberystwyth, we've had a couple in Llandrindod, and to be quite frank those ones make the difference for us … you can imagine how that's going to feel for the entire mid Wales population of staff.*
> PL teacher school 2

Although all the pioneer leads were enthusiastic and committed to the process, there was a degree of frustration expressed that teachers in more urban areas had more informal opportunities to develop the work and required less time out of school than teachers in rural schools. The teachers in the pioneer schools would have welcomed more opportunities to collaborate on their projects. In one example, the pioneer leads from different AoLEs were presenting to a group of headteachers in the county but were not given the opportunity to present to each other. The interviewee felt strongly that the two groups would have benefitted from sharing their experience and, furthermore, from having the opportunity to share it with colleagues who had not been part of the process:

> *I went to the cluster secondary heads last week and I presented and the other school that was there presenting was Ysgol […] and the first thing I thought was: look we're presenting this to the cluster heads now, why couldn't we … invite all the health and wellbeing staff from the school and I could present … why couldn't we have that locally for the ground floor staff?*
> PL teacher, school 2

Concern was expressed by all teachers about possible resistance to the changes from teachers who had not been part of the process. Some schools explicitly stated that very few staff in that school were likely to demonstrate that attitude.
> *I would imagine that in lots of schools many teachers would be very scared of the new curriculum and don't know how it's going to look. Possibly we're lucky here, not possibly, we're lucky here because we have the ability to discuss things and work together as Directors of Learning and discuss ideas and I'd imagine in some schools perhaps, you don't have that same ethos in your school… I think that would be the difficulty in some schools, where perhaps it's a very negative environment.*
> Teacher, school 1

Pioneers in other schools, however, noted that they had met reluctance from colleagues who want to see the model for assessment, especially GCSE, before they engage in any development work. Other reservations were based on the opinion that *'it hasn't worked in Scotland'* (PL teacher, school 3).

Some non-pioneer teachers expressed some concerns about the impact of reform on learners. In one school, teachers were concerned that the curriculum should meet the needs of those learners applying for competitive university courses (Teacher, school 1). In another school, the concern was with the standards of basic literacy currently demonstrated on transition from primary school and that curriculum reform should address this problem rather than exacerbate it.

To what extent does the development of the new curriculum offer opportunities to the school to address the challenges?

Headteachers, pioneer lead teachers and, to a large extent, other teachers were enthusiastic about and committed to the curriculum reform process. The pioneer lead teachers had found the process of collaboration rewarding and relished the opportunity to develop a project which was relevant to their school. There were some concerns expressed by one headteacher that there were no 'success criteria' for this project and by the pioneer lead teacher that, because all the schools in the cluster were working on very different projects, it was difficult to share experience on progress.

All interviewees saw the new curriculum as an opportunity to meet the needs of a range of pupils. One group identified as potential beneficiaries were those for whom the current curriculum is too restrictive:

> *And they are the ones that are absolutely going to fly because they are going to be released from the straightjacket of a traditional curriculum.*
> Teacher, school 1

Another school identified the emphasis on skills as an important opportunity to ensure that all learners developed the necessary basic skills. One school had already made a change by beginning GCSE courses in Year 9 to allow a longer period for the development of GCSE skills. The same school had reformed Year 7 and 8 to work on 'Big Questions' across the current subject areas in anticipation of the working across AoLEs. The school was already structured in faculties which mapped easily on the AoLEs but there were still subject identities within faculties and a celebration of the teachers' specialist expertise. Interviewees anticipated that the reformed curriculum would minimize the need for 'box-ticking' and that learners' needs would take priority. A pioneer school working on wellbeing saw the reform as an opportunity to work with learners' understanding of the their own skills and dispositions as learners; they anticipated that this approach would be particularly beneficial for those learners who arrive at school not ready to learn, for whatever reason. The pioneer lead teacher did recognize that this approach could possibly demotivate those learners who were already able to organize and motivate themselves so the school would need to ensure that every learner understood how the approach could benefit them.

There was some concern that engagement with authentic experiences and out-of-school learning would require additional resources. One teacher spoke of the expense of inviting outside speakers while another described a successful joint project with the

local primary school which had involved the engagement of an external arts practitioner, funded on this occasion by a grant.

Have these aspects of the school's provision been a focus in the work on developing the Areas of Learning and Experience?

Two of the schools gave far more detail on the AoLE work than the other one so the focus here is on those schools. The school working on wellbeing was making use of that focus to develop learners understanding of themselves as learners, of food and nutrition in its widest sense and to address learners' understanding of mental health issues. Year 7 work is being reframed as 'My Learning: My Mindset; My Voice; My Choice' with a focus on the learners '*having the confidence to take charge of their own learning'* (PL teacher, school 2).   The work on nutrition involves working with the local Co-op on food sources and nutrition. Year 9 work on mental health is in response to consultation with learners about the choice of topic and the school has taken the opportunity to address concerns about the use of social media:

> *[T]he rurality issue could come in more via social media in the sense that some pupils will go home and they will be down a track on their own and they won't be able to go to as many clubs as may be expected in inner cities and I think that reliance or over-reliance on social media to make friends and keep friends is an issue.*
> PL teacher, school 2

Another school is working on the Languages, Literacy and Communication AoLE and is focusing on the development of skills in Welsh. The school has integrated this focus with its work as a part of Cymraeg 2050 in supporting the use of Welsh in the wider community and demonstrating to learners how important Welsh is to their own development and employability in the immediate community and beyond.

Have these aspects of curriculum provision featured in collaboration with external colleagues?

As noted above, rural schools found collaboration with external colleagues challenging. The time required to travel meant that their work was concentrated in the AoLE meetings although they would have welcomed opportunities for more extensive collaboration.   The school working in the Pioneer cluster found the experience paradoxically isolating because the other schools in the cluster were not necessarily working on the same aspect of the curriculum:

> *I've gone down the route of trying to improve standards of Welsh through kinaesthetic learning because that's one of our main focuses as a school but then you got to School B and they're trying to raise standards in English because their children don't speak English.*
> PL teacher, school 3

Another school expressed concerns about the ways in which curriculum reform might be interpreted elsewhere:

I've had a member of staff … where they've taken the Four Purposes, they've made a diagram for each one and they've just mapped it into what they are doing now and saying this is where they're going to be ambitious, this is where they're going to be ethical informed citizens. And you sort of say that's not what we're doing. That's my fear - that you will have staff who will just do that and say 'We're Donaldson-ready' what do we need to wait six years for we've done it we're doing it and they haven't changed anything.
PL teacher, school 2

Do you have specific examples of ways in which planning for the new curriculum has addressed the needs of rural schools?

In addition to the examples noted above, one school has chosen the development of learners' Welsh as the focus for development. This school is also involved in Cymraeg 2050 and its choice of focus to develop learners' use of Welsh is in response to a specific need in the local area:

So for example we've had the owner of a waste disposal company to come in and talk about his company. How he has encouraged his workforce to develop skills in Welsh to give them a better position in negotiating with the local community as well as further afield and businesses worldwide.
Headteacher, school 3

Discussion
The depth of data reveals that each school is approaching curriculum reform in its own way but with a focus on providing the best opportunities for its learners. Pioneer schools welcomed the opportunity to be a part of the process of developing a curriculum more suited to the needs of their learners now. Some interviewees expressed the view that the current curriculum was too restrictive or '*knowledge-heavy*' so reform gives schools a chance to create something more meaningful. The schools participating in this project were innovative in their developments, working with learners and the community to create meaningful projects in response to current concerns. Teachers acknowledged some anxieties that the reformed curriculum may not serve some learners as well as others but were, nevertheless, optimistic that a solution would be found.

The specific challenges facing rural schools were interpreted in different ways in each school. One school identified rurality with challenge in terms of accessing cultural resources. A teacher in another school was very aware of the potential vulnerability of young people in rural areas to isolation and dependence on social media. The third school, while recognising the limited employment opportunities for learners in the immediate area, sought to work with a range of local businesses to develop a meaningful curriculum. What is most striking about these schools is their distinctiveness and pro-active approach to curriculum development. The reform process appears to have provided them with an opportunity to engage with local resources to the benefit of learners and the wider community. There may be scope for further research into the ways in which schools use community resources to develop the curriculum.

Disadvantaged learners as distinct groups did not feature greatly in interviewees' responses, suggesting that since schools currently focus on those learners in a variety of ways, they will continue to do so in future. There was optimism that the reformed curriculum would enable schools to meet the needs of all learners.

Teachers who have had direct involvement with the process have found it, on the whole, rewarding, showing a capacity and enthusiasm for the process of curriculum development. There were, however, consistent fears expressed that teachers who had not been a part of the pioneer process would struggle with the changes or would misinterpret the intention. It would, perhaps, be beneficial for a similar collaborative experience to be more widely shared to develop capacity further. The greatest challenge, however, faced by rural schools and teachers is the travelling distance to events. Individual teachers commented on this forcefully and a headteacher described the challenge of co-ordinating events with other heads in the same district. Teachers in rural areas perceive themselves to be disadvantaged by the distances they are obliged to travel and the lack of opportunity for informal networking. There was some concern expressed that in order for collaborative professional learning to be effective, teachers need opportunities to work together in their own localities. There is no doubting the enthusiasm and goodwill of teachers but those working in rural areas literally go the extra mile for their learners.

References

Barley, Z., and Beesley, A. (2007). 'Rural School Success: What Can We Learn?', *Journal of Research in Rural Education,* 22:1, 1-16.

Downes, N., and Roberts, P. (2018). 'Revisiting the schoolhouse: A literature review on staffing rural, remote and isolated schools in Australia 2004-2016', *Australian and International Journal of Rural Education,* 28:1, 31-54.

Masumoto, M. and Brown-Welty, S. (2009). 'Case study of leadership practices and school-community interrelationships in high-performing, high-poverty rural California high school', *Journal of Research in Rural Education,* 24: 1, 1-18.

Williams, E. and Doyle, R. (2016). *Rural Poverty in Wales: Existing Research and Evidence Gaps.* NP: Public Policy Institute for Wales

Appendix 4: Final report: 'Implementing the Digital Competency Framework

Executive Summary

Successful Futures has catalysed innovative approaches to curriculum reform in Wales. As the first component of this new Curriculum, the Digital Competency Framework nears its third year and there is evidence that classroom provision for developing learners computational thinking is gaining significant ground. Regional Consortia as well as third party stakeholders such as code club, techno camps and STEM.org are working together to raise the profile and significance of computer coding in Primary schools across Wales.

This paper describes how key digital leaders and classroom practitioners throughout Wales develop and support computational thinking within their practice and discusses how this relates to teachers' technological pedagogical content knowledge (TPACK) and the implications that this has on training requirements. The paper also describes how provision can be variable due to geographical area and variations in disadvantaged areas. Using examples, the paper highlights some of the stories of change that has taken place in the Welsh educational sector. Data Analysis included open and axial coding for identification of themes.

