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Implementing curriculum reform in Wales: the case of the Foundation Phase

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ABSTRACT
The Foundation Phase is a Welsh Government flagship policy of early years education (for 3–7 year-old children) in Wales. Marking a radical departure from the more formal, competency-based approach associated with the previous Key Stage 1 National Curriculum, it advocates a developmental, experiential, play-based approach to teaching and learning. *The learning country: A paving document* (NAfW, 2001) notes that, following devolution, Wales intended to take its own policy direction in order to 'get the best for Wales'. Building on a three-year mixed methods independent evaluation of the Foundation Phase we discuss in detail the aims and objectives of the Foundation Phase, including the context to its introduction, the theory, assumptions and evidence underlying its rationale, and its content and key inputs. We then contrast this with how the Foundation Phase was received by practitioners and parents, how it has been implemented in classrooms and non-maintained settings, and what discernible impact it has had on young children's educational outcomes. The paper concludes with a critical analysis of the policy process and identifies a number of contextual issues during the inception of the Foundation Phase that has, it could be argued, constrained its development and subsequent impact. We argue that these constraints are associated with an educational policy landscape that was still in its infancy. In order for future education policy to 'get the best for Wales' a number of important lessons must be learnt.

KEYWORDS
Wales; Foundation Phase; early years education; policy implementation; developmentally appropriate practice

Introduction

The Foundation Phase is the statutory curriculum for all 3–7 year-olds in the maintained and funded non-maintained[1] education sectors in Wales. It represents one of the 'flagship' education policies of the first ten years of the Welsh Government following parliamentary devolution in 1999. The Foundation Phase is symbolic for three reasons. First, it demonstrated a commitment to the use of the 'best' international evidence for education policy-making. Second, it constitutes a radical departure from its predecessor, the National Curriculum Key Stage 1, both in terms of curriculum and pedagogy. And third, it provided one of the first examples of how the education system in Wales differed from that of England following devolution. The Foundation Phase is also a very important example of education policy in Wales because of its scale—it universally applies to all primary schools and funded

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non-maintained settings across Wales—and breadth—it has involved a wide range of inputs and changes (see later).

It is argued that the origins of the Foundation Phase actually predate parliamentary devolution. Wincott (2006) maintains that it arose from the politicising of early childhood education and care amongst Welsh MPs in the UK Government and the establishment and prominence of a number of child-centred advocacy organisations in Wales. But it was the appointment of Margaret Hanney in 2000 as an expert advisor on early years provision that helped pave the way to ensure that curriculum was central to nursery provision, that three-year-olds should be part of any new curricula developments, and that international evidence was called upon. The then Assembly Minister for Education and Lifelong Learning, Jane Davidson, a keen advocate of the importance of early childhood education, set out a commitment to undertake a consultation on what was later called the Foundation Phase for 3–7 year-olds(NAfW, 2001). The resulting consultation, *The learning country: the Foundation Phase: 3 to 7 years* (NAfW, 2003) identified ten 'shortcomings' in early years education and eight 'shortcomings' in Key Stage 1. But underlying the need for reform of early years education, both in England and Wales, was the persistent underachievement of approximately 20% of the primary school age population over a number of years (see Figure 1, for example).

Whilst the overarching aim of the Foundation Phase was to provide a new statutory curriculum for 3–7 year-olds to replace the pre-existing National Curriculum Key Stage 1, the main aims for the Foundation Phase during its inception were to:

- raise children's standards of achievement;
- enhance their positive attitudes to learning;
- address their developing needs;
- enable them to benefit from educational opportunities later in their lives; and
- help them become active citizens within their communities. (NAfW, 2003, p. 6)

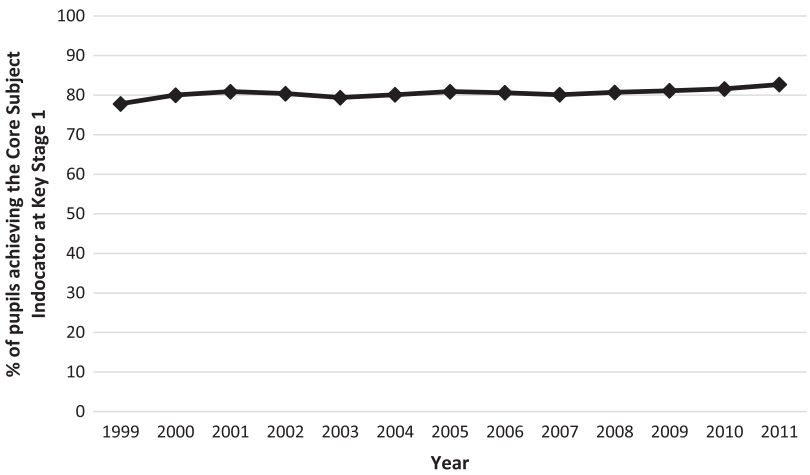

Figure 1. Levels of achievement in Key Stage 1 Core Subject Indicator (CSI) in Wales, 1999 to 2011.
* The Core Subject Indicator (CSI) represents the proportion of pupils achieving Level 2 or above in English or Welsh (first language), Mathematics and Science in combination.

However, a key argument underpinning the introduction of the Foundation Phase was a concern about formal approaches to teaching and learning in the first few years of schooling and a desire to introduce more developmentally appropriate practices into classrooms and settings. For example, in the original consultation exercise it was argued that 'teachers introduce formal learning too soon, before some pupils are ready' (NAfW, 2003, p. 5) and that this could result in 'some children underachieving and attaining lower standards' (2003, p. 14). This was seen as particularly concerning in relation to the teaching of reading and writing: 'an over-emphasis on making children read and write, before they are ready to do so, can be counter-productive' (2003, p. 11) with a risk that children will 'lose both confidence and a love of learning' (2003, p. 5).

