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How child-centred education favours some learners more than others

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Debates on how best to educate young children have been raging over the last 100 years—more often fuelled by ideological preferences rather than empirical evidence. To some extent this is hardly surprising given the difficulty of examining pupil progress in a systematic and comparative way. However, the introduction of a new child-centred curriculum in Wales provides the opportunity to undertake just such an examination. The Foundation Phase curriculum, introduced in 2008, is designed to provide all 3- to 7-year-olds with a developmental, experiential, play-based approach to learning. Evidence from a major 3-year evaluation of this intervention finds that, overall, pupil progress and well-being is fostered in those settings where the principles of the Foundation Phase have been most closely followed. However, the evidence also suggests that even within these contexts, progress is uneven and that some kinds of children seem to gain more from this approach than others. The 'losers' appear to be boys and those living in poverty. Drawing on the theories of Basil Bernstein, the paper explores why this may be the case and examines the relative significance of teacher dispositions, teacher–learner dynamics and the availability of resources. The paper concludes by arguing that these issues will need to be addressed if the benefits of child-centred approaches are to benefit all.

Introduction

It is possible to argue that for the last 100 years, debates about how best to educate young children have been dominated by the competing claims of progressive and traditional visions of schooling (Semel *et al.*, 2016, p. 14). These debates have resulted in successive cycles of reform as child-centred approaches—variously referred to as 'open', 'radical' and 'progressive'—have moved in and out of favour relative to more teacher-centred models.

One of the reasons for the shifts in pedagogic approach is the lack of robust evidence about which 'works best'. Although there have been a few systematic comparative studies designed to evaluate the relative benefits of child-centred and traditional teaching styles (e.g. Wright, 1975, in the USA; Bennett *et al.*, 1976, in the UK), their results have been highly contested (e.g. see Asher & Hynes, 1982, on the Wright

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study; Wragg, 1976, on the UK study) and they are also now very dated. In addition, the important research questions are not only about which approach 'works best', but also 'for whom?'

Advocates of progressive education argue that traditional didactic teaching methods and assessment regimes do not address the needs of children living in poverty or from different cultures. Children then become disengaged from their learning—leading to a blighted and short educational career. If the child is allowed the freedom to pursue their own interests, they argue, children will enjoy their learning—leading to a productive and long educational career (e.g. Spangler *et al.*, 2016). However, advocates of traditional approaches claim that child-centred education may further disadvantage the already disadvantaged. For example, Michael Gove, the former Conservative Secretary of State for Education in England, argued for the return of rote learning, spelling, grammar and punctuation to redress what he saw as the 'The Progressive Betrayal' of children that had been sponsored by 'a set of politically motivated individuals who have been actively trying to prevent millions of our poorest children getting the education they need.' (Gove, 2013). These concerns do not only come from the political right. For example, Lisa Delpit (1995) recounts how her own experience as an African-American teacher led her to realise that progressive approaches did little to support the learning of minority ethnic and low-income children. Similar claims and counter-claims have been made in relation to the widening attainment gap between boys and girls in both the USA and the UK. The 'underachievement' of boys relative to their female classmates has been attributed to a 'feminisation' of schooling. This is allegedly related not only to the higher proportion of women teachers in primary schools, but also to the less hierarchical and collaborative forms of classroom practice associated with child-centred education that allegedly reflect female attributes. For boys to succeed, it is argued, there needs to be a 'remasculinisation' of primary schooling, which involves a return to more teacher-directed, content-driven and hierarchically organised classrooms (Skelton, 2002).

Disillusionment with progressive education has seen the emergence of schools in the both the USA and England that celebrate traditional approaches. In America, Knowledge is Power Program (KIPP) Schools have been established within the charter school movement and use highly traditional teaching methods to raise the attainment of disadvantaged students, and African-American and Hispanic students in particular, as well as boys. In England, the 'Free School' reform has seen similar types of schools develop. For example, the Michaela (Knowledge is Power) School in North London is explicitly 'traditional and academically rigorous', with conventional subjects and weekly assessments (www.mcsbrent.co.uk).

This paper seeks to contribute to the debate on the relative strengths and weaknesses of progressive education through the use of robust system-wide evidence derived from a 3-year investigation into the impact of the Foundation Phase policy—a child-centred curriculum that has been introduced throughout Wales. The paper begins by outlining some of the challenges of researching child-centred approaches in general, before describing how these are addressed in this investigation in particular. The paper then goes on to identify the overall impact of the Foundation Phase before exploring how it appears to differentially privilege particular classrooms and groups of pupils. Various explanations that may account for this unevenness are examined

before the paper concludes by discussing whether it is possible for the benefits of these non-traditional approaches to be more universally experienced.