This exploratory study produced findings which suggest that computational thinking developed through coding activities is a growing trend across Wales. Data shows that some classroom practitioners require further training and professional learning in regard to computer coding. There were concerns raised by the findings surrounding geographical location and adequate resourcing.

Finally, teachers and stakeholders shared their hopes and fears for the New Curriculum and welcomed the opportunities that curriculum reform gives teachers to make decisions. However, they also had concerns around consistency of a shared vision across their region and Wales in general. These findings raise questions about resourcing by the Welsh Government and Regional Consortia to ensure adequate professional learning opportunities to support practitioners' successful integration of digital skills in a cross-curricular context.

PROJECT REPORT

Current issues and implementation of Computational Thinking in welsh primary schools

Introduction

Professor Donaldson's (Donaldson, 2015) "Successful Futures" has profound implications for the future of education in Wales. One crucial element of these reforms and the first element of the new curriculum for Wales to be made available is the Digital Competency Framework (DCF). Digital competence is defined by Welsh Government as the set of skills, knowledge and attitudes that enable the confident, creative and critical use of technologies and systems (DCELLS, 2015). It is essential for learners if they are to be informed, capable and have the potential to be successful in today's society.

How the DCF evolves over the coming years, and in particular, how it is applied in schools to best effect, raises important questions for both classroom practice and research. These questions relate to how best to integrate digital competencies into the classroom and what impact this has on developing highly competent individuals capable of contributing to a rapidly developing digital economy.

One area of interest is the development of competent computer coding skills. The DCF stipulates teaching data and 'computational thinking', and it is in this area that coding software such as Scratch or J2Ecode is used to develop learner's computational thinking skills in the classroom. Furthermore, the Welsh government has launched it's Cracking the code strategy, aimed at extending the level of coding tuition and knowledge and skills of coding; this is especially the case with girls in Wales, and as part of an overarching STEM strategy.

As teachers use the framework to plan engaging lessons there is an opportunity to research what impact these strategies have on learner outcomes and build an evidence base around the teaching and impact of coding in the classroom.

The Digital Competency Framework is Wales's first component of the new curriculum. A component of this framework is the Computational Thinking (CT) and Data strand. Wales's increasing emphasis on reasoning and problem-solving skills is part of a global (Tedre and Denning, 2016; Wing, 2008) drive to enable practitioners to plan and explore the use of technology in innovative ways. Exploring the implementation of computational thinking through computer coding in this study will better inform practitioners and policy makers of what the current situation is and how this compares to their intended situation when the DCF was first envisaged, as well as the implications for effective professional development (Barr and Stephenson, 2011; Crick, 2017; Hubwieser et al, 2011; Webb et al, 2017).

Jeanette Wing called for Computational Thinking to be a skill added "to every child's analytical thinking" in 2006, sparking a resurgence in the belief that CT is an essential skill set for all learners to develop for the 21st Century. This view echoes Seymour Papert (1980) who earlier argued that, "Certain uses of very powerful computational

technology and computational ideas can provide children with new possibilities for learning, thinking, and growing emotionally as well as cognitively." (Papert, 1980, p17-18).
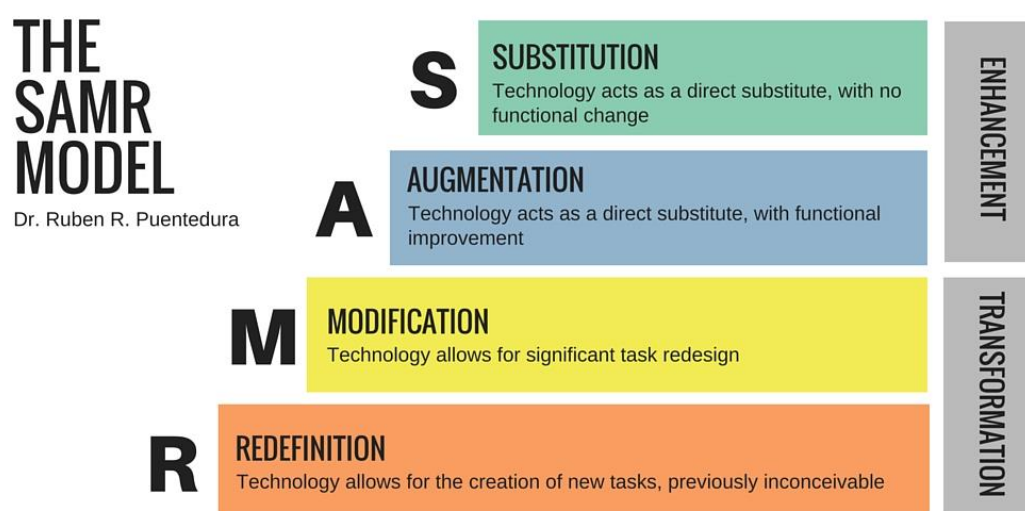
More recently, England introduced Coding as a vehicle for CT in their Computing Curriculum by stating, "A high-quality Computing education equips pupils to use Computational Thinking and creativity to understand and change the world." (Department for Education, 2014). The Royal Society's commentary also re-enforces the point that CT is an increasingly important component of any 21st century curriculum:

"The broad subject of computing – covering the three vital areas of computer science, digital literacy and information technology (IT) – have become mandatory in English schools from ages 5 to 16. In Scotland, we have seen the implementation of the Significant Aspects of Learning, a framework where computing is broken down into distinct areas of knowledge. In Wales, the Digital Competence Framework is bringing computing in schools to the forefront, while Northern Ireland has continued to deliver a comprehensive computing framework."
(The Royal Society, 2107).

There is no doubt that CT has driven technological advances in many areas of our modern life, from the first algorithm by Ada Lovelace that supported the work of Babbage, to Turing's essential contribution to winning the second world war. To summarise, CT is a component of the UK's curriculum but how is the workforce supported with the teaching and learning of CT in our classrooms today?

SMK and PCK
Practitioners have opportunities to develop their own competence in teaching Computational Thinking concepts through self-study and Regional Consortia training. Furthermore, on current ITE and consortia training events practitioners can be introduced and supported to use a reflective taxonomy tool for self-evaluating classroom activities that contain a digital component. This model is the (Substitution, Augmentation, Modification and Redefinition) and was developed by Puentedura (2013).

THE SAMR MODEL
Dr. Ruben R. Puentedura

S SUBSTITUTION
Technology acts as a direct substitute, with no functional change

A AUGMENTATION
Technology acts as a direct substitute, with functional improvement

ENHANCEMENT

M MODIFICATION
Technology allows for significant task redesign

R REDEFINITION
Technology allows for the creation of new tasks, previously inconceivable

TRANSFORMATION

When practitioners reflect on their current practice against the SAMR rubric, they can try to "know" where they are and maybe reflect on "were" they need to or could take action to improve their integration of digital technology. Reflecting on teacher knowledge can be traced back to the Pedagogical Content Knowledge (PCK) framework proposed by Shulman (1986). In this context, practitioners reflect on "what" they know about CT, and also what they know about "How" to integrate and apply this in the classroom. The PCK framework by Shulman has been modified in recent years to account for technology. The TPACK framework by (Mishra and Koehler, 2006) is a framework for teachers to reflect on the overlapping combinations of technology knowledge, pedagogy knowledge and content knowledge and how in this study's context, where they intersect for the teaching and learning of Computational Thinking.
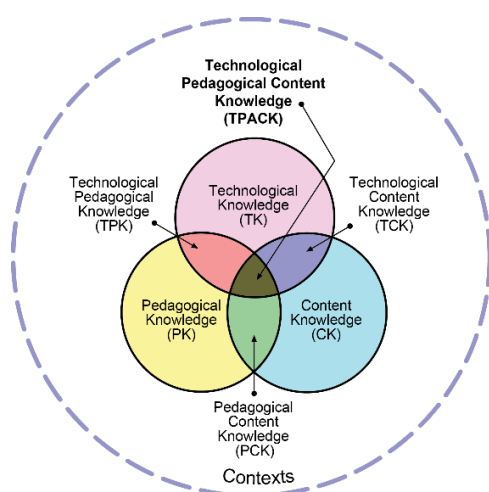

Figure 2: TPACK framework
(Mishra & Koehler, 2006)

Therefore, for those practitioners who subscribe to consortia training, there are opportunities to both learn new material and skills and be exposed to innovative and novel classroom approaches. However, how the practitioner perceives a subject is very important as their own values and beliefs influence the success on their practice, and it is this study aim to gain insight into the participants' beliefs surrounding CT.

Aims and objectives

This study collaborated with Regional Consortia, Digital Competency Pioneer and non-Pioneer schools to gain a general understanding of how computational thinking is implemented and regarded in the new curriculum. Specific focus was also given to eliciting remarks or feedback for the implications that disadvantage has on digital competency. The specific aims of this study were:

Gain insights into the current provision both in training and classroom implementation of computational thinking in schools;

Analyze current data to better inform stakeholders of best practice through a research informed method;

To collect opinions and data regarding practitioners hopes and fears pertaining the curriculum reforms;

Identify any issues that conjoin disadvantages learners and CT provision.

Methods and activities
The primary source of data for this study was semi-structured interviews which were carried out over the summer of 2018. An interview schedule was draw up which invited participants to clarify their roles in the development of the curriculum, and discuss their views and experiences of Computational Thinking.

I developed interview questions that asked participants about their hopes and fears for the new curriculum; the interview questions also investigated how continuous professional development aligned and supported classroom practice. As the researcher, I asked questions to the participants in semi-structured interviews relating to their beliefs and evidence pertaining to current modes of teaching computational thinking and the tools that are now used. Ottenbriet-Leftwich et al. (2010) describe that the best way to understand teacher values and beliefs would be through interviews because educators would be able to reveal their internal beliefs.

Participants were also asked about their views on alignment between curriculum reform and the impact of funding and infrastructure. Interviews were digitally recorded and stored on secure and encrypted cloud storage. All the Interviews were fully transcribed and analyzed thematically in line with Braun and Clarke's system for thematic analysis.

Participant sample

Participants were selected with the support of GwE and ERW digital leaders. Various schools were identified and invited to participate in the study. These schools included Digital Pioneer schools, special schools as well as mainstream primary schools. A broad range of participants were also invited to reflect the differences between phases and context such as Foundation Phase practitioners and upper Key Stage 2 or 3 practitioners.

Of note perhaps to this study is the distribution of digital pioneer schools in Wales who are involved in developing and trialling new approaches and pedagogies to develop digital skills of learners. There are 17 digital pioneer schools in Wales, a mixture of secondary and primary and one special school.