Drawing particularly from early years education in Scandinavia, New Zealand (Te Whãriki) and Reggio Emilia in Northern Italy (see OECD, 2004 for an overview of each), the Foundation Phase is underpinned by constructivist theories of learning (i.e. is explicitly developmental with a clear focus on the individual child) and highlights socio-cultural ideas of empowerment and play in children's learning (Maynard et al., 2013). As a result it advocates a developmental, experiential, play-based approach to teaching and learning. However, the Foundation Phase deviates from these international comparisons and their associated theories of learning in at least three key ways. First, despite encouraging developmentally appropriate practice there remains a strong requirement for children to develop key skills or outcomes, particularly in literacy and numeracy, and by a certain age (i.e. at the end of the Foundation Phase). Second, the Foundation Phase does not entirely remove the need for direct, formal, teaching. Instead it encourages a balance of continuous, enhanced and focussed provision (as outlined in the Foundation Phase National Training Pack Module on Experiential Learning in Practice). And finally, the role of parents in the Foundation Phase is largely seen as requiring intervention (e.g. to mitigate the impact of educational disadvantage in the home) rather than seeing parents and families as co-producers of the curriculum or the learning experience. Many of these divergences underline the importance of the Welsh Government's more recent emphasis on raising standards and through greater performance management of schools (Rees & Taylor, 2015). It could be argued, therefore, that the Foundation Phase offers a unique attempt to bridge a child-centred approach to education within a standards-driven education system. Whether that is possible is something we will return to later in the paper.

The main aim of this paper is to outline how the Foundation Phase has been implemented, the impact it has had in maintained schools and funded non-maintained settings, what impact it has had on practitioners and what impact it has had on pupils. The findings are based on a three-year independent evaluation of the Foundation Phase that was commissioned and funded by the Welsh Government (and led by the authors of this paper).

The evaluation employed a stepped wedge design (Brown & Lilford, 2006). This exploits the sequential roll-out of the Foundation Phase by comparing the implementation and impact of the Foundation Phase at various stages of its introduction. The evaluation used a variety of mixed methods and included data collection and analysis at (a) a national level—including the use of national pupil data, a national survey of head teachers and setting managers, interviews with all local authority early years advisors and interviews with key Welsh Government personnel—and (b) at a local level. The latter involved the stratified random selection of 41 primary schools and a further 10 funded non-maintained settings. These case studies were selected on the basis of region, stage of roll-out, and medium of

instruction (i.e. to ensure the selection included Welsh-medium schools and English-medium schools). Other than these criteria schools were then randomly selected to minimise any forms of selection bias. The case study schools and settings involved interviews with all headteachers or centre managers, over 150 teacher interviews, over 120 interviews with additional practitioners, a further 24 interviews with staff in funded non-maintained settings, and systematic observations of over 3,300 3–7-year-olds across 131 classrooms or settings. In addition to this over 1,000 parents who had children in the Foundation Phase in these case study schools and settings were surveyed and over 600 Year 2 pupils participated in a self-completion survey. The final report of the evaluation was published by the Welsh Government in spring 2015 and made 29 recommendations (Taylor et al., 2015a).

In this paper we provide a critical analysis of the policy and implementation process for the Foundation Phase. In particular we highlight a number of contextual issues that appear to have impeded or constrained its delivery, and subsequently its possible impact. Focussing on the process of design and implementation is important for two main reasons. First, this provides an excellent case study of Welsh Government policy development during the first ten years of political devolution. Secondly, the Welsh Government is about to embark on an even more radical overhaul of curriculum and assessment across all compulsory schooling in Wales. Following an independent review by Professor Donaldson (the 'Donaldson Review') a new blueprint, entitled Successful Futures, outlines proposals for the reorganisation and redesign of curricula and assessment from Foundation Phase to Key Stage 4 (Donaldson, 2015). The Minister for Education and Skills, Huw Lewis AM, has since accepted all the recommendations of the Donaldson Review and intends to implement them fully. Crucially they will (a) build upon the developments in the Foundation Phase and (b) require a similar breadth and scale of change to the curriculum and pedagogy that has been seen in the Foundation Phase. There are, therefore, important lessons that can be learnt from the implementation of the Foundation Phase for these future educational reforms.

The implementation of the Foundation Phase is presented in three main parts. First we outline the main resource implications of the Foundation Phase, including the substantial changes to the teaching workforce, the training that the introduction of the Foundation Phase necessitated and the capital developments required to improve teaching and learning environments for young learners. The second main section outlines the changes to the curriculum and the attempt to 'guide' practitioners to adopt 'new' pedagogical practices. The third main section then considers the impact of the Foundation Phase on pupils' learning. The paper concludes with a discussion of the challenges to the implementation of the Foundation Phase and suggests ways in which these could have been mitigated or avoided completely.

Investing in the Foundation Phase

The introduction of the Foundation Phase has not come without significant cost to the Welsh Government. Overall it is estimated that the total cost of primary years education in Wales has increased from £25,241 to £28,019 per pupil (based on 2012–13 figures) as a result of the Foundation Phase. This is an estimated 11% increase in costs and equates to just under £100 million per year in additional costs.