The challenges of researching child-centred education

One of the reasons for the lack of progress in the debates about the relative merits of child-centred education is that it presents the researcher with a number of significant theoretical and empirical challenges. The challenges arise partly as a result of the strength of the convictions of many its advocates, who tend to discount any negative evidence as somehow invalid, but they also stem from a related lack of theoretical understanding of the social conditions into which children-centred education is implemented. Finally, there are issues of attribution. The uneven implementation of any pedagogic reform makes it very difficult to gauge whether outcomes can be attributed to the implementation of child-centred education or to the relative lack of implementation. The following sections consider each of these three challenges.

Conviction over evidence

Child-centred education is a classic example of what Maton (2013) refers to as a 'constellation concept'. Educational research, Maton argues, tends to be clustered around either 'teaching' or 'learning' and an associated range of stances, leading to a 'teacher-centred' constellation and a 'learner-centred' constellation. These become constructed as binaries around which allegiances are fostered. In the case of learner-centred approaches, these allegiances are especially strong—based on conviction as much as evidence. Indeed, Maton argues that the benefits of learner-centred approaches are rarely defined in ways that enable claims to be empirically explored—positive evaluations are often small scale and based on teacher perceptions of the benefits rather than learner outcomes, and counter-evidence tends to be dismissed on the grounds that the pedagogy or practice under examination was not truly learner-centred. Advocates of this approach, he argues, 'are insulated from the paucity of evidence for and considerable evidence against claims made for the approach. Among advocates, student-centred learning (SCL) is akin to a faith-based religion: belief is everything, including belief there must be evidence supporting the belief' (Maton, 2013, p. 161). It is perhaps instructive that John Dewey, widely acknowledged as the 'founding father' of progressive education, entitled his famous declaration about how education should be undertaken as *My Pedagogic Creed* (Dewey, 1897). The declaration contains over 50 assertions that each begins with the affirmation 'I believe . . .'.

Lack of sociological theorisation

It is not the case that child-centred approaches lack any kind of theorisation. They are usually underpinned by a range of theories drawn largely from developmental psychology. Bernstein (1977) identifies a 'bricolage' of diverse theories, including those of Piaget and Chomsky. These theories have a number of shared characteristics. They are all what he refers to as 'stage theories' in that learning is sequential and can only

be developed when the child has reached the right 'stage'. In all these theories, the child is the active instigator of their own learning, and in all of them, the processes of learning are internal and amenable to external scrutiny. These theories also, Bernstein points out, exclude the child's cultural and institutional biography. So, while they may provide idealised models of how children learn, they do not encompass either the diverse social circumstances in which children are socialised or the characteristics of the institutions in which they are educated.

Issues of attribution

Another reason for the lack of empirical illumination on the relative merits of child-centred and more traditional approaches is the difficulty of researching the implementation of pedagogic reform in a systematic and comparative way. As already noted, Maton (2013) argues that advocates of child-centred education tend to reject unfavourable evidence on the grounds that the practice/classrooms being researched were not truly child-centred and, to some extent, they are right in drawing attention to this. The elusiveness of 'truly' child-centred education is something that was encountered by Berlak and Berlak (1981) in their now classic account of their visit to the UK in the 1970s. The two American researchers came over to observe the 'radical' educational approaches that were allegedly being practised throughout England and about which they had heard so much in the States. When the Berlaks arrived and actually started observing primary school classrooms they were surprised to find that what was going on was often fairly traditional modes of teaching and learning. Their analysis pointed to the marked difference between the 'curriculum as conceptualised' and the 'curriculum as practised'. As others (e.g. Mascolo, 2009) have subsequently argued, the distinction between child-centred and teacher-centred approaches is not best described in terms of a binary opposition, but as a continuum. This makes a straightforward comparison between the effects of child-centred and teacher-centred approaches even more problematic—but not, as we shall see, impossible.

The analytical framework

If we are able to move the debate about child-centred versus teacher-centred pedagogy forward, it is important to locate our analysis in a theoretical framework that encompasses both the pedagogical underpinnings of the various approaches and the social context in which these approaches emerge and are implemented. A necessary starting point is Basil Bernstein's theories of curriculum and pedagogy. Bernstein (1977) saw the emergence of child-centred education in the 1960s as a significant sociological event in the history of education and in successive writings sought to illuminate its underlying principles and social significance. Although many of his analyses are now over 40 years old, we believe they remain as valid today as they were then.

