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# Evidence Needs and the Welsh Education System

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## Summary

- The Public Policy Institute for Wales (PPIW) has a remit to support Ministers to identify their evidence needs, assist the Welsh Government to become a more effective customer for research and advice, and help external suppliers of research and analysis to engage with the policy process.
- In recognition of this, the former Minister for Education and Skills asked the Institute to bring together education experts and policy makers to identify and discuss the evidence that is needed to inform education policy in Wales over the next five years.
- Experts were asked to identify the main evidence gaps and research questions that they believed need to be addressed (Annex 3), and to consider ways of tackling these issues and the resource implications of doing so (Annex 4).
- The discussion highlighted the need to improve the use and generation of evidence throughout the education system in Wales – from policy development and implementation, through to practice in schools and classrooms – and experts raised concerns about current capacity to critically reflect on and engage with the evidence base.
- They recommended that implementation should be a primary focus of future enquiry. There is no single template for successful implementation of the programme of reform that has been set in motion in Wales. Innovation of this kind requires an approach which consciously seeks to draw on existing and emerging evidence on an ongoing basis. Similarly, there is currently a lack of understanding and evidence about how to support the successful implementation (or ‘scaling’) of effective programmes across schools.
- Encouraging practitioner demand, use and generation of evidence was another recurring theme. Experts highlighted the need for greater understanding of what works to engage practitioners with research and evidence throughout their careers, and the role of teacher research.
- Experts also highlighted important questions about data and measurement. There is a need to measure progress in implementing the new curriculum and to balance monitoring of educational attainment and the broader well-being of pupils.
- The discussion presented in this report is not intended to be an exhaustive analysis of the evidence needs of the Welsh education system. It offers a preliminary scan based on the views of evidence producers which we hope will help to inform researchers and research funders about policy makers’ evidence needs and inform the Welsh Government evidence plan.

# Introduction

The Public Policy Institute for Wales (PPIW) works closely with Ministers to identify their evidence needs and provide them with timely independent expert advice and analysis. It also supports the Welsh Government to be an effective customer for research and advice, and helps external suppliers of research and analysis to engage with the policy process.

The former Minister for Education and Skills asked the PPIW to assess the evidence that will be needed to inform education policy in Wales over the next five years. To inform this analysis the Institute convened a half day workshop which brought together an invited group of education experts and Welsh Government officials to identify and discuss the evidence needs of the primary, secondary and post 16 education system in Wales and the current capacity to meet those needs.

Participants included senior academics from across the UK, as well as representatives from the Education Endowment Foundation (EEF), Estyn, the RSA, Qualifications Wales and Welsh Government (see Annex 1).

Based on our assessment of the policy landscape in Wales (see PPIW Background Paper), the discussion was structured around four key areas:

1. Curriculum reform;
2. Initial Teacher Education and Training (ITET) and Continuing Professional Development (CPD) reform;
3. Attainment and the attainment gap; and
4. Welsh medium education (WME).

Workshop participants were asked to identify the evidence gaps in respect of each of these issues, to assess which questions will be the priorities over the next five years and consider ways of gathering evidence about them. They were also asked to highlight any issues of capacity, funding and other resources needed to do so. Towards the end of the workshop, participants were presented with 12 issues which had been identified as priorities in the course of the discussion (see Table 1) and asked to comment in particular on the implications of these (for a full breakdown of the workshop process see Annex 2).

The workshop was an initial step in a longer term process of supporting Ministers in the identification and meeting of their evidence needs. The results and subsequent discussions will be used to advise incoming Ministers about evidence needs and the role the PPIW might play alongside others in meeting these needs.



This report summarises the workshop discussion. It is not an exhaustive analysis nor does it offer a detailed research programme. Rather, the report offers a preliminary scan which we hope will help to inform researchers and research funders about policy makers' evidence needs and inform the Welsh Government evidence plan. The first section reviews the role of evidence in the education system in Wales and the evidence gaps identified in each of the four key policy areas articulated above. The report then presents the research questions which workshop participants highlighted as priorities and explores potential approaches to addressing them. Finally the report summarises the workshop participants' reflections on the priority questions and the capacity in Wales to meet these evidence needs.