The main cost of the Foundation Phase has been to improve adult-to-child ratios. The Foundation Phase was introduced with recommended ratios of 1:8 for 3–5 year-olds (i.e. in

funded non-maintained settings and Nursery and Reception classes/groups) and 1:15 for 5–7 year-olds (i.e. in Year 1 and Year 2 classes). This was strongly welcomed by practitioners (Taylor et al., 2014). Between 2004/05 and 2011/12 this has in effect doubled the practitioner workforce working in the Foundation Phase (or Key Stage 1). Despite this, less than half of nursery and reception classes/settings met the recommended ratio of 1:8 in 2011/12 (Taylor et al., 2015b).

The second main cost of the Foundation Phase has been in the provision of training and support for practitioners. The range of training and support provided by the Welsh Government has been extensive, and primarily involved the design and production of eight training modules (with a particular focus on pedagogy), a number of guidance materials (with a focus on curriculum and assessment), the employment of one full-time Training and Support Officer (TSO) in each local authority to support the training of staff, and in funded non-maintained setting, access to 10% of time (full time equivalent) from a Link Teacher to support children and practitioners in those settings. Between 2004–05 and 2013–14 the Welsh Government spent just under £46 million on training and support in the Foundation Phase (just under £7 million per year in the past five years—between 6% and 7% of the total additional cost of the Foundation Phase) (Taylor et al., 2015a).

The majority of the training and guidance materials were developed during a pilot stage of the Foundation Phase. This initially involved 22 maintained schools and 19 funded non-maintained (one of each per local authority). The role of the pilot schools was to introduce the Foundation Phase and simultaneously develop and test the materials required for the subsequent roll-out to all other schools and settings. However, the selection of the pilot schools was not random, and although the final selection of the pilot schools and settings rested with the Welsh Government, the process of nominating them differed considerably between local authorities (Siraj-Blatchford, Sylva, Laugharne, Milton, & Charles, 2005). Furthermore, despite an evaluation of the implementation of the Foundation Phase in the pilot schools at the time (Siraj-Blatchford et al., 2005) there was no detailed record taken of how the design and content of the Foundation Phase was developed. Nor was there any attempt to empirically 'test' the key components of the Foundation Phase as they were being developed. There was certainly no comparison made against non-pilot schools who continued to deliver the Key Stage 1 curriculum in the traditional way.

Nevertheless, this important process of implementation, using pilot schools and settings to develop a deeper understanding of the curriculum and pedagogies of the Foundation Phase, constitutes a bottom-up approach to educational policy development. With hindsight it could be argued that many of the pilot schools, settings and practitioners lacked the necessary depth of knowledge and understanding of the educational theories underpinning the Foundation Phase. Indeed, the pilot evaluation recognised that despite a general endorsement of the Foundation Phase principles there was, amongst this key group of pilot schools and settings, still 'the need for clear guidance materials on AOLs [Areas of Learning] and associated pedagogy [and] better planned and funded training' (Siraj-Blatchford et al., 2005, p. 3). The pilot evaluation also raised a concern about the use of some of the key terminology used in the initial guidance materials. But it appears that this was not adequately addressed, since a further systematic review of the training and guidance materials over six years later raised almost precisely the same concerns (Maynard et al., 2013).

The more recent evaluation did find, however, that the vast majority of practitioners welcomed the support and training they received, and found it very useful (Rhys, Waldron

& Taylor, 2014). However, in this evaluation's case study schools and settings still only half of teachers and 30% of additional practitioners had accessed all eight training modules. Crucially, a greater level of training amongst staff was found to be associated with a greater implementation of the Foundation Phase pedagogies in classrooms and settings.

Finally, the Welsh Government also invested approximately £36 million of additional capital grants between 2004–05 and 2011–12 to help schools and funded non-maintained settings improve their learning environments (Taylor et al., 2015a). It was recognised very early on that many educational establishments lacked the facilities to deliver a more practical, play-based and experiential form of learning, particularly in the use of the outdoor environment (WAG, 2009; Welsh Government, 2014a).

Pedagogy and curriculum in the Foundation Phase

The introduction of the Foundation Phase has not just been about the need for additional resources and investment. It required the introduction of an entirely new curriculum for 3–7 year-olds. Replacing Key Stage 1 subjects for 5–7 year-olds and Desirable Outcomes for 3–5 year-olds the Foundation Phase introduced seven new statutory Areas of Learning:

i. Personal and Social Development, Well-Being and Cultural Diversity;
ii. Language, Literacy and Communication Skills;
iii. Mathematical Development;
iv. Welsh Language Development (in English medium schools and settings);
v. Knowledge and Understanding of the World;
vi. Physical Development; and
vii. Creative Development.

Central to these curricula reforms was the Personal and Social Development, Well-Being and Cultural Diversity Area of Learning (Aasen & Waters, 2006). This provides a strong focus on pedagogical practice, since many of the outcomes from this Area of Learning are dispositions rather than skills, motivations rather than competencies.