In 1971, Bernstein famously argued that 'how a society selects, classifies, distributes, transmits and evaluates the educational knowledge it considers to be public, reflects both the distribution of power and the principles of social control' (1971a, p. 47). While many contemporary critiques of the curriculum focused on the content of

school knowledge, Bernstein argued that it was the underlying organisational structure that mattered. In order to compare and contrast principles of organisation, he developed the concepts of 'classification' and 'frame', whereby classification refers to the strength of boundaries between different knowledge categories and framing refers to the degree of control over the transmission of knowledge. Where a curriculum has strong classification and framing, there will be a clear division between different subject contents and strong teacher control over learning. By contrast, where a curriculum has weak classification and framing, there will be a blurring of subject boundaries and the learner will appear to have greater control over their learning. Bernstein characterised the strongly classified and framed curriculum—the traditional teacher-centred approach—as having a 'visible pedagogy'. Where the classification and framing are considerably weakened—as in progressive child-centred approaches—we have an 'invisible pedagogy'.

A crude comparison of the main differences is outlined in Table 1. Bernstein shows how these two types of pedagogy bring about different relationships between teachers, learners and knowledge. It is important to note that the difference between 'visible' and 'invisible' pedagogies is not in the absence or presence of teacher control, but in the visibility of that control. All pedagogies are based on an asymmetry of power and control—the difference between visible and invisible pedagogies is that in the former, the unequal relations are very explicit. The teacher instructs, the pupil listens. In invisible pedagogies, it may appear as if the teacher has ceded control, but this is not the case—or not entirely. The child may appear to be directing their own learning, but they are actually doing so in a context that has been carefully arranged by the teacher.

Similarly, all pedagogies are based on the principle of sequence, i.e. that learning is progressive. In visible pedagogies, the nature and pace of that progress is clearly specified. Children are expected to have learnt particular things at particular ages and this is made clear. Invisible pedagogies, however, are based on theories of child development that emphasise the unique nature of each child. While there may be concepts such as 'readiness', there is no standard age at which children will be 'ready'. Progress is to be related to the child's individual learning journey rather than to any standard.

Of course, all pedagogies require a means of evaluating whether progress has been made. In visible pedagogies, the criteria are explicit and are known by both the child (and their parents) and the teacher. The child knows when it has got something

Table 1. Key characteristics of visible and invisible pedagogies

Visible pedagogies	Invisible pedagogies
Teacher control over the child	Indirect teacher control over the child
Age-related outcome criteria	Stage-related outcome criteria
Learning as work	Learning as play
Subject classifications clear	Subject classifications blurred
Teacher controls content	Teacher controls context
Child receives instruction	Child directs activity
Assessment criteria explicit	Assessment criteria implicit

wrong or right. In invisible pedagogies, though, the criteria of success are implicit. The teacher observes the child's performance and then uses some kind of internal checklist that is known only to the teacher (and other education professionals) to judge whether progress has been made.

Bernstein's dissection of the differences in pedagogies is important because it enables us to move beyond debates that simply assert one approach over the other. His understanding of the social dynamics behind pedagogies enables us to see different approaches to learning and teaching not as being better or worse, but as privileging different kinds of interactions and cultural repertoires. Different teaching styles embody different assumptions—assumptions that have particular social origins and social consequences. For example, Bernstein argues that invisible pedagogies presuppose a 'long educational life'. In addition, for a child to thrive, he claims that they will need a second site of learning. The child's home becomes another educational arena in which the child is constantly encouraged to learn. Invisible pedagogies are also based on what Bernstein refers to as an 'elaborated' code of communication—a form of communication that is more prevalent in some homes than others—namely middle class homes with high levels of cultural capital. He also argues that invisible pedagogies are expensive—and require plenty of space and a high teacher–pupil ratio.

Bernstein was particularly interested in the relationship between different factions of the middle class, but he also draws out the way in which the gendered and social class assumptions of pedagogies might differentially privilege boys and girls—and disadvantage working class children. He argues that the homes of working class children are unlikely to have the kind and level of cultural and material resources to provide the requisite second site of learning. Moreover, working class parents are less likely to be able to penetrate the discourse of child-centred education and provide the 'right' kind of support at home. As Bernstein comments, 'If the mother wishes to understand the theory of the invisible pedagogy, then she may well find herself at the mercy of complex theories of child development' (1977, p. 128). Just as with Bernstein's work on language codes, critics have argued that this kind of explanation is based on deficit theories of working class parenting practices (e.g. Boocock, 1980; see Danzig, 1995). Bernstein himself argued strongly against this accusation—as have many others (e.g. Nash, 2006; Davies, 2011). As Moore (2004) has pointed out, it is the different historically situated relations between different classes and different class factions and the school that create the conditions that facilitate or impede 'successful' learning. Put simply, it is not that middle class children are cognitively superior, but that there is more affinity between middle class socialisation practices and the culture of the school.