**Table 1: Prioritised evidence needs in the four keys areas identified by the PPIW’s assessment of the policy landscape**

|   |  |
|---|--|
| <p style="text-align: center;"><b>Curriculum reform</b></p> <ul style="list-style-type: none"> <li>- How will we measure progress in the new curriculum, both for the overall aims and for each of the Areas of Learning (AOLs)?</li> <li>- What do we need to know to successfully implement policy?</li> <li>- What processes and evidence will transform Donaldson’s AOLs into schemes of work?</li> </ul>   | <p style="text-align: center;"><b>CPD and ITET</b></p> <ul style="list-style-type: none"> <li>- How can teacher research be developed as part of professional learning?</li> <li>- How do we increase practitioner demand for education research?</li> <li>- What are the pedagogical requirements for the new curriculum and how are they best developed through ITET and CPD?</li> </ul>       |
| <p style="text-align: center;"><b>Attainment and attainment gap</b></p> <ul style="list-style-type: none"> <li>- Understanding better the systematic differential attainment of learners (which group, when, how, etc.) and what intervention would effectively address these different forms of differential achievement.</li> <li>- To what extent are the Donaldson purposes commensurate in educational processes? How does education contribute to these goals? Therefore, how should pupils be measured against them?</li> <li>- Explore the potential for outcome measures of performance – e.g. how do we measure the destination of learners, of school categorisation and measures for self-improvement?</li> </ul> | <p style="text-align: center;"><b>WME</b></p> <ul style="list-style-type: none"> <li>- What do we know about the achievements and challenges of delivering WME and what more do we need to know?</li> <li>- What do we know about the linguistic journey of learners in their acquisition of Welsh?</li> <li>- To what extent is the long-term vision of WME in Wales being achieved?</li> </ul> |

## Gaps in the Current Evidence Base

Workshop participants were first asked to identify the evidence gaps in the education system in Wales in respect of four key issues that the PPIW identified in its background paper as the dominant challenges likely to face the Welsh Assembly over the coming five years:

1. Curriculum reform;
2. ITET and CPD reform;
3. Attainment and the attainment gap; and
4. WME.

Participants highlighted the overlaps and connections between these issues (e.g. the importance of teacher training and development in delivering the vision for curriculum reform); but, perhaps more significantly, they identified a number of questions about the role of evidence in the education system as a whole.

A full list of the questions identified is provided in Annex 3. Here we draw out some of the key issues.

### **The role of evidence in the education system**

The education system in Wales has changed significantly since devolution in 1999 and is about to embark on a further series of significant reforms. It is therefore important to consider how research and evidence can be used most effectively in an evolving system.

One of the recurring themes in the discussion of the evidence base was the relationship between policy, practice and evidence. Many of the current gaps identified by experts related to the question of how to build 'learning' into the system such that both policy and practice are informed by a rich understanding of what is happening in Wales, and by an awareness of the international evidence base.

There was discussion of the systems currently in place to enable dissemination and application of evidence. At the practitioner level, little is known in Wales about how to encourage practitioners (not only teachers, but heads, support staff and others) to engage with the existing and emerging evidence base. With a growing emphasis on the importance of practice in successful implementation, we need to improve our understanding of the ways of engendering a process of continuous learning where practitioners are using evidence to inform their practice and reflecting on, or even researching, the effectiveness of different approaches. Not enough is known about ways to increase practitioner demand and it was noted that more



focus needs to be given to the 'demand' side of the education 'evidence ecosystem' in Wales (i.e. how do we engage practitioners in research?).

At the policy level, experts highlighted the lack of evidence on what makes implementation more or less successful, and raised questions about how to make policy more responsive to changes and developments. This included issues of:

- how to measure progress;
- how to ensure that the curriculum evolves in response to educational needs; and
- what the incentive system (particularly for implementation) should be.

The current education evidence ecosystem in Wales was also compared unfavourably to other parts of the UK. In particular, it was noted that unlike England, Wales has not conducted extensive trials, such as those run by the EEF, which might help to inform effective implementation.

## **Curriculum reform**

The curriculum reform programme being rolled out over the next five years presents a number of challenges and evidence needs, some specific to the different elements of the reform programme, others relating to the process of implementation and the implications of the same.

Whilst curriculum reforms are useful blueprints for change, there is a big gap between policy generation and an implementation plan. Indeed, the issue of implementation was highlighted as an area of concern across the UK as a whole and one in which further work may be of interest to other governments. The knowledge requirements of future practitioners was raised as an important evidence gap to address, as was the question of how the new curriculum could be implemented in an 'evidence-informed' way, such that the work of Pioneer Schools is premised on sound research. For example, evidence gaps were identified that could be addressed by exploring best practice examples from other countries (e.g. the best approaches to thematic project work and its assessment).

Experts also identified the issue of how progress will be measured in the new curriculum, both for the overall aims and for each of the Areas of Learning (AOLs), as an important one for future research and analysis. They suggested that Wales could learn from international experience about how the qualification system should be designed.

The way in which the new curriculum will address the full spectrum of abilities and measure them was another evidence gap identified. The issue of measurement was also raised in the context of considering how schools will be held to account for the framework of the Well-being of Future Generations Act. In addition, it was suggested that we need to strike the right balance



between collecting data for research and collecting data to hold practitioners and others to account. Achieving this balance and helping practitioners to understand the benefits of engagement with research evidence may help to encourage greater practitioner demand for evidence in the education system.