Alongside these curricula changes was an explicit attempt to direct practitioners to use and adopt particular pedagogical practices. For example, in the Foundation Phase Framework (Welsh Government, 2015) there is a strong emphasis on the holistic development of a child, whereby 'practitioners must understand how children develop, and plan an appropriate curriculum that takes account of children's developmental needs and the skills that they need to grow to become confident learners', that children must be 'at the heart of any planned curriculum' and that 'children learn through first-hand experiential activities with the serious business of "play" providing the vehicle' (2015, pp. 3–4). A more detailed content analysis of the Framework and other guidance materials (including the core eight training modules for the Foundation Phase) suggested a number of key pedagogical practices that practitioners are encouraged to use in their classrooms and settings. These can be summarised as the following:

(1) Participation: Children should be given the opportunity to initiate and direct their own learning activities.
(2) Continuous/Enhanced/Focussed: Continuous provision should form the bedrock of Foundation Phase pedagogy, whereby an array of different learning activities are constantly available within the learning environment. Adults should enhance

provision further by adding/supplementing specific learning opportunities within the continuous provision. Focussed provision remains important, but should be used less frequently than continuous and enhanced.

(3) First-hand: Children should be given the opportunity to learn from first-hand (direct) experiences.
(4) Practical: Children should be given the opportunity to learn from practical (hands-on) experiences.
(5) Explorative: Children should be given the opportunity to learn from explorative experiences.
(6) Active: Children should be given the opportunity to learn through physically active experiences.
(7) Learning zones: A Foundation Phase learning environment should offer a variety of different learning areas/activities for children to engage with.
(8) Using the outdoors: Learning should take place indoors *and* outdoors.
(9) Thinking skills: Adults should extend children's thinking by asking open (rather than closed) questions, and also by engaging children in sustained interactions/discussions.
(10) Reflection: Adults should encourage children to think about and reflect on their learning experiences.
(11) Observing progress: Adults should monitor children's progress predominantly through observations.
(12) Individual needs: All children should be challenged and supported appropriately, depending on their stage (not age) of learning.

These 12 pedagogical practices or 'elements' were formally used in the evaluation of the Foundation Phase through systematic child and practitioner observations. During lessons the researchers would observe to what extent each of these pedagogical elements were present or being used. Typically a one-hour lesson would involve the observation of 14 randomly selected children for two minutes each and the observation of all practitioners every 15 minutes. These observations were undertaken for one Nursery, Reception, Year 1 and Year 2 class in both the morning and the afternoon in each case study school. Additional one-hour observations were also undertaken in the morning and afternoon in the case study funded non-maintained settings.[2] In total across 41 case study schools and 10 case study funded non-maintained settings we observed 131 classes, 239 lessons (or sessions), 3,343 children and 824 practitioners. All observations were undertaken during the spring and summer terms of 2012–13.

Despite the breadth and depth of change required, the overwhelming majority of practitioners surveyed and interviewed welcomed changes to the curriculum. For example, 89% of all Foundation Phase lead practitioners surveyed said that the introduction of the Personal and Social Development, Well-Being and Cultural Diversity (PSDWCD) Area of Learning was an improvement from the previous Key Stage 1 National Curriculum. However, whilst the majority of Foundation Phase lead practitioners reported that they thought the new Language, Literacy and Communication and Mathematical Development Areas of Learning were an improvement on their predecessors (69% and 67% respectively) a much greater proportion of practitioners felt that there was no real difference (19% and 22%) or that the

new Areas of Learning were actually worse than the Key Stage 1 National Curriculum (12% and 11%).

Of course it is notable that these two Areas of Learning include literacy and numeracy, and are the focus of much attention by the Welsh Government through its National Literacy and Numeracy Framework (LNF) for all learners aged 5 to 14. The LNF was introduced in September 2013, four years after the Foundation Phase had been rolled out to all primary schools and funded non-maintained settings. Crucially it introduced annual national assessments in literacy and numeracy for all 5–14 year-olds, overlapping with the Foundation Phase in Years 1 and 2. Although the LNF (Welsh Government, 2013) recognises that 'not all children progress in the same way' (p. 9)—a key theory underpinning the Foundation Phase—it attempts to argue that 'the year-by-year nature of the LNF allows teachers to ensure that they are incorporating the appropriate skills into their delivery of the curriculum and its content' (p. 9). However, the LNF does not clearly define what is 'appropriate'. Within the Framework frequent reference is made to age-appropriate learning and skills and age-appropriate contexts, 'In developing the LNF we have had to carefully consider what the appropriate expectations at *each age and key stage should be*' (2013, p. 7) (our emphasis). On only one occasion does the Framework refers to something more akin to developmentally appropriate practice, 'The LNF focuses on the learners' acquisition of and ability to apply the skills and concepts they have learned to complete realistic tasks appropriate for *their stage of development*' (2013, p. 8) (our emphasis). A similar level of uncertainty surrounds the introduction of the national literacy and numeracy assessments for all 5–7 year-olds in the Foundation Phase. Each pupil is provided with an age-adjusted score, demonstrating how they achieved against the average child of their same age (in months). Not only does this mean that 50% of all pupils will always be 'below average', it also reinforces the notion that learners, even as young as 5 years old, are expected to reach certain levels of ability based on their age rather than their stage of development.

The importance of literacy and numeracy within the education system in Wales has had two significant consequences for the Foundation Phase. The first is that these Areas of Learning continue to dominate the curriculum, particularly as children get towards the end of the Foundation Phase (Figure 2)—reflecting both (a) the 'overlap' with the LNF from age 3 years and (b) a 'readiness' for the Key Stage 2 National Curriculum.