Working class children are not only disadvantaged through not having the 'right' kind of home learning environment, schools serving poorer communities may also have fewer resources to implement the invisible pedagogy properly—in terms of outside space, suitably qualified teachers and the levels of teacher–pupil ratios. If this is the case, poorer children may be doubly disadvantaged through a lack of the available resources in the home and in the classroom. While this will also be the case for schools using more traditional pedagogies, as we have seen, the resource demands for child-centred education to be properly implemented are much higher. This may have implications for the kind of pedagogy that these children experience.

Bernstein's theories of the gender biases of different pedagogies are more complex and speculative. Early socio-linguistic research (Adlam *et al.*, 1977) found that working class girls were more able than working class boys to produce well-received 'spontaneous' narratives. As Arnot (2002) outlines, Bernstein 'intriguingly suggested' that 'susceptibility to individuation is linked to mother–daughter relations' (Bernstein, 1971b, p. 29). In later writings, Bernstein argued that the reduction of visible hierarchies between teachers and learners—and the removal of age and status classifications—would be more beneficial for girls than boys, who he suggested may do better in classrooms where there was more open competition and impetus to display achievement:

> From a cognitive and from a social point of view girls are less likely to be negatively constrained by invisible pedagogies than visible pedagogies. Conversely, for boys, under an invisible pedagogy practice, girls become successful competitors and a threat. (Bernstein, 1990, p. 82)

There have been a number of empirical studies that have applied Bernstein's theories to examine the implications of visible and invisible pedagogies for students' progress. The results of these have been, to some extent, inconclusive. For example, Rose (2004) has analysed teachers' interactions with young Indigenous learners in Australia to examine the extent to which invisible pedagogies support literacy. Lubienski (2004) examines the social class dimensions of invisible pedagogy for mathematics instruction in one middle school in the USA. Both studies find that the lack of explication in the teaching of skills disadvantages minority and low-income students. The most extensive research on the implications of invisible pedagogies has been undertaken in Portugal by Morais and Neves (e.g. 2001). Their very detailed investigations indicate that while invisible pedagogies can penalise disadvantaged students, they can also support learning when the evaluation criteria are made explicit. There are also case studies of urban schools serving disadvantaged intakes where there are positive learning outcomes (see, for instance, Raywid, 1999; Semel & Sadovnik, 2008)

While these studies point to the complexity of unravelling the relationship between pedagogy and differential learner outcomes, they are unable to provide system-wide evidence. The studies tend to be micro-level, focusing on one-to-one interactions and in only very few classrooms. In the following section, we attempt to use Bernstein's framework to interrogate the implications of introducing child-centred pedagogy on a national scale.

The Foundation Phase in Wales: An opportunity to revisit the debate

The policy

The Foundation Phase was introduced by the Welsh Government in 2008 and constitutes the statutory curriculum for all 3- to 7-year-olds in Wales (WAG, 2008). The Foundation Phase marked a radical departure from the more formal, competency-based approach associated with the previous curriculum. Influenced by the apparent success of early years' programmes in Scandinavia, Reggio Emilia

and New Zealand (The Whãriki), the Foundation Phase has been designed to provide a developmental, experiential, play-based approach to teaching and learning (for a detailed dissection of the principles of the Foundation Phase, see Maynard *et al.* (2013)).

The child-centredness of the Foundation Phase is clearly apparent within the policy document, which begins with the assertion that 'Educational provision for young children should be holistic with the child at the heart of any planned curriculum' (WAG, 2008, p. 6). Indeed, the verb 'to teach' is almost entirely absent from the guidance. It is the child who sets the agenda—and play is privileged over 'work':

> Children learn through first-hand experiential activities with the serious business of 'play' providing the vehicle. Through their play, children practise and consolidate their learning, play with ideas, experiment, take risks, solve problems, and make decisions individually, in small and in large groups. (WAG, 2008, p. 4)

Like all visible pedagogies, the Foundation Phase is based on theories of child development that emphasise a child's individuality and 'readiness': 'Children acquire and develop skills at different rates and must be allowed to develop at their own unique, individual pace' (WAG, 2008, p. 5). This means that teachers should concentrate on individual learning trajectories rather than age-related attainment outcomes. Because the child is an active learner, traditional subject boundaries have been abandoned. Instead there are seven broad 'Areas of Learning' (AoLs) within the Foundation Phase curriculum: personal and social development, well-being and cultural diversity; language, literacy and communication skills; mathematical development; Welsh language development (in English medium schools and settings); knowledge and understanding of the world; physical development; and creative development.