## **ITET and CPD**

It was agreed that it is important to have an evidence base that can continue to inform and be integrated into the new curriculum on an on-going basis. The role of pedagogy in the new curriculum needs to be addressed, as do questions about how to equip teachers to deliver curriculum reform. Experts highlighted questions such as how to equip teachers with digital skills and ensure these keep pace with developments.

In light of this, research to establish the most effective models of ITET and CPD would be useful. Investigation of how ITET and CPD might be used to increase practitioner demand for research was also discussed. ITET and CPD might successfully incorporate practitioner involvement in the generation and application of research but more evidence is needed in this area.

Finally, there was discussion around how ITET and CPD can be used to motivate teachers throughout their careers and make the career path more attractive. In particular, it was suggested that little is known about how to make headship positions more appealing. This was seen as an important means of helping to address teacher shortages and it was suggested that practitioner research was one way of helping to motivate teachers to develop their careers.

## **Attainment and the attainment *gaps***

Experts argued that rather than focusing on the ‘attainment gap’ evidence was needed about attainment *gaps*, both within and between schools. Specifically it was suggested that Wales needs more evidence and a greater understanding of where these gaps are, their size and whether they are growing or decreasing. Looking out for pockets of high or low attainers and identifying strategies which have worked, or indeed not worked, to establish pockets of improved attainment was also identified as research which could be worthwhile. It was noted that in some areas the attainment gap has narrowed in Wales. Exploring what has led to this was seen as an important evidence need.

Experts identified evidence on the measurement of attainment as a need. They argued for research to address questions such as ‘how can we measure attainment most effectively with the resources we have?’ and ‘are the current measurement schemes fit for purpose such that

they are indicative of what we want to achieve?'. They also suggested that there is need to consider how to measure progress in light of the new curriculum and the Well-being of Future Generations Act Framework which emphasise the importance of well-being as opposed to narrower measures of attainment.

## **WME**

Participants suggested that there was a need to articulate the long term goal(s) of WME. They believed that there was need for research to understand the more and less successful aspects of WME and highlighted questions such as 'what do we know about pupil's linguistic journeys in Wales?' and 'what is the impact of WME on those not from Welsh backgrounds?'. They also raised the question of whether Wales capitalises on the benefits of bilingualism, and suggested that research analysing what causes bilingual learners to achieve better results in some other countries could be worthwhile.

Experts questioned whether WME should be viewed, as a sector, a system or a method. The way in which WME is considered in the design of the new curriculum was raised. Specifically, there are questions about how a curriculum designed in English medium Pioneer Schools could be transferred to Welsh medium schools. In addition, more research is needed to examine how we meet the ITET and CPD needs of those who teach in WME schools.

## Meeting Future Evidence Needs

Participants were asked which of the long list of evidence gaps that they had identified they considered to be the priorities. The results are shown in Table 1. Participants were then asked to consider how they would recommend addressing these questions. For an explanation of each see Annex 4. Reflecting on the whole, the group made the following observations:

### **1. Implementation needs to be the object of inquiry**

Whilst there is a substantial literature on implementation, experts identified improving understanding of implementation processes as a priority in all four policy areas. There is no single template for successful implementation of the programme of reform that has been set in motion in Wales. Innovation of this kind requires an approach which consciously seeks to draw on existing and emerging evidence on an ongoing basis. They believed that there is a need to reflect on the implementation of education reforms that have been introduced so far by the Welsh Government and to gather evidence on the implementation of future

programmes. Evidence of what makes for successful reform would be useful for all aspects of the Welsh Government's education reforms and of interest to other stakeholders across the UK and beyond. Similarly, there is currently a lack of understanding and evidence about how to support the successful implementation (or 'scaling') of effective programmes across schools.

## **2. There is a need to increase practitioner engagement and draw on evidence from outside Wales**

Whilst the workshop participants felt there might be capacity in Wales to provide evidence on the research questions that they regarded as priorities, they believed there was a lack of capacity to critically reflect on research and engage in constructive debate on its implications.

The need to build capacity among and engage practitioners in research was another recurring theme. Experts suggested that more effort needs to be made to engage with teachers and children and young people and other stakeholders including parents, employers and local authorities.

It was noted that many of the evidence gaps identified by the experts were specific to Welsh policy but experts argued that there was a lot of scope for learning between the four countries of the UK and that some international experiences was also relevant. They argued that it will be important to draw on the expertise of researchers and policy makers working outside Wales including the EEF.

## **3. There is a need for evidence for both accountability purposes and for learning**

Experts argued that increasing practitioner demand for evidence and research requires a change in attitudes towards data collection. There is a balance to strike between collecting data for accountability and for learning, and the importance of both needs to be addressed and communicated to practitioners.