The second consequence is on pedagogical practice. The majority of practitioners continue to believe that the most appropriate way of developing literacy and numeracy skills is through direct and often didactic learning. This is best illustrated in the use of continuous/enhanced/focussed provision, a central tenet of the Foundation Phase pedagogy. Figure 3 illustrates the 'balance' between the use of continuous, enhanced and focussed provision in the delivery of the three Areas of Learning. The Foundation Phase guidance materials state that continuous provision should be used most of the time and focussed provision the least of the time. As Figure 3 illustrates, in practice this 'balance' is heavily skewed in favour of focussed provision when delivering Language, Literacy and Communication and Mathematical Development Areas of Learning. This contrasts markedly from Personal and Social Development, Well-Being and Cultural Diversity—although even here focussed provision still tends to dominate.

To further illustrate this point Figure 4 attempts to show the use of all 12 Foundation Phase pedagogical 'elements' (indicated by a combined measure of their use from session/lesson observations) by the age or year group of the children. This clearly shows that the

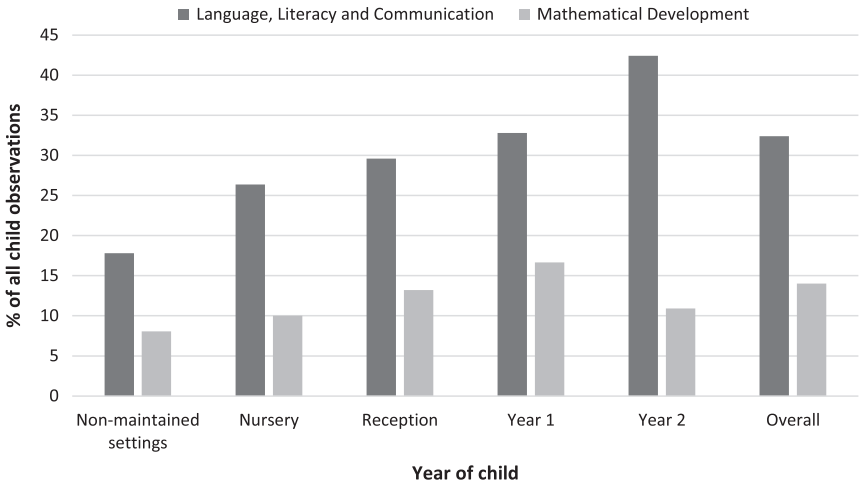

Figure 2. Prevalence of Language, Literacy and Communication and Mathematical Development Areas of Learning by Foundation Phase year group.

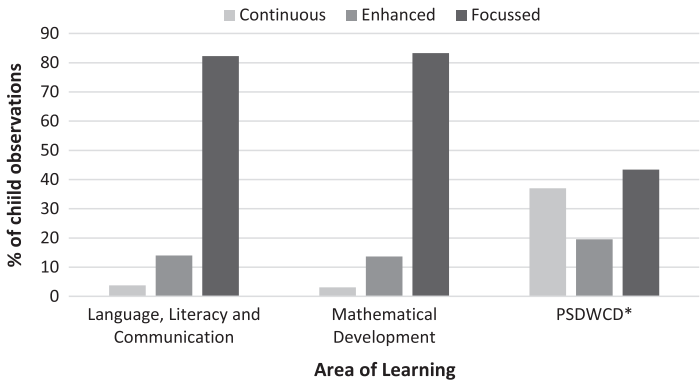

Figure 3. Use of continuous/enhanced/focussed provision by Area of Learning.
*Personal and Social Development, Well-Being and Cultural Diversity (PSDWCD).

older the learners the less likely that Foundation Phase pedagogies are being used in classrooms.

Impact of the Foundation Phase

As the aims of the Foundation Phase demonstrate above, it was intended to have a wide range of impacts on pupils and their learning, including attainment, attendance, classroom wellbeing and involvement and perceived benefits amongst practitioners, parents and children themselves (Taylor et al., 2015a; Waldron, Rhys & Taylor, 2014a, Waldron, Rhys & Taylor, 2014b). The evaluation attempted to measure all these outcomes objectively. In summary, the Foundation Phase is associated with a significant improvement in pupil attendance in the majority of schools. The evaluation also found that where schools had successfully implemented the Foundation Phase it observed higher levels of pupil involvement and wellbeing

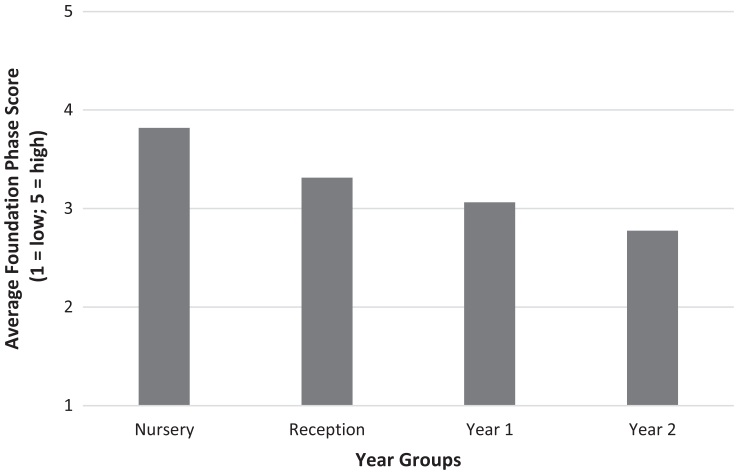

Figure 4. Use of Foundation Phase pedagogies by year group.

during their learning. Furthermore, the vast majority of practitioners surveyed and interviewed thought that there had been a positive impact on children and learning, including pupil behaviour, wellbeing and attitudes to learning.

However, raising pupil attainment was one of the most important objectives of the Foundation Phase. In this section we consider, in more detail, the impact the Foundation Phase has had on pupil's levels of attainment, with a particular focus on their achievements in literacy and numeracy.