The data

The data presented in this paper derive from a 3-year evaluation of the Foundation Phase policy. The evaluation used mixed methods and collected a wide range of quantitative and qualitative data—interviews with policy-makers, teachers, surveys with principals, teachers, parents, children, systematic observations and existing administrative data (for a full report of the evaluation please, see Taylor *et al.* (2015)). Here, we are particularly focusing on the observational data, and how observable differences between classrooms and children are reflected in different well-being and attainment outcomes.

The observational data come from a series of systematic classroom/setting observations in 51 schools, pre-schools and nursery schools identified through random sampling, stratified to include English, Welsh medium and bilingual schools.[1] These observations were designed to enable us to compare the extent to which different settings were more or less child-centred and the kind of activities that children were engaged in. The overall aim was to observe one Nursery, Reception, Year 1 and Year 2 class in each setting. Observations were usually made for 1 hour in the morning and 1 hour in the afternoon. In small schools, the observations were of mixed-age classes. Within each of these settings, two levels of systematic observation were undertaken:

one level that focused on classroom pedagogy and one level that focused on the activities of an individual child within the classroom.

Systematic observations of pedagogy: In order to undertake comparisons of the extent of child-centredness that was being enacted in any one setting we identified 12 indicators of child-centredness (Table 2). In order to ensure validity, these dimensions were clarified in conjunction with the key stakeholders. For each of these indicators, we then developed a five-point scale in which a score of 5 indicated that this aspect was fully implemented and a score of 1 indicated this aspect was absent.

At the end of each session observed, the scores for each of the 12 key indicators were averaged to give a single score for the overall degree of 'child-centredness' within any one class. For the purposes of school-level comparisons, the scores for all of the classes observed have been averaged to give an institutional score—again on a scale of 1 to 5.

Individual child observations: In addition to observations of the classroom pedagogy, the research involved systematic observations of individual children in order to gauge (a) the nature of the pedagogic and curricular activities they were engaged in, (b) their degree of involvement with that activity and (c) their well-being. On average, 14 children were observed during each 45–60 minute session. Each child was observed for 2 minutes, after which the researcher recorded the extent to which the child was engaged in learning that was more or less child-centred—using the same indicators listed in Table 2. For each child, data relating to gender, grade and language (English/Welsh) were recorded, along with the associated Area of Learning (if observable) and the quality of adult/child interaction. A measure of their involvement and well-being was also taken using Leuven Scales (Laevers, 2005). A semi-random/semi-representative process was adopted for selecting children to be observed whereby the researcher would endeavour to observe a 'random' selection of children from each of

Table 2. Twelve indicators of child-centredness

1 Child can initiate and direct their own learning activities.
2 Different learning activities constantly available in the learning environment.
3 Child can learn from first-hand (direct) experiences.
4 Child can learn from practical (hands-on) experiences.
5 Child can learn from explorative experiences.
6 Child can learn through physically active experiences.
7 There are different learning areas/activities for child to engage with.
8 Learning takes place indoors and outdoors.
9 Adult extends child's thinking by asking open (rather than closed) questions.
10 Adult encourages child to reflect on their learning experiences.
11 Adult monitors child's progress predominantly through observations.
12 Child is challenged and supported on their stage (not age) of learning

the different activities/areas during each session, so as to gain a reasonable overall picture. The researchers were careful not to be drawn to selecting particular children for observation, and thus the selection of children for observation from each activity/area was random (e.g. the child furthest to the right).

To ensure inter-rater reliability across researchers, calibration was undertaken in the first five case study school visits of children and classrooms. Table 3 provides a summary of the inter-rater reliability for several components of these classroom observations. In all components, the inter-rater reliability scores would suggest there was 'substantial agreement' between the two researchers (Landis & Koch, 1977). In total, across the 51 case study schools[1] and nursery settings, observations were made of 131 classes (33% mixed-age), 239 session/lessons and 3,343 individual children.