## Conclusion

Since devolution in 1999, the education system in Wales has been subject to a series of changes and is in the process of embarking on a series of fundamental reforms both to the curriculum and to teacher training and development. There is a great deal of research on education in the UK and internationally and yet we do not have a clear understanding of some key issues which will determine the success or failure of the education system in Wales.



The issues discussed in the expert workshop and recorded in this report are not intended to provide an exhaustive analysis of the evidence needs of the Welsh education system. There are other potential evidence gaps which were not discussed including questions relating to governance, support staff, impact of private tutoring, post-16 education and looked after children. However we hope that this report provides a preliminary scan and a basis for future discussions that will help to increase researchers' and research funders' awareness of policy makers' evidence needs and inform the Welsh Government evidence plans.

In designing a new curriculum and in ITET and CPD reform, stakeholders must draw on the available evidence base, in particular what is known about successful programme implementation. Wales needs to be reflexive in its approach to implementing reforms, identifying, prioritising and filling evidence gaps to enhance learning and looking out for opportunities to test innovative approaches.

There is a need to increase capacity in Wales for debate and critical reflection about what works and to improve the use and generation of evidence in the system at all levels in the education system. This has implications for ITET, CPD, HEIs, the promotion of new skills and workforce development, and applies to both English and Welsh medium education. There is also a need to strengthen engagement between policy makers and practitioners and sources of authoritative analysis and advice from beyond Wales.

It is important to consider what evidence is being collected and how it is being used. We need to strike a balance between the effort put into inspection and other ways of holding schools accountable and the effort which is given to facilitating learning - at all levels in the system and at all stages in the policy process.

## Annex 1: PPIW Workshop Participants

**Kate Crabtree** - Executive Director of Policy and Research, Qualifications Wales

**Professor Richard Daugherty**- Professor of Education, University of Oxford

**Steve Davies** – Director of School Standards and Workforce, Welsh Government

**Professor David Egan** - Professor of Welsh Education Policy and Director of the Wales Centre for Equity in Education, University of Wales Trinity Saint David

**Steve Fletcher** – Senior Evidence Liaison Manager, Welsh Government

**Professor Steve Higgins** – Professor of Education, Durham University

**Glyn Jones** – Chief Statistician, Welsh Government

**Kerry Jones** – Research Officer, Estyn

**Professor Sandra McNally** – Director, Centre for Vocational Education Research, London School of Economics

**Huw Morris** – Director of Skills, H.E. and Lifelong Learning, Welsh Government

**Professor Sally Power** – Co-Director, WISERD and Director, WISERD Education, Cardiff University

**Dr Catrin Redknap** – Principle Research Officer (Welsh Language), KAS, Welsh Government

**James Richardson** – Senior Analyst, Education Endowment Foundation

**Meilyr Rowlands** - HM Chief Inspector, Estyn

**Kathy Seddon** - RSA Fellowship councillor for Wales

**Professor Chris Taylor** – Co-Director, WISERD, Cardiff University

**Richard Thurston** – Head of Research, Education and Skills, Welsh Government

**Dan Bristow** - Deputy Director, PPIW (chair)

**Lauren Carter-Davies** - Research Officer, PPIW

## Annex 2: Workshop Process

### Session 1 and prioritisation

First, we asked workshop participants to identify the main evidence gaps and research questions that they believed need to be addressed in relation to the four key areas we identified; curriculum reform, ITET and CPD, attainment and the attainment gap ,and WME (for the resulting list see Annex 3).

*“Where are the evidence gaps? Spend five minutes noting key issues/ questions/ evidence gaps (one per post-it).”*

We then asked the workshop participants to prioritise the evidence gaps and research questions. The evidence gaps and research questions identified were displayed across four boards (one for each of the key areas). Participants were given eight dot stickers and asked to place two on each of the four boards to indicate which evidence gaps or research questions they felt were most important. (For a list of the prioritised evidence gaps and research questions see Table 1).

*“Prioritisation: For each of the four areas chose your top two issues/questions (using dot stickers).”*

### Session 2

The participants were then split into four group. Each group was given one of the four sets of prioritised research questions (see Table 1) and asked to consider ways of tackling these issues, and the resource implications of doing so (to learn about the approaches the participant groups came up see Annex 4).

*“With the top 3-5 questions as a group discuss;*

- *Refining the question;*
- *What is the nature of the evidence need?/ What is the best approach?;*
- *Who needs to be involved? (cf ‘evidence ecosystem’);*
- *Indicative costs (low, medium, high<sup>1</sup>); and*
- *Indicative timescales (short, medium, long).<sup>2</sup>*

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<sup>1</sup> Low denotes under £25,000, medium denotes £25,000-£200,000 and high denotes over £200,000.

<sup>2</sup> Short denotes under 12 months, medium denotes 12 months – three years and long denotes over three years.