Figure 3: Distribution of Digital Pioneer schools
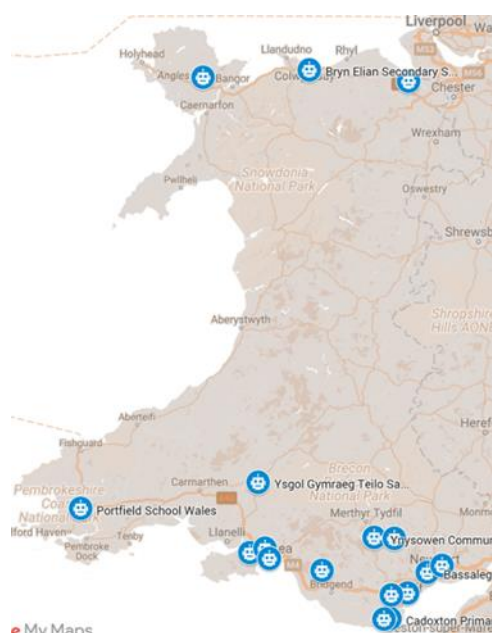
Approach

This study sought to focus on participants' opinions on the new curriculum, their knowledge of CT and the various approaches to teaching and learning before finally identifying themes within the participants understanding of CT. This would provide the researcher with scope for further exploration of responses. The most appropriate method of analysis in this framework would be a thematic analysis as outlined by Braun and Clarke (2006). They define a series of phases to produce a thematic analysis. This procedure provides a well-defined guide of what it is, and how it should be carried out whilst maintaining the "flexibility" tied to its epistemological position. In this paper, the author includes the individual experiences of the participants and also the meanings they attach to them. Braun and Clarke describe this as a "contextualist" position that they describe as being between essentialism or realism and constructionism. The recorded data was collected from all participants was transcribed by the author, during this process the initial thoughts and ideas were colour coded and collected in Excel as this is considered an essential stage in thematic analysis (Riessman, 1993). This process took place on two levels, firstly by ensuring that the coded data formed a coherent pattern, and secondly once patters were established they were considered in relation to the whole set of data. Once the initial coding was completed the analysis moved to the next phase. This involves defining and naming the themes, these labels had to convey the essence of the theme. For the final stage, examples of transcript were chosen to best represent the essence of the theme. These examples were then used to exemplify the points.

Findings

The thematic analysis process that was applied to the transcripts enabled the identification of key concepts that were evident in the data. These concepts/themes were essential in determining the understandings of all the participants. These categories were labelled as "TPACK," "Curriculum," "Resources," and "Equity".

TPACK

This theme is defined by the ability of all the participants to understand what CT is and what it is not. This is, in part, likely to be defined by different levels of knowledge and training that the practitioner has. However, since the sample size is so small no national generalisations can be made with any degree of certainty.

All participants were able to describe CT as an algorithmic way of thinking associated with problem solving and logical discourse. The majority (6) of the 8 participants did state that CT was not "just coding" and that computer coding with Scratch represented a component but not the whole solution to learning CT:

> "*I view it as one of the sorts of thinking skills, which people need to do in way of putting things into a sequence and thinking of order of events and what needs to come first, and second and so on. I see it as something which you know it's not just about digital you could actually think it's in the real world as well, where you're organizing yourself to get to an objective and how am I going to get there?*" (Practitioner)

The participant describes that CT does not require digital equipment as an essential part of developing the skill, but, on the other hand, they do not mention any specific pedagogical approach.

When asked how practitioners keep up with current training and new materials, the majority say they are self-motivated and actively search for materials to keep themselves and others informed in the school:

> "*I tend to end up doing my own research and my own finding out for myself. I'll hear the term or something like that. I think right. I need to find out what that is if I need to be implementing that in my class. It's up to me to find out about it. It's not unusual to get apps yourself or do something on your own computer at home to be honest. Nobody is sat down with me and said this is what you need to do to it.*" (Practitioner)

Responses from the Regional Consortia re-enforce this view. They have introduced the reflective models to practitioners but admit this is superficially done in some instances:

> "*When I do a workshop, I mention the SAMR model by Puentedura as a way for teachers to realize there is a hierarchical way to evaluate your use of ICT in the classroom, I also mention a bit about their need to be aware of teacher knowledge and use the TPACK model for this, but I'm not doing it academically, I haven't got time for that, I mention it and they just need to know how to use the software and devices really.* (Regional Consortia)

However, most respondents had heard of the SAMR and TPACK models as reflective tools.

Curriculum

The curriculum emerged as a theme defined by the values and beliefs staff have concerning the reforms. The first question in interviews was "What are your hopes and fears for the new curriculum?". All respondents were complimentary about the vision for the curriculum reform and the freedom that this will give practitioners. However, there are concerns surrounding practitioners who are not engaged with the reform and

hints of the anxiety that comes with change and how that is or may not be managed due to factors such as disadvantage.

> Interviewer: *"What are your hopes and fears for the new Curriculum for Wales?"*
> Participant: *"I am excited by the prospect of the new curriculum. I believe it will give teachers the freedom to deliver a curriculum that is engaging, fit for purpose and fit for 21st learners. I worry that some schools/teachers will struggle because it may be a new way of thinking/working for them. It will be more of a 'framework' for schools to design and plan their own curriculum development. This may fill some teachers with excitement but others with fear!"*

Furthermore, another participant shared her vision as:
"That it delivers project-based learning where pupils can clearly see the purpose of their learning and participate and shape their own learning without having it 'done to them'. Also, that they have FUN." (Practitioner)

Resources
Resources including the tools and level of equipment that a practitioner has or is aware of is another theme that encompassed the sub-theme of hindrances that relate to resources.

There were significant differences between all participants as nearly all responses demonstrate that resourcing for devices is very variable. Disadvantage becomes a factor in a school's ability to develop adequate experiences for learners:

> *"Schools that have taken part in the CTC*9 program have physical computing resources, but most will still be using beebots, Scratch. Otherwise devices are very variable across schools, it depends if the head has decided to invest, but this is difficult because what do they do? Do they blow the budget on iPads like many have and now cannot afford newer devices or software which, really they could have more crumbles and Raspberry pies if they wanted, but because they blew the budget years ago, can't afford them now, you know?" (Practitioner)*

Variability between what schools are exposed to and what they "have" is an issue for further research and thought. Only one school expressed a very positive outlook on physical resources in the study. Resourcing of devices and tools is an issue across regions and this may be due to regional geographic and economic factors of disadvantage:

> *"If I look at my own school. I think we've made it a priority and because of financial means; opening an almost a private business within the school for child care to support financial issues. We are resourced very, very well in comparison to many, I can see that *school name* in a very, very good position. Many other schools hardly have anything." (Practitioner)*

"In my experience as GwE Digital Leader, the level of resources is mixed across North Wales. Regional disadvantage can play a big part in capacity and the budget also

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plays a role when seeking devices and releasing staff. Lack of resources and staff CPD both hinder the development of computational thinking. Many schools have one person interested in coding who attends courses and learns in their own time, so learners may not receive a consistent approach across whole regions." (Regional Consortia)

In the above extract the regional consortia digital leader expresses the lack of consistency between schools regarding resources as well as indicating staff themselves as a resource and the variability in those members of staff who are interested in CT and those who are not.

Equity
The theme of equity relates to responses concerning hindrances in the form of geographical or economic disadvantage. There is evidence to suggest that Regional Consortia themselves might not be communicating and organising provision in the same way. However, this might be down to the geographical challenges that Wales present to consortia wishing to give all areas the same consistent support and training. When asked about consistency in support and professional development, the responses were variable:

"*There are differences because consortia have been allowed to spend funding in whichever way they see fit." (Regional Consortia)*

From a different Regional Consortia digital leader:

"*Yes, there have been different approaches to this within the CTC programme. Different consortia do this differently; I suppose this is a good thing but it's hard to see the big picture." (Regional Consortia)*

Asked whether there could be more consistency:

"Yes. There needs to be more collaboration and communication between consortia and other stakeholders such as CAS, Techno camps. Also, more involvement from industry would be beneficial." (Regional Consortia)

Although regional differences play a role, it was interesting to hear from one teacher their opinion regarding what can hinder successful development of CT in schools. Teachers attitudes towards CT may play a bigger role than originally thought:

"One will say it's going to be money, that's the obvious one, but I also think it can be the attitude of professionals. Attitudes of teachers are they prepared to move with the times and to take on board. These new things are sometimes a teacher's point in their career points in their personal life, they're not always ready for new stuff and it can get them down. The fact that people are pushing things on them, which they might not think of as a priority. Although I appreciate I think it is a priority and I think that really can hinder children's learning again. So, if we've got a teacher in that frame of mind. They are not going to be encouraging their teaching assistants and in foundation phase so much of the learning comes from teaching assistance as well. They're not going to be

> *encouraging them to support these aspects of the curriculum, so I do think it's going to be about attitude and about getting people on board." (Practitioner)*

Discussion

The findings highlight some important issues relating to the current state of training, teacher knowledge, and resourcing in relation to the development of Computational Thinking in Pioneer schools, along with potential effects of disadvantage.

This exploratory study has made it clear that knowledge transfer, often imparted through training, is having an impact on practitioners SMK and PCK and hence their TPACK. However, there is evidence to suggest that although training provision and free materials are available, more could be done to push these through advertising and lines of communication strengthened in order to improve consistency across schools.

Consortia digital leaders identified large variability between resourcing for CT and this raises concerns that need to be addressed at a national level. The challenge in CT might not stem from learners needing more knowledge, but from the training and professional learning needs of the practitioner. Indeed, if one looks further afield in this area there are correlations on a global scale to some extent. A Finish survey was conducted in 2016-2017 as part of research with teachers who had already received training on digital technologies in the classroom. It found that, for most teachers, coding was not a familiar skill. In fact, most teachers in the survey said they were unable to teach coding and would like to have further training in it and relevant pedagogy. There are other international examples of the same phenomena.

In Wales, the DCF appears to have taken root and in regard to CT there are very good examples where practitioners and schools embed computer coding throughout the phases and in cross-curricular contexts, from BEE-BOTS to Scratch and also Python language. Additionally, some schools have adopted a more specific role as facilitators and actively promote STEM and code Clubs in their school and area. Although digital tools for coding are free, there still a requirement to engage with a more diverse set of practitioners who have not yet familiarised themselves with CT and coding or problem-based learning, Regional Consortia no doubt will seek to audit their schools for further professional learning and impress upon rural schools the need to invest in time as well as devices. Respondents also noted the importance of attitudes to fields such as CT by existing practitioners as being of great importance. Participants noted the benefits of CT in the curriculum, as it has big benefits for mathematics and numeracy because of the similarity between CT and the reasoning element of the new Mathematics and Numeracy Area of Learning & Experience.