In terms of measures of educational outcomes, we have two indicators. One is the FPI—the Foundation Phase Indicator. At the end of the Foundation Phase (around age 7) teachers assess the children against the end of phase outcomes by observing them during their daily classroom routine and evaluating their attainment. Children need to have reached the required level of competency in at least three of the seven 'Areas of Learning', including include language, literacy and communication (English or Welsh), mathematical development and personal and social development, well-being and cultural diversity. The other attainment data we draw upon come from 'Key Stage 2' (KS2) assessments (again based on teacher judgement) undertaken at the end of primary education (usually at 11 years old). We can use these data for children from a sample of schools that introduced the Foundation Phase early on as part of a pilot scheme.

In the following section, we present the overall findings from the evaluation in relation to the extent to which child-centred education has been fully implemented in Wales, its impact on pupil well-being and attainment, and the extent to which it favours some groups of learners over others.

Child-centred education and pupil progress

Like Berlak and Berlak (1981), we found that the permeation of child-centredness at the level of the individual classroom and the school was uneven. As already mentioned, a single score of 'child-centredness' on a five-point scale was derived from calculating the average of each of the session scores for that school (which in turn are derived by calculating the average of the degree to which the 12 elements listed earlier were achieved.)

Table 3. Summary of inter-rater reliability (IRR) for classroom observations

Component of observation schedule	Type of rating	IRR measure	Number of observations	IRR result
Areas of Learning	Binary	Cohen Kappa	2611	0.67
FP key words	Binary	Cohen kappa	14,810	0.70
Overall session FP element ratings	Scale	Pearson Correlation	426	0.81

Across our sample of schools, the 'average' degree of child-centredness was around 3.8—declining as the children progress through school (Figure 1). However, as Figure 2 shows, some schools can be said to be more child-centred than others. The error bars indicate that there was of course variation between each of the observed sessions in each school. However, for the majority of the schools the error bars do not overlap which indicates consistently different levels of implementation of the Foundation Phase. It is this variation that enables us to undertake a systematic and comparative analysis of the impact of child-centred approaches for child well-being and attainment.

Overall, our data indicate that, in contrast to some other studies (e.g. Bennett *et al.*, 1976), the introduction of child-centred education is associated with increased pupil well-being. We found a modest but significant relationship ($R^2 = 0.27$) between the degree of child-centredness within the classroom and average children's scores of well-being (Figure 3). This relationship was found to be significant in all school year groups.

Of course, some might argue that it is perhaps not surprising that children appear to be happier in classrooms where the emphasis is on 'play' rather than 'work'. However, our evidence also shows that, across the board, there were significant attainment gains as well—the more child-centred the classroom, the greater the progress. Children in schools where the pedagogy was more child-centred were more likely to achieve the Foundation Phase Indicator (FPI). As Table 4 shows, this is the case even after controlling for individual pupil attributes (gender, ethnicity, special educational needs [SEN], eligibility for free school meals [FSM]) and other school-level characteristics (including a measure of each school's prior effectiveness before the Foundation Phase was introduced). The table presents the results of three logistic binary regression analyses (Models A, B and C) that attempt to estimate the likelihood that a pupil achieves the FPI. For each variable considered in the two sets of results the Odds Ratio is presented—that is the probability that a pupil with this characteristic

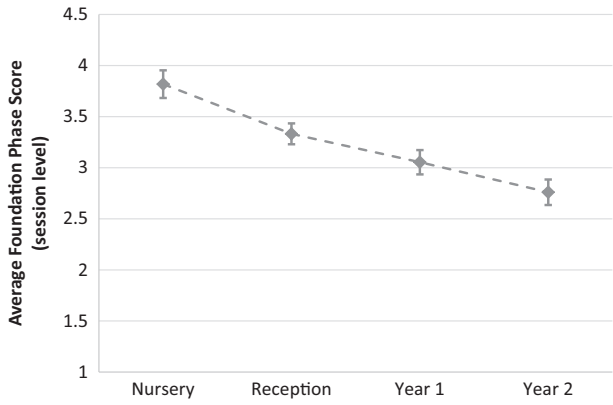

Figure 1. Use of child-centred pedagogies by year group [this only includes 29% of all observations with sessions that involved pupils from a single year group—71% of observed sessions involved mixed-year (and hence age) groups]