There are two ways in which it has been possible to examine the impact of the Foundation Phase on levels of achievement. Each has their own advantages and disadvantages, but when combined provide valuable insights into how the Foundation Phase appears to benefit (or otherwise) learners. The first analytical approach is to compare National Curriculum Key Stage 2 outcomes (teacher assessments) of pupils at the end of Year 6 (at age 10–11 years) who attended the 22 Foundation Phase with outcomes of pupils of the same age and in the same year groups who attended non-pilot schools and who continued to follow the National Curriculum Key Stage 1. This allows us to compare the outcomes of three cohorts of pupils (1,491 in total) who experienced the Foundation Phase during its pilot stage. Using Key Stage 2 outcomes provides a common assessment framework to compare outcomes. Unfortunately the demographics of pupils who attended Foundation Phase pilot schools in the first three years are not representative of the wider pupil population. Therefore, to make any comparison 'fair' we have to control for their socio-economic circumstances, gender and special educational needs (i.e. based on their individual characteristics). We also account for the school intake characteristics (i.e. compositional characteristics). We do this by statistically matching pupils from the pilot schools with similar pupils in non-pilot schools. To ensure the comparison is as robust as possible the analysis compares the relative achievement of 'matched' pupils in pilot schools *prior* to the introduction of the Foundation Phase with the relative achievement of 'matched' pupils in pilot schools *after* the introduction of the Foundation Phase. This helps limit the influence of other unobserved factors, such as standards in teaching in the pilot schools prior to the introduction of the Foundation Phase.[3]

Table 1. Differences in achievement between pupils in Foundation Phase Pilot schools and 'matched' pupils in other schools achieving Level 4 or above in Key Stage 2 (age 11 years).

	Prior to Foundation Phase	After Foundation Phase
KS2 English	+0.02	+0.08
KS2 Maths	+0.06	+0.07
KS2 Science	+0.02	+0.05

The second analytical strategy compares the Foundation Phase outcomes of pupils at the end of Year 6 (at age 10–11 years) by how well the schools have implemented the Foundation Phase (using a measure based on systematic classroom observations). This is only possible for pupils who attended 41 case study schools for which we have detailed information about the use of Foundation Phase pedagogies. Unlike the first analytical approach it is not possible to compare National Curriculum Key Stage 2 outcomes because 2015–16 will be the first year that pupils in the final roll-out of the Foundation Phase will reach the end of Key Stage 2. However, these 41 case study schools are more representative of all other schools in Wales than the 22 pilot schools and include a representative sample of Welsh medium schools, schools from the four regions of Wales and schools of different sizes, intakes and geographical location. Despite being more representative we still control for individual and compositional characteristics, but this time using more conventional regression techniques.

Both analytical strategies are designed to provide equivalent comparisons, but each approach attempts to reveal two different, but complementary, 'effects' of the Foundation Phase:

i. Foundation Phase versus National Curriculum Key Stage 1
ii. High use of Foundation Phase pedagogies versus low use of Foundation Phase pedagogies.

Table 1 shows the differences in levels of attainment (achieving Level 4 or above) in three Key Stage 2 subjects before and after the introduction of the Foundation Phase between pupils attending pilot Foundation Phase schools and equivalently 'matched' pupils attending other schools. The figures in Table 1 are presented as proportions. The first column of results show that prior to the introduction of the Foundation Phase pupils attending pilot schools were slightly more likely to achieve Level 4 or above in all three core Key Stage 2 subjects than their equivalent peers in other schools. For example, in KS2 English and KS2 Science two percentage point more pupils achieved Level 4 or above, and six percentage point more pupils achieved Level 4 or above in KS2 Science in what became the pilot Foundation Phase schools. It is important to recall that in these comparisons we are comparing pupils who followed both the same National Curriculum at Key Stage 1 and Key Stage 2. Therefore, this would suggest that, on balance, the 22 pilot schools were relatively high achieving schools once the characteristics of their pupils had been taken into account. Importantly they do not appear to be representative of the wider school population based on levels of attainment achieved by their pupils.

Using the same matching techniques it is also possible to compare the relative achievement of pupils in these pilot schools after the Foundation Phase was introduced. This time the comparison being made is with equivalent pupils in other schools who continued to follow the previous Key Stage 1 National Curriculum. Of course both sets of pupils experienced the same Key Stage 2 National Curriculum from age 7 years onwards. The outcomes

of these comparisons are presented in the second column of results in Table 1. In all three core subjects the proportion of pilot school pupils achieving Level 4 or above continues to be greater than the proportion of their equivalent peers in other schools. And crucially these 'gaps' or differentials are greater in all three subjects *after* the introduction of the Foundation Phase than they were *prior* to its introduction.

These results would suggest that, at least for the first three cohorts of pupils who experienced the Foundation Phase during the pilot stage, there has been a relative improvement in levels of achievement at the end of Key Stage 2. However, the initial evaluation of the pilot phase (Siraj-Blatchford et al., 2005) and the more recent evaluation (Taylor et al., 2015a) both showed that there has been considerable variation in the implementation of the Foundation Phase, particularly in terms of pedagogical practice, even amongst the pilot schools. Therefore the second set of results looking at the impact on attainment according to how well the Foundation Phase has been implemented is of critical importance.