This exploratory study has identified great enthusiasm for the new curriculum and a wealth of digitally savvy practitioners, who give a wide variety of CT experiences to learners from Foundation Phase to Key Stage 4. However, the work of Regional Consortia is not complete as wide regional differences in terms of resources, devices and professional learning opportunities exist and could impede successful development of the new curriculum, especially in the rural areas. Therefore, we should encourage policy makers and Regional Consortia to carry on and continue to provide support in terms of engagement, training and technical solutions that facilitate

practitioners' access and enrich their own technological pedagogical subject knowledge of CT.

References

Arthur, S., Crick, T. and Hayward, J. (2013). "*The ICT Steering Group's Report to the Welsh Government*".

BCS, The Chartered Institute for IT. 2014. Call for evidence - UK Digital Skills Taskforce. Available: http://bit. ly/1Li8mdn [Accessed 15-04-2019].

Beauchamp, G. and Jephcote, M. (2016) *'Teacher Education in Wales: towards an enduring legacy' in Beauchamp et al Teacher Education in Times of Change. Bristol: Policy Press. pp.109-124*

Braun, V. and Clarke, V. (2006)*. Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), pp.77-101.*

Brown, N., Sentance, S., Crick, T. and Humphreys, S. (2014). "*Restart: The Resurgence of Computer Science in UK Schools*". ACM Transactions on Computer Science Education, vol. 14, no. 2, pp. 1–22.

Crick, T. and Moller, F. (2016). "*A National Engagement Model for Developing Computer Science Education in Wales*", in Proceedings of 9th International Conference on Informatics in Schools (ISSEP 2016).

Department of Business, Innovation & Skills. (2010). Science and mathematics secondary education for the 21st century. Report of the Science and Learning Expert Group. London: DBIS.

Department for Education (2014). *The national curriculum in England: complete framework for key stages 1 to 4. Available at: https://www.gov.uk/government/publications/national-curriculum-in-england-framework-for-key-stages-1-to-4 (Accessed: 11 March 2019).*

Donaldson, G. (2015). "*Successful Futures: Independent Review of Curriculum and Assessment Arrangements in Wales*". Cardiff: Welsh Government

Hargreaves, I., (2010)*"The Heart of Digital Wales: a review of creative industries for the Welsh Assembly Government". Cardiff: Welsh Assembly Government.*

Ester van Laar, Alexander J.A.M. van Deursen, Jan A.G.M. van Dijk, and Jos de Haan. (2017)*. The relation between 21st-century skills and digital skills. Comput. Hum. Behav. 72, C (July 2017), 577-588. DOI: https://doi.org/10.1016/j.chb.2017.03.010*

Maria José Marcelino, Teresa Pessoa, Celeste Vieira, Tatiana Salvador, António José Mendes. (2018) *"Learning Computational Thinking and scratch at distance, Computers in Human Behavior". Volume 80, Pages 470-477, ISSN 0747-5632.*

Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A framework for teacher knowledge. Teachers College Record, 108(6), 1017-1054. doi: 10.1111/j.1467-9620.2006.00684.x.

OECD (2014), PISA 2012 Data Set (database), http://pisa2012.acer.edu.au/downloads.php.

Papert, S. (1980*). Mindstorms: Children, Computers, and Powerful Ideas. Basic Books, Inc., New York, NY, USA.*

Pye Tait. 2017. After the Reboot: The State of Computing Education in UK Schools and Colleges. p12

Schwab, Klaus *(2016). The Fourth Industrial Revolution. New York: Crown Publishing Group. ISBN 9781524758875. Retrieved 2017-06-29.*

Shulman, L.S. (1986). Those who understand: Knowledge growth in teaching. Educational Researcher, 15(2), 4-14

Welsh Government (2016). "*Learning Wales: Digital Competence Framework*". Cardiff: Welsh Government

Welsh Government (2016). "*Cracking the code: A plan to expand code clubs in every part of Wales"* Cardiff: Welsh Government

Wing, Jeannette.(2006)*. Computational thinking. Commun. ACM 49, 3 (March 2006), 33-35. DOI: https://doi.org/10.1145/1118178.1118215*

Appendix 5: Final report: 'Curriculum integration and the Expressive Arts'

Executive Summary

This research project explores how a group of Pioneer Teachers have developed the Expressive Arts (EA) Area of Learning and Experience (AoLE). As part of the consideration of how the Pioneers have conducted this work, this study focuses particularly on the experience of primary and secondary Pioneers (and how it differs) and on the implications for disadvantaged learners from the EA AoLE.

The study arose from an existing interest in the development of the Expressive Arts and was carried out by a small team of researchers who all work in initial teacher education.

Using a case study approach, the main methods used were semi-structured interviews with a sample of Pioneer Teachers from the AoLE Group and observations of the Group in one of the monthly meetings. Eleven teachers were interviewed from a range of schools, including primary, secondary and special schools across Wales. Welsh-medium/bilingual schools were included.

The study highlights the complexity of role performed by the Pioneers, a role which included working collaboratively on writing the framework for the EA AoLE, trialling materials in school and, for some, outreach work with other schools. Data gathered from both the interviews and the observations revealed them to be highly committed to the process and holding high hopes for a curriculum that will engage and inspire learners. There was a united belief in the value of EA. Frustrations and impediments did arise, including issues for some in trialling new ways of working in their schools with colleagues who were reluctant to try out new approaches.

There was a difference between the experience of Pioneers from primary and from secondary schools. Primary schools were more familiar with the strategies, and had more flexibility in effecting change. Secondary colleagues met more issues in terms of areas such as staffing and timetabling. Both groups learned to appreciate the needs of learners in special schools through the input of colleagues from special schools. The AoLE group successfully brought about an environment that supported collaboration. Engendering this in future developments would be conducive to bringing about a curriculum that effectively supports learners' progression and a profession that has good understanding of the different phases.

In terms of the needs of learners, there was little evidence of the Pioneers considering the needs of particular groups (apart from the needs of learners in special schools), although the Pioneers could see obvious benefits of the EA for learners from disadvantaged backgrounds in terms of equality of provision. This would indicate a need for future consideration of schools can ensure that the new curriculum for EA meets the needs of disadvantaged learners.

PROJECT REPORT

Curriculum integration in the Expressive Arts

Introduction

The new curriculum in Wales uses areas of learning and experience (AoLEs) as an organising structure for the curriculum. AoLEs are intended to provide breadth, coherence and rich contexts for learning. They are not presented as 'watertight compartments' or 'timetabling devices' (Donaldson 2015: 39), but rather schools are being asked to 'translate [AoLEs] into day-to-day activities' (*ibid.)* that will provide a broad and balanced curriculum. Six AoLEs have been created and specially created groups of Pioneer Lead Teachers have been tasked to draw up the framework for each AoLE.

This study explores aspects on how one AoLE - the Expressive Arts (EA) AoLE - is being formed. From data gathered from a sample of the Pioneer Lead Teachers and from observations of their meetings, this study explores their experiences and reflections relating to the emerging curriculum. It considers the role and relationships of the Pioneers, particularly in regard to the background in primary, secondary or special schools. Whilst the new curriculum itself, is not under examination here, the study does consider some of the key pedagogical threads and organisation issues that relate to the teaching of EA in the new curriculum. Importantly, there is also consideration of the potential impact of the EA on learners and on disadvantaged learners in particular.

Aims and objectives

The primary aim of this study is to gain an insight into the construction of the EA AoLE. Insight into how the Pioneer Teachers worked together, including the issues and the solutions, will hopefully inform the future development of the EA AoLE and its embedding into the curriculum.

The study addressed three key questions:

How are Pioneer Schools and Teachers are building and shaping the Expressive Arts AoLE?

What are the implications for disadvantaged learners and schools?

How does impact vary between primary and secondary teachers?

The first of these questions is a wider and more broadly encompassing question than the others. Answering this involved asking the Pioneers about what it meant to be a Pioneer and about their effectiveness as a Pioneer. The findings below capture some of the key ideas distilled from the large amount of data gathered. The question asks about both schools and teachers. We gain a clearer picture of the work of the Pioneer *Teacher* than the Pioneer S*chool.* This is to be expected, perhaps, as the focus was firmly on the Lead Teachers. However, the findings make it clear that the Pioneer teacher and the Pioneer school are very different, and the school impacts on the efficacy of the teacher.

The second question is more specific. Pioneers were asked directly about the implications for disadvantaged learners; the data gathered on this was less full. Some implications are indicated, but this question is only partially answered.

The final question was addressed and answered. The data raises issues that are different for both primary and secondary colleagues. The perspectives of both are considered in the findings, as well as the potential strengths offered and challenges faced by both phases.

Method and activities

This project is a case study, examining how one AoLE is being constructed within the framework of the new curriculum. A case study approach allows an in-depth scrutiny of an area – in this case, how one group of teachers is constructing an element of the new curriculum. As Denscombe (2007, p.37) points out, not only do case studies allow study of the particular (as opposed to the general), but they also facilitate consideration of processes (as opposed to outcomes) and studies in natural settings (as opposed to artificial situations), all factors which are pertinent to this study.

Two main methods are used: semi-structured interviews and observation.

Interviews

The interviews were designed to gain in-depth insight into individual Pioneer Lead Teachers about their experiences of curriculum design and construction, seeking to "capture people's individual *voices* and *stories*" (Hennink, Hutter and Bailey, 2011, p.110) and thereby provide the opportunity to tease out particular detail and individual experience. The interviews were semi-structured, providing an over-arching framework of different sections under which to question the Pioneer Leads. There were also selected questions that all respondents were asked regarding: a) the Lead Teachers' hopes and fears for the new curriculum and b) potential impact on disadvantaged students/schools.

All of the interviewers were thoroughly briefed, to ensure consistency of approach. Interviews were audio-recorded. They are 45 – 60 minutes in length and were conducted in May to July 2018. Interviews took place in Welsh-medium/bilingual schools, and one was conducted by a Welsh-speaking interviewer.

Sample

School Type	Consortium	Categorisation	FSM	Welsh medium/ bilingual
Primary – 6 Secondary – 4 Special - 1	CSC – 5 EAS – 4 ERW - 1 GWE - 1	Green – 7 Yellow - 4	Ranged from 0% to 48% with four schools over 20%	2

The sample of schools chosen for interview was about 50% of the total AoLE. Not all of the schools approached could take part, but most of them could. There was representation from all consortia. An important aspect was to gain access to as many schools as possible with higher than average percentages of pupils eligible for free school meals (FSM) and this was achieved.

Observation

The second method used was observation. The observations were of the AoLE network meeting, where Pioneer Lead Teachers came together to work collaboratively

on producing the framework for the new curriculum. The lead researcher attended a network meeting in March 2018 to explain the research, gain consent and see how the meetings are organised. This was followed by attendance at two-day meeting in May 2018 in Llandudno, where the proceedings were observed and data was collected in the form of fieldwork notes.