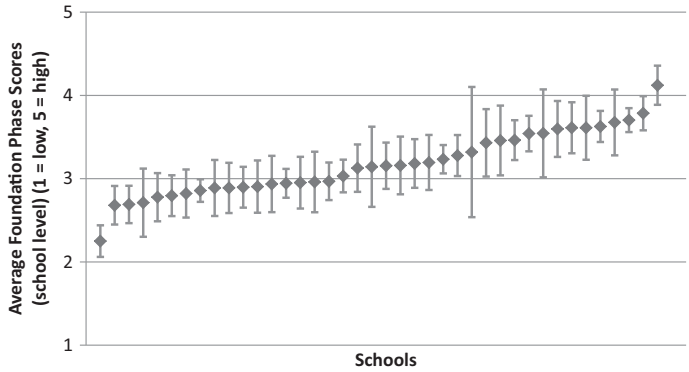

Figure 2. Varying levels of child-centredness in the sample schools

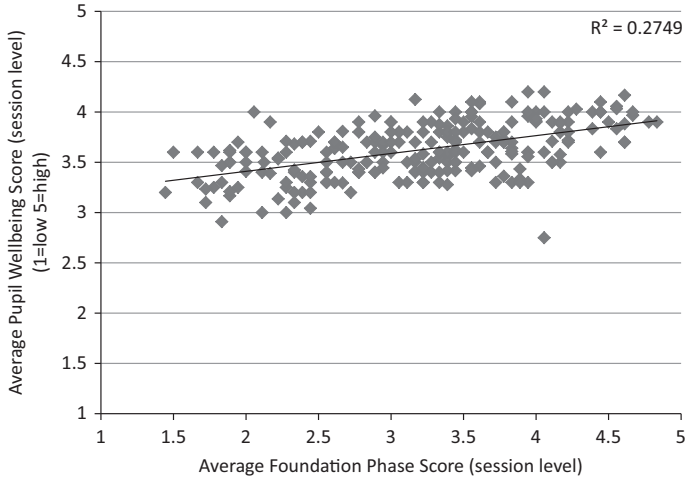

Figure 3. Relationship between individual children's well-being and child-centredness of their classroom

achieved the FPI compared with other similar pupils but who do not have this particular characteristic (using reference categories that are italicised in Table 4).

Model A provides the odds ratios of achieving the FPI without taking into the degree of child-centredness. Model B repeats the same analysis except it now includes the degree of child-centredness for the school the pupil attended. It shows that an increase in child-centredness is significantly associated with an increase in the probability that a pupil achieved the FPI in 2011/12 (highlighted in bold) (odds ratio = 1.55, $p < 0.001$). Indeed, the scale of this is quite considerable—the results suggest that some pupils are more than 50% more likely to achieve the FPI compared with similar pupils based on the extent to which the Foundation Phase has been implemented in their school. Finally, Model C attempts to control for a school's effectiveness based on prior levels of achievement of the previous cohort in 2010/11. This shows that schools that were previously more 'effective' than other schools continue to increase the likelihood that a pupil achieves the FPI. Indeed, further analysis

Table 4. Estimating the likelihood of achieving the Foundation Phase Indicator (FPI), 2011/12

Binary logistic regression: FPI		Model A	Model B	Model C
Valid cases		1,091	1,065	794
Missing cases		10	26	297
Cox & Snell R^2		0.268	0.275	0.257
Variable		Exp (B) (Odds Ratios)		
Constant		16.55	20.60	28.58
Foundation Phase score (standardised)			1.55***	1.67**
Prior school effectiveness (KS1, 2010/11)				4.38***
Gender	*Male*			
	Female	1.37	1.37	1.21
Free school meals	*Non-FSM*			
	FSM	0.62*	0.61*	0.83
Ethnicity	*White British*			
	Not White British	0.76	0.76	0.72
SEN provision	*No SEN*			
	SEN	0.05***	0.05***	0.03***
% of school pupils				
Eligible for free school meals		0.97***	0.97***	0.98*
With SEN provision		1.03***	1.03***	1.03**
Not White British		1.00	1.00	1.00

*p < 0.05, **p < 0.01, ***p < 0.001.

reveals that schools that were previously deemed 'effective' are, on average, more likely to employ child-centred pedagogies than schools that appear to have been less 'effective', at least within this small sample of schools, but if a measure of prior school effectiveness is included, the presence of child-centred pedagogies appears to have an even greater effect (odds ratio = 1.67 $p < 0.01$).

However, Table 4 also shows that the presence of child-centred pedagogies appears to have little influence on the relationships between particular pupil characteristics and whether they achieve the FPI. Indeed, the relationship between poorer pupils (i.e. those eligible for free school meals [FSM]) and whether they achieve the FPI slightly worsens after controlling for the presence of child-centred pedagogies (odds ratio of 0.61 [Model B] compared with 0.62 [Model A]). FSM pupils are on average 39% less likely to achieve the FPI compared with non-FSM pupils. Girls are on average 37% more likely to achieve the FPI than boys, irrespective of the presence of child-centred pedagogies.