For this second approach we are comparing Foundation Phase outcomes at the end of Year 2 when pupils are aged 6–7 years. Here we use the Foundation Phase Indicator (FPI). The FPI is achieved if a pupil achieves Outcome 5 or above in all three statutory Areas of Learning: Language, Literacy and Communication (English or Welsh); Mathematical Development; and Personal and Social Development, Wellbeing and Cultural Diversity. Using binary logistic regression the analysis attempts to predict the likelihood that a pupil will achieve the FPI depending on a range of individual and school-level variables. The results of this model and the variables considered are presented in Table 2.

To represent the implementation of the Foundation Phase we include the variable *Foundation Phase Score*. This is an aggregated score based on all the systematic classroom observations undertaken in each of 41 case study schools. The higher the score the more we observed the 12 Foundation Phase pedagogical elements, identified above, being used in classrooms (for more details about this measure see Taylor et al., 2015a). The aggregated score is then standardised so that the odds ratio relates to an increase in one standard deviation in the Foundation Phase Score.

Table 2. Estimating the likelihood of achieving the Foundation Phase Indicator (FPI), 2011/12.

Binary Logistic Regression Model		Exp (B) (Odds Ratios)	95% Confidence Intervals	Frequency in valid sample
Valid cases	1,065			
Cox & Snell R^2	0.275			
Constant		20.60		
Foundation Phase Score (standardised)		*1.55****	*1.22, 1.96*	
Gender	Male	*ref*		535
	Female	1.37	0.93, 2.00	530
Free School Meals	Non-FSM eligible	*ref*		823
	FSM eligible	0.61*	0.39, 0.95	242
Ethnicity	White British	*ref*		968
	Not White British	0.76	0.36, 1.58	97
SEN provision	No SEN	*ref*		785
	SEN	0.05***	0.03, 0.07	280
Regional consortia in Wales	North	*ref*		143
	South West & Mid	0.54	0.28, 1.06	294
	Central South	0.65	0.34, 1.23	369
	South East	1.58	0.74, 3.38	259
School intake characteristics (% of school pupils)	Eligible for FSM	0.97***	0.96, 0.98	
	With SEN	1.03***	1.01, 1.04	
	Not White British	1.00	0.98, 1.02	

*p<0.05; **p<0.01; ***p<0.001.

The results of the binary logistic regression in Table 2 show that there is a significant relationship between the Foundation Phase Score and the likelihood that pupils achieved the Foundation Phase Indicator. Indeed, a one standard deviation increase in the Foundation Phase Score increases the probability that a pupil achieved the FPI by 55% on average. A one standard deviation increase in the Foundation Phase Score is the equivalent of moving from an 'average' school to a school in the top 20% of schools implementing the Foundation Phase.

Both sets of analyses on the impact of the Foundation Phase on pupil attainment carry with them a number of important limitations. One of the limits of both sets of analyses is that they are both based on relatively small samples of pupils. Furthermore, neither set of samples is randomly selected nor entirely representative of the wider pupil and school population. However, we use a variety of statistical techniques to try to control for any potential biases in the samples. And lastly, there will be, inevitably, many other factors that could account for differences in levels of attainment that have not been considered in these models.

Despite this, we are able to demonstrate using measures of educational attainment at two different age points, using two different statistical techniques, and with two very different samples of pupils, that there is a positive association between levels of attainment and the presence of the Foundation Phase.

Challenges to the implementation of the Foundation Phase

In this paper we have attempted to focus on the implementation of the Foundation Phase and the impact that it appears to have had on pupil attainment. We conclude this discussion by outlining the key challenges to its implementation.

The first key challenge of any curricula reform relates to staffing. The vast majority of additional costs associated with the Foundation Phase relate to improvements to the recommended adult-to-child ratios for 3–7 year-olds. As we have seen, this has led to a doubling in the number of additional practitioners working in schools in Wales. However, in its implementation there was a greater preoccupation with adult-to-child ratios than there was with the kind of expertise that would be required in settings and classrooms. For example, with the same additional costs it would have been possible to have employed additional qualified teachers instead of NVQ Level 3 additional practitioners, albeit with slightly worse adult-to-child ratios. Although the presence of more adults in a classroom or setting has been widely welcomed we find that there has been a clear division of labour between qualified teachers and additional practitioners—qualified teachers spend significantly more of their time involved in direct teaching (and indoors), whilst it is the additional practitioners who are engaged in more continuous, play-based, experiential and outdoors learning. It is perhaps unsurprising, then, to find that enhanced provision (i.e. the scaffolding of learning from more play-based experiential learning) has been the least observed form of provision in classrooms and settings.

This also demonstrates the importance of ensuring new staff are fully trained in the new curriculum and pedagogical approaches being encouraged. Again, despite being ten years since the Foundation Phase was first introduced the recent stocktake undertaken by Professor Siraj found 'the differences and inequalities in training and their accessibility to all appropriate staff concerning and the level and content of the initial training at least was lacking' (Welsh Government, 2014b, p. 38). As discussed above, we find that teachers who have participated in more of the Foundation Phase training are more likely to have implemented Foundation Phase pedagogies.

Another key challenge to the implementation of the Foundation Phase has been in securing a clear understanding of the theories and reasoning behind the changes to early years education. Of course it could be argued that the Foundation Phase represents such a radical departure from its predecessor that it was always going to be a significant challenge to develop a detailed understanding of its underpinning theories amongst practitioners in a short timescale. However, the development of the guidance and training materials was largely done in pilot schools and settings, with existing practitioners centrally involved in their development. The selection of those settings was, therefore, quite instrumental in the initial development of the Foundation Phase. Despite this there is no consistent account of how they were selected, and the pilot stage evaluation found considerable variation in the implementation of the Foundation Phase across these schools and settings (Siraj-Blatchford et al., 2005). Furthermore, some of the main features of the Foundation Phase, such as the pedagogy of play, are relatively new areas of teaching and learning with a limited research base from which to develop 'best' practice (Wood, 2009). The expectation that a largely practitioner-led development of such theories was the most appropriate way of developing new practice was always going to be problematic.