Findings
These findings will be organised under the following headings:
- The Pioneer Experience
- Primary to Secondary: A Clear Progression?
- Key Curriculum Changes
- Is this a Curriculum for All?

(Please note, pseudonyms are used throughout.)

The Pioneer Experience
The role of Pioneer Lead, originally announced in 2015 (Welsh Government 2015), was to work as part of a team designing and developing the new curriculum framework, using their expertise within one or more of these areas: curriculum, assessment, pedagogy. Chosen through a consortium-led process, they were also expected to work as champions for the new curriculum, as well as pathfinders by testing and trialling approaches. Pioneers assigned to an AoLE were expected to meet regularly with Pioneers from other schools and to create a common framework including 'What Matters' Statements and a progression framework (Welsh Government 2017).

Background and identity
The eleven EA Pioneer teachers in the sample accounted for about 50% of the Pioneers in the EA AoLE group, and were chosen to provide a range of schools from different authorities in Wales. The teachers came from a range of backgrounds, including six primary schools, four secondary schools and a special school. Welsh-medium representation is included in the sample.

The backgrounds of individuals were different, of course, and this played a significant role in their early work as an AoLE group in particular. The secondary teachers had degrees in the subjects they taught, and their teacher identity was heavily influenced by this area of expertise. Asked to introduce their role, it was always the first thing they referred to. They identify as a subject teacher first, and they felt an onus to represent their subject area. During the AoLE meetings, they would be alert to the demands of their subject area, and the possible implications to their area of the framework being proposed. Andrew felt he was representing his subject area and that he must 'ensure that what matters within my discipline and also within the Expressive Arts AoLE is within the new curriculum.'

The primary teachers often had no qualifications related to EA: 'I'm a jack of all trades, master of none. They always joke with me… "How are you even in this group?" I didn't even do Expressive Arts at GCSE.' (Harriet). The lack of qualifications caused concern for some of the primary teachers: 'When I first when in there, I was a little bit intimidated in a way by the specialists of the arts because they're very knowledgeable in their

areas' (Delia). Primary colleagues were there because of their interest in the EA: 'I enjoy teaching all of the arts. I can see how much the children get from it' (Delia).

Working together in the AoLE group did appear to bring about a unifying effect on the Pioneers teachers in terms of the development of their identity. It was notable that whether they were from primary, secondary or special school, the Pioneers referred to themselves as EA teachers. Indeed, laying claim to this title appeared to be more than a change in nomenclature, but reflected a change of perspective and intent. Kim's assertion 'I am Expressive Arts' reflects a strong feeling amongst the teachers that their teaching role had evolved. It also expresses a sense of ownership over the new curriculum together with a determination to drive it forward.

Responsibilities
The Pioneer role is at the heart of the curriculum development. The Pioneer Teachers were aware of the wide range of responsibilities in taking on this role. Harriet perceived this as a personal responsibility to other teachers when she says simply: 'I am writing the new curriculum for Expressive Arts'. Kim is conscious of both her own pupils' needs: 'I am representing my kids out there' but is also aware of the possible wider perspective on the Pioneers' work: 'At the moment, all the countries around the world – Finland, Sweden, Singapore – they are looking at *us* to see what we are going to do and how it's going to go.'
Asked about the work done by the Pioneers, Gina stated that 'there are two distinct parts to it and sometimes it's quite hard to marry both'. She was referring to the work done with the AoLE group and the work done back at school. The work done in the AoLE group focused on creating the fundamental elements of the new curriculum. Some of the Pioneers commented wryly that these days away in other parts of Wales were joked about by colleagues as 'jollies' or 'freebies'. However, the Pioneer teachers felt that the commitment was demanding. Observations of the AoLE Pioneer group at work showed days starting before 9am and finishing around 5pm. The work involved much discussion between the group, as well as listening to 'experts', and writing, reviewing and revising materials. 'Homework' was set, e.g. reading or trialling materials in school. Work back in school also includes sharing information, providing INSET, developing curriculum approaches and attending local cluster meetings.

Gina felt that was difficult to marry the two parts of her role due to own lack of status (she was not management and therefore could not effect change as easily) and because of the workload demands on other teachers. Whilst Pioneers are meant to have two days off per week for their Pioneer work, the same is not true for other teachers they are working with. It was a balancing act that the Pioneer Teachers were very aware of: 'I come back to school, and in that time there are so many things that have happened here. We've got our eyes on quals and all our exam classes... so there just isn't the capacity in terms of patience or perhaps the interest for it when what you're doing back at school is teaching a full timetable day in day out' (Gina).

Time for developing curriculum materials was an issue that was raised repeatedly in the interviews. Whilst Pioneers were committed to have two days per week on developing their work, there were at least two cases of Pioneer teachers who did not benefit from these days. One of these teachers said that time was the most challenging aspect: 'It sounds like a simple thing but there is a lot of work if you want to do it well. But I do know that some people have had that time and that's great'. Covering lessons

was also an issue for some others when they first joined the Pioneer Group, as timetables had already been set, and supply cover was not consistent. Teachers were felt responsible for classes: 'The first twelve months I felt like I was leaving classes whereas now, my timetable this year, has been set for two days a week' (Iona). Having other responsibilities added to the difficulties in taking on the role. Another Pioneer noted: 'I really don't know how the heads of departments and faculties have coped taking on the role. They have not been able to fulfil the role to its maximum potential because you couldn't possibly.'

The Pioneers were conscious of the responsibility of taking the reform forward into schools. 'We've been given a gift' is how Elaine expressed the fact that they were being consulted about the curriculum but there was a definite sense of caution from the majority of the Pioneers in the sample on how to pass that gift on to the rest of the profession. For the Pioneers, the answer to this seemed to lie in a gradual approach and 'drip-feeding' is a term used by a few of the Pioneer teachers to indicate a steady feeding for information to their own school and to other schools. 'It's making sure that not just our school benefits from it. I'm mindful that I want to make sure that the new curriculum isn't a shock for everyone' (Harriet). Building capacity and a readiness for change is a point noted by others: 'It's about winning hearts and minds. That will be the biggest challenge' (Bronwen). And indeed changing the mindsets of other teachers was raised by a number of Pioneers and not being able to do this was the most frequently mentioned fear of the Pioneer Teachers.

Relationships
Within their Pioneer work, the Pioneer teachers tended to work in four different spheres:
- individual
- AoLE group
- own school
- wider educational community

Individually, all of the Pioneers interviewed showed commitment to the Pioneer process, and to curriculum reform. Some of the Pioneers asserted that it had been a personal boost to them: 'it's reinvigorated my enjoyment for the job' (Andrew); 'It is interesting and exciting' (Jenna). As a member of the AoLE group, many of the teachers talked about being a fortunate position – being lucky: ' It's an honour, really, because not everybody's a Pioneer school; we are very lucky to be selected' (Delia); 'I'm lucky – I'm in one of the really good schools' (Kim); 'lucky that we're involved' (Charles); 'I'm lucky here' (Iona). They are aware that they are in a privileged position compared to other teachers, although they felt that there were also challenges in being part of the group. The influence of individuals within the group was commented on by some: 'You have some very strong characters… who are quite overpowering' (Harriet); 'There are some very confident individuals in there who have a lot to say, which is good. I sometimes feel they take over a little bit' (Elaine). Observations of the group at work during an AoLE meeting revealed that the group appeared to work cohesively in cross-phase groupings, but that the process of working in a large group of over twenty people, and allowing the group to contribute could take considerable amounts of time, and some members contributed considerably more than others.

There was a mixed response to questions about how they translated their AoLE work to their own school. Some schools, predominantly the primary schools, have found supportive environment in their own school: 'The staff have been really, really supportive' (Charles). This positivity is usually ascribed to strong support from the headteacher. Particularly supportive has been allowing time and cover to plan and meet: 'The Head is brilliant; he gives us time to work with our year group partners' (Delia). However, some of the Pioneers have found it difficult to translate their work to school. Gina revealed some of the problems involved when she found that colleagues in her school felt unwilling to look at changing their approach as they felt they were already working to capacity: 'That was scary realising that there was absolute negativity.'

Despite the difficulties for some, working back in their own school was a key part of their Pioneer workload. The aspect of working beyond their own school was less consistent. Some of the pioneers were fully engaged in working with neighbouring and cluster schools, but others were more reluctant to be involved in this aspect. This mainly resulted from a desire to be confident that they were passing on correct information. As the materials being developed were in a state of flux, some Pioneers were unwilling to pass on this uncertainty: 'giving the wrong information at this point in time… could really harm you later on because the cluster is the group you work with' (Charles). Charles was anxious not to lose credibility with working partners. Whilst some Pioneers were actively working with other schools, they were in a minority. Pioneers teachers spoke of a lack of interest and sometimes negativity from other schools: '…they're negative already about it' (Francis). Offers of input to other schools were slow to be taken up. In one case, where a neighbouring school did ask for Pioneer input, the Pioneer teacher was forbidden by their own headteacher to fulfil this because the headteacher perceived the school as a competitor.

A Primary and Secondary Perspective

Different perspectives
Looking back to the beginning of the process, some of the Pioneer Teachers commented on the differences that existed within the AoLE group: 'As an AoLE we were just horrendous. We were all, "I am a music teacher. I am an art teacher. This is just ridiculous."' This teacher pinpoints a crucial issue: how the teachers identify themselves and secondary teachers identify through subject. This appeared to be a considerable stumbling block to the AoLE cohesion. Iona's description of the group being in 'two camps' draws on battle imagery, highlighting the division.

The model of interdisciplinary working, as proposed within the new curriculum, was already being practised in primary schools, and this potentially added to the divide between the two groups. Whereas primary colleagues saw their work as 'semi-tweaking' (Charles), the changes were perceived as essentially threatening to the secondary teachers who, as has been noted, identify their role by means of their subject specialism. 'People were saying: "We've got degrees. We've got specialisms. What would be the value in me trying to teach that area where I am not confident?"' (Iona). Because of the emphasis of the proposed curriculum, the burden of change was very much with secondary Pioneers.

Initial reservations on the part of the secondary teachers appear to have been won over, partly by an understanding of how primary colleagues work in an interdisciplinary way. Working together and sharing within the AoLE allowed secondary colleagues some insight into how teachers in primary work with many different disciplines: 'It was actually inspiring realising how much of the arts *does* go on [in primary schools]' (Gina). The main lever for change, however, appeared to lie with their joint commitment to the area of Expressive Arts. This was a unifying force between both phases. Both sets of teachers felt that elements of the curriculum which they valued highly had been relegated in a system that promotes certain subjects (e.g. English/Literacy, Mathematics/Numeracy) above others such as Art, Drama and Music. The desire to promote their own subject through Expressive Arts united the secondary with the primary Pioneers. As Bronwen notes: 'We've always been a Cinderella subject, and now we're looking at equitable status'.