### Session 3

Finally, the four groups were brought back together to reflect on the prioritised research questions (see Table 1) as a proposed research programme for Wales.

*“Key question: If this were to become the research programme for Wales over the next five years, what would the implications be?”*

- *What’s missing? Have we got the right priorities?*
- *Is it realistic/ deliverable?*
- *Will we ‘fill the gaps’/‘answer the questions’ in five years?*
- *Do we have the data we need?”*

## Annex 3: Full List of Questions Identified by Experts

### **Cross cutting/other issues raised throughout discussion of the four areas<sup>3</sup>**

- An evidence gap which cuts across the four areas is research and evidence on implementation processes. Reforms are useful blueprints but there is a big gap between a blueprint (policy generation) and an implementation plan. The questions we should be asking are systemic more than topic related. Research and evidence about how to implement interventions/ programmes should inform all four areas.
  - What empirical evidence base do we have in terms of what works best when implementing interventions/programmes?
  - How do we successfully implement policy? (Four priority markers)
  - How will Pioneer Schools inform the implementation process? Random engagement with research knowledge is a risk here.
  - What is the incentive system for implementation in Wales/ what should it be?
- We need research/ an evidence base to continue to inform the education system so that we don't need another review of the education system and more reviews.
- How does research evidence from outside the UK apply to the Welsh context?
- How do we measure progress (in the education system)?
- How are we spending money across the system? Are we targeting spending at the right places?
- What is the evidence base for the value/ effectiveness of 3-16 schools?
- How can we include young people more in education research?
- We need to understand the impact of what Wales has already done.
- How do we increase for demand for education research?
- How do other states based/federal education systems work? E.g. How do the provinces in Canada deal with a states based education system? (One priority marker)

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<sup>3</sup> The four areas included curriculum reform, ITET and CPD, attainment and the attainment gap, and WME.

- England is looking at funding systems and is likely to bring resource down. We need to have some understanding of what are comparators are going to be like.
- What can Wales afford?
- Should we be asking practitioners where evidence gaps are?
- Are we reactive to practitioner demands for evidence?
- What data? How much? How often? From whom? (Three priority markers)

## 1. Curriculum

- How do we implement a new curriculum based on the study of empirical evidence?
- What type of qualifications are most likely to effectively assess the new curriculum?
  - What works internationally in terms of assessment and how can it be applied to Wales?
  - How can we make sure it is an accountable system?
  - What should the system look like?
- How do we measure progress in the new curriculum and get the balance of learner-focus/ accountability research right? (Eight priority markers)
- How does the curriculum address the full spectrum of abilities? (Three priority markers)
- How can research knowledge inform the work of Pioneer Schools? (Two priority markers)
- Thematic project work for secondary aged pupils – are there best practice examples internationally? Donaldson encourages thematic project work which is common in primary school but not secondary schools.
  - How do we assess thematic project work?
- How do we ensure we devise a curriculum that will develop with changes in society (so that we never need another review)?
- How much divergence can we have with England without disrupting cross border flows of students and staff?
- How does Donaldson's purposes/aims fit with the goals in the Well-being of Future Generations Act?
  - How do schools help to achieve the Well-being of Future Generation Act goals for children and young people?

- A focus in the Well-being of Future Generations Act is asking adults to self-assess their own well-being. Taking this further, what do we know about children and young people's experience of their education?
- How do we understand the impact of the focus of digital skills and what this means for preparing pupils for their futures?
  - How does the curriculum keep up with fast moving technology developments?
- Curriculum content – what content is appropriate for a Welsh curriculum? (Three priority markers)
- Post 16 – how do we encourage staging and progression?
- What works well/ what doesn't work well in encouraging learner engagement in the secondary sector?
  - Do transition activities have any part to play?
- Is the Pioneer Schools model the most effective way of building the new curriculum?

## 2. ITET and CPD

- How can we make headship positions more attractive to teachers?
  - What do professionals find appealing and what do they find off putting?
  - How can these concerns be addressed?
- What is currently effective in ITET and CPD? (Three priority markers)
- How can teacher research be developed as a part of professional learning? (Six priority markers)
- Are teachers sufficiently equipped as digital skills leaders?
  - How do we ensure their skills keep up with fast moving technology?
- Teacher research as professional learning – there is lots of experience of this – have we learnt from it?
  - Should we be putting teacher research at the heart of CPD?
- Do we know about how to motivate teachers to engage in CPD throughout their professional lives? (Three priority markers)
- How can/should ITET and CPD both feed into and be integrated into research?
- How can we attract and retain expertise through teacher research?