Our analysis above also suggests that pupils in these pilot schools were more likely, on average, to achieve Level 4 or above in Key Stage 2 teacher assessments than equivalent pupils in other schools with similar intakes before the Foundation Phase was introduced. The selection, inadvertently or consciously, of piloting the development of new curricula in generally high achieving schools does pose significant problems, particularly in relation to the challenges of developing a new curriculum that supports disadvantaged learners in schools that are already struggling to ensure their pupils reach expected levels before they enter secondary schools. Indeed, a major concern about the Foundation Phase has been the very limited impact it has had on reducing differences in attainment of key groups of pupils—especially for boys and pupils eligible for free school meals (Taylor et al., 2015a).

Many of the arguments for the introduction of the Foundation Phase and its associated pedagogical approaches resulted from a frustration with the appropriateness of its predecessor, the Key Stage 1 National Curriculum, and deep concerns that many practitioners were not adopting developmentally appropriate practices in the early years. Similar concerns and a desire for reform have been seen in many countries (Walsh, Sproule, McGuiness, Trew, & Ingram, 2010). However, what appears to have been lacking in Wales was the necessary understanding of the 'conditions' and 'contexts' in which this radical overhaul of the early years curriculum was to take place. A major objective of the reforms was to increase the proportion of children achieving expected levels in literacy and numeracy by the end of primary years, particularly those from disadvantaged backgrounds. In both cases there was little evidence that adopting developmentally appropriate practice or pedagogies of play was the most appropriate solution to these circumstances.

This leads on to the final key challenge in the implementation of the Foundation Phase. Many practitioners and key stakeholders have argued that there is a tension between the use of more child-centred developmentally appropriate practices whilst at the same time embarking on a major programme of reforms designed specifically to raise educational standards in schools. We have discussed above the possible adverse effects of the Literacy and Numeracy Framework on the implementation of the Foundation Phase. Despite these concerns the analysis presented above suggests that pupils in schools that do implement the Foundation Phase well are slightly more likely to achieve good outcomes in literacy and

numeracy. But the reluctance amongst many practitioners, particularly those teaching in Year 1 and Year 2, to fully adopt the Foundation Phase stems from their concerns about an assumed tension or perceived contradiction in the theories underpinning both the Foundation Phase and the Literacy and Numeracy Framework. We would argue it is easy to see why. The pace of change expected or required in improving pupil attainment does not give practitioners much time to experiment or risk new pedagogical approaches. And with only a superficial understanding of the Foundation Phase and its underlying theories practitioners are very likely to mistakenly assume they 'know' how the Foundation Phase is meant to be taught, without recognising the importance of, for example, an appropriate balance between continuous, enhanced or focussed provision or using techniques to 'scaffold' pupils' learning. It also raises a more fundamental question about whether it is possible to combine a child-centred approach to education within a standards-driven education system. But as Goldstein (2007) argues, this 'contradiction, tension, inconsistency, and uncertainty, while difficult to manage, are a non-negotiable part of teaching young children. Acknowledging and embracing the unforgiving complexity of [early years] teaching would help us to reposition seemingly intractable problems and to perceive many of our challenges as positive opportunities for professional growth' (pp. 52–53). The dual role of encouraging something akin to 'developmentally appropriate practice' alongside a standards agenda simply contributes to the already complex nature of early years education.

Many of these issues will also be true of curricula and assessment changes that result from the comprehensive Donaldson review of education in Wales. Practitioners need to be aware that there are no 'easy' ways for policy-makers to design and deliver a successful education system, and that identifying, understanding and responding to new pedagogical challenges are just part of their continued professional development. Similarly, the Welsh Government needs to consider carefully the challenges that the implementation of the Donaldson recommendations will encounter. A key aspect of that will be to give considerable attention to the context and circumstances in which those recommendations will be implemented. The use of 'pioneer' schools as the basis of the new reforms will also be critical—these are 68 schools (primary and secondary, urban and rural, English-medium and Welsh-medium) that have been selected to design and develop the new curriculum for Wales. In much the same way as the 'Pilot' schools were central to the design and implementation of the Foundation Phase, so too will these 'Pioneer' schools for the new curriculum. Their selection and the expertise of practitioners working within these schools will determine the quality of the curriculum and associated resources. It is imperative, therefore, that any new developments require (a) a full and proper examination of those circumstances underpinning the need for change, (b) the involvement of a wide range of expertise (and not just practitioners in 'Pioneer' schools), and (c) much greater use of experimentation and design research in the development of new curricula materials.[4]

Notes

1. Some provision for three and four year-olds in Wales is provided in the non-maintained sector but funded by the Welsh Government. The Foundation Phase is not statutory for other private providers of childcare or education.
2. For more information about the methodology used in the evaluation of the Foundation Phase, including the tools used in the observation of practitioners and children see Taylor et al., 2015c.

3. For further information about how this technique, propensity score matching, is used see Taylor et al., 2015b.
4. See Middleton, Gorard, Taylor & Bannan-Ritland (2008) for further details of such an approach.

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