The imperative of promoting EA brought them together, but some essential differences remained. One primary Pioneer stated, 'We're teachers of pupils, not teachers necessarily of a subject' (Delia). A similar idea was express by Charles: 'The way I see it, they're the knowledge experts, and the primaries are the pedagogy experts'. This distinction between pedagogy expertise and subject expertise was put forward by primary colleagues but not by secondary colleagues. The difference in resourcing was also noted by primary colleagues. They see secondary departments having immense advantages in terms of equipment. One wistfully looked beyond the EA AoLE, stating 'What I could do with some Bunsen burners and some chemicals – if I was allowed – would be brilliant.'

Strengths and Challenges
In terms of preparation for teaching the new curriculum, primary colleagues were felt to have key advantages. Chief amongst these is their experience with interdisciplinary learning: 'We're lucky because we teach topic-based all of the time, so we're used to intermingling all of the subjects' (Delia). This familiarity appears to lead to an openness and readiness for curriculum reform: 'Primary teachers are not going to baulk at this' (Bronwen). Experience, flexibility and holistic knowledge of the timetable were key areas of strength.

Challenges were also noted for primary schools. Key amongst these is the level of expertise needed to teach all of the elements of EA, particularly Music and Digital Media: 'Music is the hardest, I think, for people to deliver' (Bronwen). Primary colleagues perceived themselves as enthusiasts but recognised the demand of the new curriculum, and their need to develop their skills: 'Rather than delivering with enthusiasm, I would be delivering with knowledgeable enthusiasm' (Delia). Some of the Pioneers commented on the difference between using a discipline and teaching a discipline. It is comparatively easy to have the pupils paint pictures as part of a project, for example, but this is not the same as teaching painting techniques. Some of the primary Pioneers commented that this was a step-up that needed to be made if the EA were to be addressed properly.

Expertise in disciplines is a key area of strength for secondary colleagues. Within the AoLE group, their dedication to their subjects was acknowledged by Harriet: 'I think what I've learnt from them is their love of their discipline, their love of expressive arts'. Harriet goes on to say how she has benefited from links with colleagues from

secondary schools introducing her to 'a huge reel of Welsh artists, really interesting work that I would never even have looked at'. Harriet was the only primary Pioneer who gave an example of using secondary expertise and knowledge in this way.

The challenges raised for secondary colleagues were far greater than for primary. For secondary schools a key challenge was thought to be bringing about a change of mindset and developing a readiness for change - breaking out of their 'tunnel vision' approach (Francis). This was expressed a number of times as 'working in silos', an expression that denotes both separation and remoteness. 'I'm realising that we shouldn't have been, for so long, working in silos within school (Andrew). Moving out of such silos was thought to encourage greater vision, understanding and cooperation. 'In primary we have that whole picture. I don't think they have that in secondary' (Harriet). However, it was acknowledged that mindset was not the only issue. Considerable impediments to change lie in matters of staffing and timetabling, where rigid timetables do not allow the same flexibility as in primary schools where classes are taught by one teacher for most of the time.

3   Shaping the Curriculum

Introducing a new curriculum
The Pioneers were tasked with introducing EA into the new curriculum for Wales, by creating the foundational framework for this new component of the Welsh curriculum. A strong sense of commitment to this task comes from all of the interviews. However, the interviews reveal it was not an easy task. As Elaine explains, 'It sounds like a simple thing, but there is a lot of work if you want to so it well'. A particular difficulty in doing this was establishing a framework that was applicable to five disciplines. Finding common ground for these areas was necessary: 'You might be a musician, you might be a dancer, you might be an arts specialist, but what really matters across our disciplines is what we offer in common' (Bronwen). They did this by means of establishing 'three pillars' of common practice between the disciplines:
- explore and experience
- create and express
- respond and reflect.

These three pillars are at the heart of the What Matters statements for the EA and they are the 'non-negotiables' (Delia) that have provided some sort of stability in the framework. Just as their adherence to promoting the EA provided a social 'glue' to their work together as a group, so these three pillars successfully unified the group in their discussions of the curriculum.

Trialling the curriculum took very different forms, according to phase. Bronwen realised that 'primary colleagues will just grab it with two hands' because there was not a significant change to their existing practice. Working to themes, such as 'Backpackers', 'Bear Grylls' and 'Palaeontology', primary Pioneers worked on ensuring that all the disciplines were addressed: 'We need to cover all disciplines in a project-based approach' (Delia). The benefits of this were that children gained increased coverage of certain areas, as Delia relates: 'They're loving it because they're like, "Oh we get to do art again. We never do music; we can do music again!"' Areas that were thought to be not covered well were digital media and dance.

The secondary experience of this new area is more mixed. Some Pioneers introduced EA as a timetabled subject for Year 7 (and later Y8). One of the Pioneer teachers who was already used this approach was used a model, and other Pioneers visited the school to see how the model worked. This Pioneer used a 'sandwich' model whereby the main subject taught was *sandwiched* by other areas, for example, teaching a lesson that focuses mainly on drama but used aspects from music as the start and end of the lesson. In this way, the teachers can still teach their subject specialism but they bring in planned, and complementary introductions of other disciplines. EA is part of the school timetable, and it requires joint planning across traditional subject areas.

Another approach used in secondary is that of dedicating days to EA where the students come off timetable and focus on a special project or visit. Such days raise the status of EA and enable exciting projects to occur, but being one-off days may give them an impermanent nature.

Key pedagogical ideas
As well as the ideas already mentioned, certain key pedagogical goals were raised in the interviews and the observations of the AoLE group. First, was a clear concern that this new curriculum should not be prescriptive. It should be different from the existing curriculum in not providing tick boxes of content to be delivered. They aimed for a curriculum that offers possibilities so that schools do not have 'to follow the same path' (Jenna). Achieving this balance is not easy, as Jenna recognises: 'We want it to be open, but again we don't want it to be so open that there are a lot of *grey areas* and people don't really get things done to the level they should.' There was a fear from many of the Pioneers interviewed that schools would not appreciate this and the result would be a lack of change as they 'try to fit the old things they have always done into the new curriculum' (Jenna).

A further important influence on their thinking was the idea that this curriculum should promote child-led learning, an approach being extended from the foundation phase in Wales. Bronwen maintains that child-led learning will raise standards: 'The curriculum isn't about delivering from the front; this is about co-construction with children, whilst being mindful of the balance of the skills that *have* to be taught.' A number of the Pioneers raised the importance of pupil voice within the new curriculum. Delia distinguishes between conceptions of pupil voice previously and in the new curriculum: 'We've always included pupil voice, but if I'm speaking honestly, it's almost been pupil voice because we knew we had to do pupil voice, whereas now, it's really pupil voice.' In the new curriculum, Delia sees a shift from intent to achievement.

Assessment
Assessment was an unknown quantity for the Pioneers at the time of the data collection. But whilst they were not working on assessment, they were aware of its significance and potential impact. There was an expressed desire to move from the existing state described by Charles - 'It seems to be all academic qualification and that will drive what we're doing' – to a system which focuses on educating for the 'rounded person' (Charles). Francis distinguishes between 'teaching for the future' and 'teaching for a test' and reiterates Charles' desire for an education system focused on the former rather than the latter.
The secondary Pioneers also hoped for change. Gina was conditionally optimistic: 'The qualifications will change as long as we're brave and bold and innovative and

change the curriculum.' This reflects her view that 'the tail should not wag the dog' and that assessment should not determine the curriculum. A secondary Pioneer Teacher, who had introduced EA in Key Stage 3 classes felt frustration that GCSE had not been changed to suit the new curriculum yet. However, secondary Pioneers also felt some concern about the development of the curriculum for those students who wish to specialise in subjects at A level and beyond, and how to prepare them for this if the curriculum moves to the more generic Expressive Arts.

Overall, the Pioneer Teachers showed a willingness to put their trust in the fact that assessment would follow the lead of the curriculum. A representative of Qualifications Wales attended their AoLE meetings, and although they did not know what the eventual assessment system would look like, they remained confident that 'Quals Wales are already looking at what [it will look like]' (Bronwen).

Resources
One final area to consider with regard to the implementation of the new curriculum is resourcing EA. Apart from providing time and funding for staff to develop the curriculum, the Pioneers raised the issue of resourcing the day-to-day teaching of this AoLE. One primary Pioneer described how their facilities in school were developing: 'I got rid of half my tables and chairs to create a bit of space. Obviously, I filled it with new seating areas. I've got 32 children in my class; they have to sit somewhere. We've got standup stools and we've got beanbags. What we can then do is when we have our drama performances, the children know and literally stack the beanbags, the tables are on wheels, they move… We *have* got a performance area within the class.'

The working space has different implications in a secondary school. They currently have different classrooms, potentially in different parts of the school, and in schools where EA is being timetabled, this may be in art room or a music room, for example, and this may have an impact on the scope of the lesson. Resourcing these subjects – including musical instruments, art materials and digital media equipment - will require investment for many schools. 'I think people will need to be clever,' says Harriet, 'I think people will need to share.'
A further consider is that of facilitating visiting speakers/experts. Delia points out the difficulty in ensuring and funding provision to all children: 'We've had dance instructors coming in, but it's not the whole school. Not everybody gets the opportunity because it's a money issue.' The Pioneer teachers appear to have made wide use of supportive arts groups such as the Lead Creative Schools and the Regional Arts Networks. Bronwen notes the support available: 'There's a phenomenal amount of teaching-networking opportunities, free CPD, but it's a question of getting the message out there.' However, Kim considers that the success of EA will be partly dependent on funding: 'The government are going to have to put their money where their mouth is now because if they want this, then they're going to have to resource it and they're going to have to resource it properly.'

4   The Learners
It was clear from the whole range of responses from the Pioneer Teachers that they felt that the curricular reform they were building would benefit their learners. As well as developing their skills in the EA, most of the pioneers spoke of the broader benefits of the EA experience such as confidence and oracy skills: 'It's helped year seven develop their confidence a lot more, I think. Every single child in year seven has

performed onstage in this school' (Andrew). Well-being was repeatedly mentioned by the Pioneers as a focus, and as Kim notes here, they felt this area would support learners' mental health: 'It'll benefit *all* pupils, mentally really, because of the health and well-being implications of it.'

Many of the Pioneers also noted how learners enjoyed their lessons in EA: 'They loved the freedom they had to be creative. And I've got this documented, but they liked the teachers that they were doing one theme across a range of subjects.' (Gina) Francis notes that teachers gain from the experience too: 'we all enjoy it because it gives us that time to be reflective and be on our own and that peaceful time.'