- How do we increase the practitioner demand for education research? (Eight priority points).
- What impact do teacher standards frameworks have?
- What do we know about effective models of vocational ITET?
- Is the teaching workforce prepared and able to undertake more assessment (more from exam to teacher led assessment)? (One priority markers)
- What is the most effective model for ITET?
- Traditionally ITET and CPD are discussed separately but it is good to reflect on them together.
  - What do those at CPD level think of ITET and vice versa?
  - What is the relationship between ITET and CPD like? What should it be like? We need to look at this from the bottom up.
- Coaching and mentoring – what do we know about different models for new teachers and those throughout their careers? Are there best practice examples internationally?
- How might we attract new teachers and retain experienced teachers through research involvement? (Three priority markers)
- How do we prepare teachers to deliver Donaldson?
  - Where does pedagogy fit? Is it covered by CPD and ITET?
- We need to consider school to school as a model of CPD.
- How has structural reform (introduction of middle tier/regional consortia) impacted on ITET and CPD in Wales? (Six priority markers)
- Do we need state of the nation research to see what is working in ITET?

### **3. Attainment and the attainment gaps**

- Progression and data – how do we set realistic expectations for young people based on their individual starting point?
  - Equally, how do we measure this starting point?
- Is measuring attainment the way we currently do fit for purpose?
- With limited resources what do we need to measure?

- We need to realise that we are not looking at an attainment gap but attainment gaps. There are attainment gaps between schools and within schools.
  - Which is the greatest challenge?/ Where are the largest gaps? (Four priority markers)
- Why do learners with the same number of grades in GCSE do worse than their peers in England at A-Level?
- At which point in school do attainment gaps grow?
- Are there pockets of high-attaining/ low-attaining pupils across the country?
- How will we benchmark attainment?
- Do individual primary school teachers receive sufficient information on the characteristics of future in-takes?
- Validity – are what we are measuring indicative of what we want to achieve? (Four priority markers)
  - We need to evidence a link between attainment and desired goals.
  - We must also consider how this validity changes over time – how does the validity of outcome indicators change over time?
- How can we learn more about adult skills in literacy numeracy and ICT given that we aren't involved in the big studies? (One priority marker)
- School, college and university based measures of ambitious learners, ethical citizens, enterprise work and life and healthy – what do they look like? (One priority marker)
- The current system suggests that early years are central to tackling poverty – we need to keep up with the latest evidence we have. What works in early years? (One priority marker)
  - Also we need to remember the importance of early intervention with older children and young people. Do we know how early intervention works in these instances? (One priority marker)
- How do our newly reformed qualifications compare with others in England/ the world? Are they meeting the needs of learners/ employers/ HEIs? (One priority marker)
- Do we do enough to support head teachers in improving attainment and closing the attainment gap?

- How much do we know about the role of family and community engagement in closing the attainment gap? (Three priority markers)
- What has driven the closing of some of the attainment gaps in Wales so far?
- Pupil Deprivation Grant (PDG) is used as a measure of deprivation – what happens to children who cycle in and out of PDG eligibility?
- Should and how can we measure things other than attainment? (Eight priority markers)
- Are there successful schools where the attainment gap is small/ non-existent? How do we capture what those schools are doing? (One priority marker)

#### 4. WME

- Is WME a sector, a system or a method?
- What do we know about linguistic journeys of pupils in the Welsh medium sector? (Eight priority markers)
- Does Wales capitalise on the benefits of bilingualism? (One priority marker)
  - What are the key cognitive advantages of bilingualism and how do we maximise them?
- In cases where bilingual learners achieve better results what causes this?
- What are the ITET and CPD needs of those who are involved in the WME sector? (One priority marker)
- What are the successes and failures of WME? (Six priority markers)
- What is/ are our long term goals? Is it get people to speak Welsh as adults or to get people to pass exams in Welsh? (Seven priority markers)
- How can WME provision support the delivery of Welsh in non WME schools?
- Are we looking towards the most appropriate models/examples of international comparisons?
- Why do first language Welsh learners often not want to do their qualifications and apprenticeships in Welsh and how can we help to encourage this?
- How do we ensure that WME is not regarded as a separate issues? How do we integrate across curriculum aims?
- Why do people need/ not need qualifications in Welsh?

- What is the impact of WME on those not from Welsh backgrounds? (Three priority markers)
  - Do they have sustainable use of the language post education?
- Most Pioneer Schools are English medium education. Will a curriculum developed in English medium education schools be transferable to WME schools?
- What is the comparability of demand between English and Welsh language GCSE?



## Annex 4: Approaches to Addressing the Questions Identified

Experts were asked to identify the main evidence gaps and research questions that they believed need to be addressed (Annex 3). The experts were then asked to prioritise the research questions (Table 1) and to consider ways of tackling these issues, and the resource implications of doing so. The boxes below denote the suggested approaches for addressing the prioritised research questions related to the four key areas; curriculum reform, CPD and ITET, attainment and the attainment gap, and WME.

The experts were given the following scales for categorising cost and timescale:

Cost: Low (under £25,000), medium (£25,000-£200,000) and high cost (over £200,000)

Timescale: Short (under 12 months), medium (12 months – three years) and long (over three years)

### Curriculum reform

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| <p><b>Research Question:</b></p> <p>How will we measure progress in the new curriculum, both for the overall aims and for each of the Areas of Learning?</p>  | <p><b>Cost:</b></p> <p>Low for the literature review, low for the analysis and medium for the trials.</p> |
| <p><b>Approach:</b></p> <p>Need to research benchmarks.</p> <ul style="list-style-type: none"> <li>• Systematic literature review;</li> <li>• Analysis;</li> <li>• Trial in Pioneer Schools.</li> </ul> |   |
| <p><b>Stakeholders:</b></p> <p>This should be professionally undertaken but also need buy in and involvement from teachers, parents and teachers.</p>   | <p><b>Timescale:</b></p> <p>The first and second stages are short and the trialling is long.</p>          |

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| <p><b>Research Question:</b></p> <p>What do we need to know to successfully implement policy?</p>  | <p><b>Cost:</b></p> <p>Low for literature review, medium for case studies and medium for building into evaluations.</p> |
| <p><b>Approach:</b></p> <ul style="list-style-type: none"> <li>• Review literature on implementation research;</li> <li>• Internal case studies of successful and unsuccessful policy implementation;</li> <li>• Build learning from the above stages into all evaluations a section on implementation challenges (which can include different perspectives on what counts as success).</li> </ul> |   |
| <p><b>Stakeholders:</b></p> <p>Not specified.</p>  | <p><b>Timescale:</b></p> <p>First stage ought to be short and the second and third ought to be ongoing.</p>             |

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| <p><b>Research Question:</b></p> <p>What processes and evidence will transform Donaldson's Areas of Learning into schemes of work?</p>  | <p><b>Cost:</b></p> <p>Low for the literature review, high for the audit and high for the schemes of work.</p>    |
| <p><b>Approach:</b></p> <ul style="list-style-type: none"> <li>• Review of the literature;</li> <li>• Audit of 'knowledge' requirements for future stakeholders (universities/ teachers/ employers/ FE colleges);</li> <li>• Translation of key requirements into schemes of work trialled into pioneer schools.</li> </ul> |   |
| <p><b>Stakeholders:</b></p> <p>All.</p>   | <p><b>Timescale:</b></p> <p>Short for the first stage, medium for the second and medium - long for the third.</p> |

## ITET and CPD

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| <p><b>Research Question:</b></p> <p>How can teacher research be developed as part of professional learning?</p>  | <p><b>Cost:</b></p> <p>Low.</p>                |
| <p><b>Approach:</b></p> <ul style="list-style-type: none"> <li>• Identify what teacher's role/contribution could most effectively be in research;</li> <li>• Explore whether ResearchEd might come to Wales;</li> <li>• Making sure evidence feeds into curriculum reforms through CPD;</li> <li>• Build into accreditation;</li> <li>• Embed through teacher standards;</li> <li>• Consider inclusion in the New Inspection Framework;</li> <li>• Build in requirements for teacher-researchers within Welsh Government research and academic research bids.</li> </ul> | <p><b>Timescale:</b></p> <p>Medium – long.</p> |
| <p><b>Stakeholders:</b></p> <p>Teachers/ practitioners, Estyn, WG, Governors/parents, HE/ITET providers/ employers/ LAs/ Consortia.</p>  |  |

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| <p><b>Research Question:</b></p> <p>How do we increase practitioner demand for education research?</p>  | <p><b>Cost:</b></p> <p>Medium – high.</p> |
| <p><b>Approach:</b></p> <ul style="list-style-type: none"> <li>• Identify key topics to start with linked to Pioneer Schools;</li> <li>• Apply as part of Successful Futures;</li> <li>• Improve:             <ul style="list-style-type: none"> <li>• applicability/action-ability;</li> <li>• accessibility/accuracy;</li> <li>• capability of teachers/schools to adapt/apply evidence in practice;</li> </ul> </li> </ul> | <p><b>Timescale:</b></p>                  |

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|---|-----------------------|
| <ul style="list-style-type: none"> <li>• support networks to engage through groups/communities of interest;</li> <li>• coaching/mentoring to encourage practice;</li> <li>• research brokerage;</li> <li>• build into accreditation.</li> </ul> | <p>Medium – long.</p> |
| <p><b>Stakeholders:</b></p> <p>HEIs, unions, WG, Consortia, EWC, Pioneer Schools.</p>   |                       |