In terms of specific groups of children and young people, there was particular consideration of the needs of those learners in special schools within the AoLE group. The Pioneers from the special schools clearly had an influence on the building of the framework and in helping other Pioneers understand the particular needs of their learners. One of the Pioneers sums up their influence well: 'We've got two representatives who are absolutely fantastic…I've taken a lot away from them and what they've spoken about, the progress an individual can make can be so huge for them, whether it's just tapping their finger. For them, that's massive and it's making sure that the curriculum is accessible to them as well and making sure that they have that.'

The Pioneers were less certain about how the new curriculum would serve learners from disadvantaged backgrounds. Iona recognised the potential issue of learners' backgrounds might have with regard to EA: 'I think perhaps students who have experience of expressive arts often are students who come from backgrounds that can allow them to go to the theatre, can allow them to go to concerts, can allow them to play instruments, et cetera.' She asserts that schools therefore need to ensure equality of access for all students. One Pioneer considered that looked after children and those in receipt of free school meals would benefit from the 'less fragmented learning' that a more cohesive curriculum would offer. The potential benefits of providing access to arts is illustrated by a story of one student from a rural area visiting Cardiff: 'There was one boy in the group who'd never, ever been outside of [local area]… He was just blown away by seeing Cardiff Bay and seeing the boats and seeing the water, things like that. I think it's really, really important that that aspect of the curriculum, that enrichment and experience.' Individual Pioneer teachers were able to see the benefits of EA for disadvantaged learners, but as Harriet commented, 'I don't think it's been spoken about in our Expressive Arts group'. It appears to be an area that have avoided specific consideration so far.

Discussion

The Pioneer role

It is clear that the Pioneer teachers have found their role complex, rewarding and, at times, frustrating. They have worked with commitment in shaping the foundations for the EA AoLE and, within their interviews, they certainly championed the developments in the new curriculum. They have found the role personally fulfilling; 'exciting' and 'lucky' were words used by many of the respondents to describe their work and their situation. They have trialled resources and shared their experiences with others where possible, although this latter aspect of their work – the sharing with others – has been the most difficult perhaps. This appears to be due to a range of reasons such as the changing nature of the developing curriculum, the support of management, the capacity and readiness of others to listen.

In some cases, particularly within the primary schools, there was a sense that the Pioneer Teacher's role was creating interest and developing innovative approaches within the schools. Resources were being developed and there was an enthusiasm for change. But not in all cases. A poignant example of this is the case of the Pioneer Teacher leaving the school for another post and no one else in the school taking up the role. It seems that building capacity in one Pioneer in not necessarily building capacity in the school.

A frustration felt by many of the Pioneers, particularly in secondary schools, was in trying to trial approaches with colleagues who felt overloaded with work or threatened by the changes. The greatest fear that emerged from the interviews was that colleagues would not take this curriculum forward properly, for example, by just making their existing work fit in. The experience of the Pioneer Leads, therefore, would seem to indicate the need to pay close attention to providing the right conditions for embedding curriculum change properly with all teachers.

Phases

This study highlights significant difference between the phases of primary and secondary education and their approaches to the reformed curriculum. Whilst primary colleagues feel happy to continue with a move to interdisciplinary, child-led learning, through thematic/topic-based approaches, there is less certainty with the secondary schools. A variety of approaches may well be a consequence of the new curriculum but the differences in the secondary approaches seemed to be due to uncertainty as to the way forward, particularly influenced by having no conception of what terminal assessments will look like. Secondary schools need to see the whole picture before they can properly move forward.

A very positive outcome of the Pioneer Group work was the joint working across the phases whilst they were in their network meetings, and the insight that had provided to colleagues. Secondary colleagues were certainly learning from primary colleagues about their approaches to topic-based work, and interdisciplinary approaches. Both primary and secondary learned about special school education. A key unifying factor was their joint commitment to the value of EA. The AoLE Group engendered a collaborative process. It would be good to think that these sorts of links can be promoted, perhaps through their clusters, to provide greater insight to colleagues in both phases and to draw on all their strengths and expertise.

Disadvantaged learners
The Pioneer Teachers interviewed were unanimous in considering that the new curriculum for EA would bring benefits to learners. They felt strongly that and EA discipline like music should be accessible to and enjoyed by all, not just by those having music lessons or those who have input at home. By providing greater access to EA, as they hope that the EA AoLE will do, schools should be able to provide a more level playing field. This should be of particular benefit to children and young people from disadvantaged backgrounds. However, proper consideration will need to given to resourcing and funding the EAs, if this is to happen. The sample of Pioneers did not consider that there had been any specific attention to the needs of disadvantaged learners, and this is perhaps an area for future consideration.

References

Denscombe, M. (2007) *The good research guide: for small-scale social research projects.* 3rd edn. Maidenhead: Open University Press.

Donaldson, G. (2015) *Successful futures: Independent review of curriculum and assessment arrangements in Wales.* Cardiff: Welsh Government.

Hennink, M., Hutter, I. and Bailey, A. (2011) *Qualitative Research Methods.* London: Sage.

Welsh Government (2015) *Pioneer Schools.* Available at:
https://gweddill.gov.wales/docs/dcells/publications/150630-pioneer-schools-en.pdf

Welsh Government (2017) *Realising a Curriculum for Wales: Curriculum Development Core -Brief.*

Appendix 6: Final report: 'Mindfulness and wellbeing in the new curriculum'

Executive Summary

This study took place in a context of curriculum reform at national level in Wales. The new curriculum for Wales has at its core the development of confident, capable learners, and Health and Wellbeing is identified as one core Area of Learning and Experience. Children and young people with higher levels of emotional wellbeing have higher academic attainment and there is a close link between the ability to regulate emotion and the ability to learn (eg Barblett and Maloney, 2010; Durlak *et al.*, 2011; Popordanoska, 2016). However, evidence suggests that personal wellbeing declines from primary to secondary school, especially for girls (WG, 2018), and disadvantaged children in primary schools are more likely to lack ambition and self-esteem (Goodman and Gregg, 2010).

This study explored one intervention based on Mindfulness. Mindfulness interventions are increasingly being used in schools to foster social and emotional competence in primary school pupils (Greenberg and Harris, 2012). Research evidence suggests that Mindfulness interventions might be relevant for children and their families with an increased risk for exposure to socio-contextual stressors (Perry-Parrish et al, 2016). This study therefore explored the impact of a Mindfulness intervention on daily experiences and on pupils' attitudes to learning in a Pioneer primary school in south Wales. The school has a high percentage of pupils eligible for Free School Meals (approx. 35%).

The intervention comprised of the training of one teacher in a commercially available programme 'Paws Be', which consists of a number of lessons and mindfulness practices. The teacher gained an in-depth knowledge of the approach before training other staff and leading the programme across the school.

A mixed-methods approach was used to explore perceptions from a variety of stakeholders. Interviews were conducted with pupils, teachers and parents, and pupils' attitudes to learning pre- and post-intervention were measured. To explore longer-term impact, children who had undertaken the intervention the previous year were interviewed.

The main findings suggest mindfulness helped children concentrate and ready themselves, for instance, when engaging with 'tricky' learning. For many, this had a positive impact on views of themselves as learners. Pupils also reported improvements in peer and family relationships. Older pupils remembered many key messages after the formal input ended, and felt they continued to apply these throughout school and home life. Teachers also reported that they perceived positive impact on pupils, and also commented on how mindfulness techniques helped them to deal with their own personal and professional stresses.

These findings may be of interest to practitioners who are considering using mindfulness techniques, and to those looking to develop the Health and Wellbeing Area of Learning and Experience in their school.

PROJECT REPORT

Investigating the implementation of a 'mindfulness' approach in a Pioneer primary school

Introduction

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 focus of this study was on an intervention designed to contribute to the development of pupil wellbeing, and so was conducted in a Health and Wellbeing curriculum pioneer school with a high percentage of pupils eligible for FSM (35%). Donaldson (2015:45) defines the Health and Well-being (H&WB) Area of Learning and Experience (AoLE) as including: 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.

The pioneer primary school was keen to implement a Mindfulness programme to help address pupil wellbeing. Mindfulness is defined by Kabat-Zinn (1994) as the act of deliberately paying attention to the present experiences with an open, curious and accepting approach. Being mindful therefore allows individuals to focus on thoughts, feelings or perceptions that arise, and to deal with these appropriately. There is a growing evidence base to support the impact of mindfulness on attention, emotional regulation and prosociality (eg Bannirchelvam et al, 2017).Popordanoska (2016:499) argues that such regulation is integral to healthy child development, leading children to 'manage their own emotions effectively, empathise with others and make sensible decisions about their behaviours'. This may lead to better decision making and more empathetic relationships (Bear and Watkins, 2006 cited in Durlak *et al.*, 2011).

However, children from disadvantaged backgrounds may be less well placed to develop competencies related to their wellbeing. Studies on child poverty tell us that the gap between children from richer and poorer backgrounds widens especially quickly during primary school. For example, analysis of the Millennium Cohort Study showed differences in cognitive development between children from rich and poor backgrounds at the age of three, and this gap widened by age five. In Wales, those pupils eligible for Free School Meals[10] have poorer educational outcomes at every key stage than those not eligible (Welsh Government, 2018). There were similarly large gaps in young children's social and emotional well-being at these ages. Disadvantaged children in primary schools are more likely to lack ambition and self-esteem, and to have behavioural problems and difficulty relating to their peers (Goodman and Gregg, 2010). Personal wellbeing declines from primary to secondary school, especially for girls (WG, 2018). Indeed, many children in the UK report feeling worried or sad at least once a week, and many report feeling unable to sleep due to feelings of stress (Sheinman et al, 2018).

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[10] Eligibility for Free School Meals (FSM) is an acknowledged measure of disadvantage (WG, 2018)

Mindfulness training has been shown to improve adults' ability to deal with stressful situations (Tang et al, 2007) and can teach children how to deal with stressful situations (Sheinman et al, 2018). However, a gap identified in the existing literature is the general omission of the child's voice in how they feel about mindfulness interventions (Bannirchelvam et al, 2017).

Aims and objectives

This study aimed to explore both children's and teacher's views and experiences of the implementation of a mindfulness-based intervention in a pioneer primary school with a high percentage of FSM pupils. The project had a particular focus pupil and teacher voice and also on whether the children's views of themselves as capable and confident learners altered as a result of involvement.

Research questions:
- How can a mindfulness approach contribute to the development of the Health and Wellbeing AoLE in a pioneer primary school?
- What processes support such an intervention?
- What are the perceptions of pupils, teachers and parents regarding the mindfulness approach?
- What is the impact of such an approach on pupil's views of themselves as confident learners (particularly those perceived to be from disadvantaged backgrounds)?