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| <p><b>Research Question:</b></p> <p>What are the pedagogical requirements for the new curriculum and how are they best developed through ITET and CPD?</p>  | <p><b>Cost:</b></p> <p>Medium – high.</p>               |
| <p><b>Approach:</b></p> <ul style="list-style-type: none"> <li>• Look at international evidence on pedagogies best suited to address the new requirements/ focus in Successful Futures (including how to combine pedagogies);</li> <li>• Brokering knowledge with Pioneer Schools;</li> <li>• Developing capacity to support Pioneer Schools and wider groups of schools via ‘enquiry groups’ including ITETs;</li> <li>• Can we develop a series of trials of new approaches?;</li> <li>• The CPD element here is the engagement of practitioners and academics at the heart of developing the new curriculum and beyond!</li> </ul> | <p><b>Timescale:</b></p> <p>Short, medium and long.</p> |
| <p><b>Stakeholders:</b></p> <p>Pioneer schools and other local schools, HEIs (literature reviews, research council funding in an out of Wales), WG, Consortia and EEF.</p>  |   |

## Attainment and the attainment gap

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| <p><b>Research Question:</b></p> <p>Understanding better the systematic differential attainment of learners (which group, when, how, etc.) and what intervention would effectively address these different forms of differential achievement.</p> | <p><b>Cost:</b></p> <p>Medium (depending on access to data).</p> |
| <p><b>Approach:</b></p> <ul style="list-style-type: none"> <li>• Mixed methods of pure and applied research;</li> <li>• School level data and nuanced analysis (not just national).</li> </ul>  | <p><b>Timescale:</b></p> <p>Short.</p>                           |
| <p><b>Stakeholders:</b></p> <p>Academic researchers, practitioners, EEF.</p>  |  |

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| <p><b>Research Question:</b></p> <p>To what extent are the Donaldson purposes commensurate in educational processes? How does education contribute to these goals? Therefore, how should pupils be measured against them?</p> | <p><b>Cost:</b></p> <p>Low.</p>        |
| <p><b>Approach:</b></p> <ul style="list-style-type: none"> <li>• Desk based review;</li> <li>• Research with practitioners;</li> <li>• Use of linked data.</li> </ul>   | <p><b>Timescale:</b></p> <p>Short.</p> |
| <p><b>Stakeholders:</b></p> <p>All government departments, academics and practitioners.</p>   |  |

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| <p><b>Research Question:</b></p> <p>Explore the potential for outcome measures of performance, e.g. how do we measure the destination of learners, of school categorisation and measures for self-improvement?</p> | <p><b>Cost:</b></p> <p>Low.</p>                |
| <p><b>Approach:</b></p> <p>Linked administrative data.</p>   | <p><b>Timescale:</b></p> <p>Not specified.</p> |
| <p><b>Stakeholders:</b></p> <p>NPD and other government data controllers.</p>  |  |

## WME

\*\*The sub-group looking at the prioritised Welsh medium education questions only had time to consider their approach to two of the three prioritised questions\*\*

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| <p><b>Research Question:</b></p> <p>What do we know about the achievements and challenges of delivering WME and what more do we need to know?</p>  | <p><b>Cost:</b></p> <p>Medium to influence policy and high longitudinally.</p>                              |
| <p><b>Approach:</b></p> <ul style="list-style-type: none"> <li>• Establish criteria for measuring achievement;</li> <li>• Establish a benchmark;</li> <li>• Mixed method research methodology;</li> <li>• Data analysis and fieldwork;</li> <li>• Analysis.</li> </ul> | <p><b>Timescale:</b></p> <p>Short term study 2016 – end of 2017.</p> <p>Longitudinal from 2018 onwards.</p> |
| <p><b>Stakeholders:</b></p> <p>WG, WLC, Qualifications Wales, Employers, CDAG, Learners, Estyn, NTFW, HEIs, Community organisations.</p>   |   |

|   |   |
|---|---|
| <p><b>Research Question:</b></p> <p>What do we know about the linguistic journey of learners in their acquisition of Welsh?</p>   | <p><b>Cost:</b></p> <p>Phased approach could be used → scoping exercise needed first.</p> |
| <p><b>Approach:</b></p> <ul style="list-style-type: none"> <li>• Assessment of the appropriateness and effectiveness of the methodologies and approaches currently being used to teach Welsh. <ul style="list-style-type: none"> <li>▪ Literature review of international research – what works in language acquisition?</li> <li>▪ Quantitative data analysis – what else needs measuring?</li> <li>▪ Qualitative analysis - focus groups with learners and practitioners; <ul style="list-style-type: none"> <li>• What pedagogies/ methods are being utilised?</li> <li>• What motivates learners to continue learning Welsh?</li> <li>• Action research with practitioners in collaboration with HEIs.</li> </ul> </li> </ul> </li> </ul> | <p><b>Timescale:</b></p> <p>Scoping would be short.</p>                                   |
| <p><b>Stakeholders:</b></p> <p>Learners, practitioners, HEIs, Estyn, WJEC, international colleagues, WG, WFA Centres.</p>   |   |

# The Public Policy Institute for Wales

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