Methods and activities

The methodology underpinning this study was pragmatic. I drew on such a philosophy to justify mixing my approach in a manner that best framed, and ultimately answered my research questions (eg Burke Johnson et al, 2007). I took a mixed methods approach when I designed the research tools, positioned towards a qualitative, interpretative stance, in the form of data from semi-structured interviews, but where appropriate I also gathered quantitative data from attitudinal surveys.

Although Johnson and Onwuegbuzie (2004) warn that a mixed methods approach can be more time consuming and challenging for a researcher who has to become familiar with a number of methods, they also argue that the data that is collected can be superior to that collected using only one method. Teddie and Tashakkori (2009:16) suggest that mixed methods research is a useful approach – because it provides different types of data, and argue that 'in many instances both forms of data are necessary'.

Ethical approval was granted by my HEI institution's Ethics Committee, and considerations in line with BERA (2018) guidelines were followed throughout. Adult participants gave informed consent. Parental consent for pupil participants was gained, and pupil's ongoing assent was monitored throughout. Pseudonyms were given to all participants to maintain anonymity. All data was stored confidentially.

Participants:
The participants in the study were recruited from a single, urban pioneer primary school in south Wales. The school has approximately 350 pupils on roll, of whom 35% are eligible for FSM.

Semi-structured interviews: staff
Seven members of teaching staff were interviewed. These were a selection of teachers and teaching support assistants, with a range of teaching experience (from three to twenty years). Two were senior management staff. Interviews took place individually and were audio recorded and transcribed.

Semi-structured group interviews: pupils
Eight pupils from Y5 and Y6 were interviewed in groups of two or three. The pupils were selected by the teacher to include a range of attainment level, socio-economic status and gender. All had participated in the Mindfulness intervention. Contemporaneous field notes were taken during the interview and later transcribed.

Attitudes to learning were assessed by the use of the 'Myself as a Learner' (MALS) scale at the start and end of the year. This is a standardised measure of pupils' perceptions of their own abilities and approaches to learning. A score on this scale of 70 out of 100 is the usual score achieved (Burden, 2000).

The intervention:
The school used the 'Paws Be' package. This is a mindfulness curriculum for children aged 7 -11 in schools, initially developed in collaboration with primary school teachers and researchers at the Centre for Mindfulness Research and Practice at Bangor University. The lessons are flexible and varied, and can be taught as six, one-hour lessons, or twelve 30 minute lessons. Transferring the learning to other aspects of the school curriculum such as during expressive arts sessions or PE, or during daily classroom routines such as queuing to come into the classroom is encouraged. Lessons include learning about the brain, recognizing the choices that can be made in daily life, and learning about attention as well as guided practices which include focusing on breathing or noticing feelings.

Findings
All teachers interviewed:

Felt mindfulness practices had value as supporting learning across the curriculum. '*Learners arrive ready and 'in the lesson' rather than dealing with other issues'*.
Recognised that the development of the school's wellbeing curriculum needs to reflect mental as well as physical health, and felt mindfulness had a valuable contribution to make to this agenda. '*Children are under pressure to perform throughout school, especially in secondary settings. To be a healthy, confident individual is not always easy, but simple mindful practices seem to help deal with anxiety and feelings of stress.*'
Could give examples of situations where mindfulness had helped learners, particularly in talking about and recognising emotions and feelings.
Found all learners benefited from the intervention '*I did think Y6 boys may have found this silly but they seemed to really impress me with their engagement*' with some

groups perhaps benefiting more '*Vulnerable and anxious learners have benefited a lot more than 'general' learners*'.

Most teachers also:

Felt all pupils could benefit, but especially those dealing with more personal pressures e.g. relating to home life

Referred to mindfulness practices which had helped them deal with the challenges of their own personal and professional lives '*I was feeling very low, very down. It allows me to separate and recognise my negative feelings and I can deal with them better then. Definitely helped me to move on.*'

Recognise key benefits '*Teaching can be chaotic. Throughout the day I don't always have time for thought – I'm on autopilot and feel that I don't stop. Mindfulness can have a positive impact because I allow time to think, reflect and pause. Think about myself.*'

The model of one expert teacher cascading to and training colleagues, and use of a clear programme and resources was viewed as effective and sustainable by the teacher interviewees. One teacher did comment that, '*It is important to get the balance right. If we focus too much on mindfulness then it might actually bore or disengage pupils as they might feel they aren't learning. So it's about balance, and doing the right things for those pupils at the right time. Skilled teachers need to develop skills, knowledge and attitudes*'

All pupils interviewed:

Could explain mindfulness as a useful practice
Could give examples of how mindfulness practices might be carried out in their classes
Could give examples of times at school where they had used mindfulness to help them learn, for example helping relieve anxiety before a spelling test
Could give examples of using mindfulness beyond classroom context, e.g. to help them focus on taking a free kick
Referred to a sense of relaxation, concentration and focus when undertaking mindfulness

Most pupils interviewed:

Also talked about using mindfulness at home, to help relax and sleep, to deal with worries and to help cope with siblings and other family pressures
They also suggested that mindfulness would be useful for all people, wherever they live because '*lots of people have really difficult lives, it might help them'.*

A few pupils commented that mindfulness was not perfect:

It can help me not worry about my work when I'm doing it, but when I get back to the work I might still worry.
Mindfulness is great but sometimes we take it for granted and it can be settling and unsettling at the same time. And if you are really sad- you get a feeling – you can't always take that away.

At home I try and do it, but it is hard if not everyone doing it at the same time – I do it in my bedroom to get peace and quiet.

When pupil interviews were analysed, the following themes emerged from the analysis:

Theme	Examples
Improvements to emotional control	*When I wake up in the morning I do 20 breaths to relax me and to start a new day. It's a fresh start.*
Awareness of negative emotions	*When I did the national tests the night before I got anxious so in bed I did a practice and I went to sleep without feeling worried*
Positive impact on relationships	*I use it more at home than in school. Sometimes I have an argument with my step-sister or brother. I can get upset. Mindfulness helps me calm down.*
Positive impact on learning	*When we had a spelling test last week I'd only learnt my words twice so I felt worried. So before the test I stopped and did 'petal fingers'* {a mindfulness practice) *which helped me feel more relaxed and ready. I could do the test ok then, otherwise I might have made mistakes.*
Negative impact on learning eg distracting	*There was one time in a lesson when I was so concentrating (sic) on mindfulness I didn't listen to Miss so I didn't know what to do.* *I'd recommend closing your eyes when you do this because if you look around when people are doing it you can get really distracted*
Transferable skills	*I go to surfing club and sometimes I get worried in the water. I use the paws be ideas to calm me down.* *Before I take a free kick I stop and take a second to be calm. It works – usually!*

Discussion

The aim of this study was to explore pupil and teacher perceptions of a Mindfulness intervention. The study sought to gain views from pupils as well as teachers as this was an acknowledged gap within the existing evidence-base. The school developed the approach by identifying one key teacher who was trained to a level where she could lead the intervention confidently. The school gave her ongoing support for her practice, and this enabled her to spend time training other staff, parents and pupils in mindfulness techniques.

The thematic analysis identified some themes surrounding the generally positive perceptions that pupils held, which were to do with socio-emotional aspects, learning and transferability. Mindfulness was valued by all pupils, although they were also able

to identify times when the practices had actually acted as a distraction. The data also indicates the benefits teachers saw for themselves after undertaking the programme, as well as their perceptions of benefits for pupils. Mindfulness was seen as a useful initiative to include in the school's design of their HWB curriculum, and would be rolled out into the Foundation Phase as well as KS2 provision. Whilst the teachers felt that it did sit within the HWB AoLE they also felt that the practices could support learning across other areas of the curriculum. Pupils also gave examples of situations across the curriculum, and beyond the school day where they had used mindfulness practices.

These findings may be of interest to other schools considering developing Mindfulness as an aspect of their new curriculum provision, or for schools considering how to support teachers with managing work-related stressors.

Limitations to the study include the small sample size, and the fact that the study was undertaken in only one school. A methodological limitation was that I chose not to record the interviews with pupils, but took notes instead as I felt that this might make the interview feel less formal. However, I need to acknowledge that I may have made small omissions with the data I subsequently recorded.

One interesting area of future exploration would be to see how closely participant's reporting of acting mindfully, or of using practices actually resembles their behaviour. Participants were all aware that I was 'interested in finding out more' about mindfulness, and this may have had an impact on their responses. Another would be to look at the impact of such initiatives on younger pupils.

References

Bannirchelvam, B., Bell, K., Costello, S. (2017) A qualitative exploration of primary school students' experience and utilisation of mindfulness. *Contemporary School Psychology* 21:304-316

Barblett, L. & Maloney, C. (2010) Complexities of assessing social and emotional competence and wellbeing in young children. *Australasian Journal of Early Childhood,* 35:2, 13-18.

BERA (2018) *Ethical Guidelines for Educational Research* London: BERA

Burden, R. (2000) *Myself as a Learner* Birmingham: Imaginative Minds

Burke-Johnson, R., Onwuegbuzie, A., Turner,L., (2007). Toward a definition of mixed methods research. *Journal of mixed methods research*, *1*(2):112-133.

Donaldson, G. (2015) *Successful Futures.* Cardiff: Welsh Government

Durlak, J., Weissberg, R., Dymnicki, A. Taylor, R. & Schellinger, K. (2011) The impact of enhancing students' social and emotional learning: a meta-analysis of school based universal interventions. *Child Development,* 82, 405-432.

Goodman, A., Gregg, P. (2010) *Poorer children's educational attainment: how important are attitudes and behaviour?* London: Joseph Rowntree Foundation

Greenberg, M.T., Harris, A.R., (2012) Nurturing mindfulness in children and youth: current state of research. *Child Development Perspectives* 6 (2) 161-166

Johnson,R Burke, Onwuegbuzie,A.J. (2004) Mixed Methods Research: A Research Paradigm Whose Time Has Come *Educational Researcher* 33 (7) 14-26

Kabat-Zinn, J. (1994) *Wherever you go, there you are: mindfulness meditation in everyday life.* New York: Hyperion

Popordanoska, S. (2016) Implications of emotion regulation on young children's emotional wellbeing and educational achievement. *Educational Review,* 68:4, 497-515.

Sheinman, N., Hadar, L., Gafni, D., Milman, M. (2018) Preliminary investigation of whole-school mindfulness in education programs and children's mindfulness-based coping strategies *Journal of Child and Family Studies* 27: 3316-3328

Teddie, C., Tashakkori, A., (2009*). Foundations of mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioural Sciences.* Los Angeles, CA: SAGE Publications Ltd.

Tang, Y. Y., Ma, Y., Wang, J., Fan, Y., Feng, S. (2007) Short term mediation training improves attention and self-regulation. *Proceedings of the National Academy of Sciences of the United States of America* 104:17152-17156

Welsh Government (2015) *A curriculum for Wales – a curriculum for life.* Cardiff: Welsh Government