In addition, the situation with respect to reducing inequalities in the longer term is even less positive. Analysis of the National Pupil Database (NPD) shows that the introduction of the Foundation Phase is not, to date, associated with any significant changes in the differences in educational outcomes between pupils at the end of Key Stage 2 based on their gender, their ethnicity or socio-economic disadvantage (see Davies *et al.*, 2013, for a full analysis). For example, the evaluation estimates that girls were over 40% more likely than boys to achieve the expected level in English at Key Stage 2 (around 11 years of age) before the Foundation Phase, but after the introduction of the Foundation Phase, they are now nearly 75% more likely to achieve the expected level or above compared with boys. For pupils eligible for FSM,

the evaluation estimates that they are nearly 30% less likely to achieve the expected level in English than other pupils. After the introduction of the Foundation Phase, this differential remains the same. This would suggest that the overall attainment gains associated with the introduction of child-centred approaches can be attributed to the performance of girls and non-disadvantaged pupils. In the following section, we explore the problematic relationship between child-centred education, poverty and gender.

Child-centred education and disadvantaged learners

It would appear from the data above that there is empirical support for the assertion that child-centred education may not favour working class children. In understanding how this works in practice, we draw on our observational data of the curriculum as practised and not just as conceptualised. This is significant because a number of contextual factors (resourcing, teacher capabilities, space) may limit the extent to which child-centred education can be implemented in disadvantaged neighbourhoods.

As already discussed, Bernstein argues that invisible pedagogies are resource intensive. In addition to assuming an appropriately 'educational' home environment, invisible pedagogies require more classroom and outdoor space, more resources and more adults than traditional approaches. Where these are not available, the way in which child-centred education is experienced in the classroom may be very different:

> Where the catchment area of a school draws upon a lower working-class community it is likely . . . that the school will adopt strategies, or have strategies forced upon it, which will affect both the content and the pacing of the transmission. The content is likely to stress operations, local skills rather than the exploration of principles and general skills, and the pacing is likely to be weakened (Bernstein, 1990, p. 75).

If we look at institutional scores for the degree of child-centredness (Table 5), we can see that, somewhat contrary to our expectations, there is very little difference between the degree of child-centredness and the level of deprivation in the school. Indeed, schools with higher levels of poverty (in the high FSM band) appear to be as child-centred as those with the lowest levels of poverty (in the low FSM band).

However, closer interrogation of the observational data indicates subtle but potentially important differences in the nature and breadth of the curriculum to which children are exposed. Table 6 illustrates differences in the observed Areas of Learning of individual pupils by the school FSM band. While there is little difference in some of the more core Areas of Learning (e.g. language, literacy and communication, mathematical development) there are marked differences in other Areas of Learning, most notably in personal and social development, well-being and cultural diversity, Welsh language development and creative development. Pupils in high FSM schools are nearly twice as likely to be observed undertaking Welsh language development (although the figures are relatively low overall) as pupils in low FSM schools. Conversely pupils in high FSM schools were much less likely to be observed undertaking creative development and knowledge and understanding of the world. They were also much less likely to be observed undertaking personal and social development, well-being and cultural diversity. It could be argued that this could be due to a slightly

Table 5. Average Foundation Phase score (school level) by FSM band† of schools

	Foundation Phase score (school level)	
School FSM Band	Average	Standard error
Low FSM	3.20	0.11
Medium FSM	3.12	0.13
High FSM	3.19	0.08

†FSM band indicates the relative level of poverty through the proportion of children eligible for free school meals.

Table 6. Exposure to the Foundation Phase curriculum by school FSM band†

Areas of Learning*	Low FSM	Medium FSM	High FSM
Language, literacy and communication	35.5%	29.3%	35.7%
Mathematical development	11.5%	17.8%	13.1%
Literacy and numeracy (combined)	47.0%	47.1%	48.8%
Personal and social development, well-being and cultural diversity	24.5%	12.9%	11.0%
Welsh language development	2.5%	3.6%	4.7%
Knowledge and understanding of the world	18.4%	18.7%	14.1%
Physical development	7.2%	3.9%	8.6%
Creative development	20.6%	14.5%	13.7%
No. of observed children	933	1,190	1,028

*Children could be observed learning more than one area of learning (or none at all), hence the percentages do not necessarily total 100%.
†FSM band indicates the relative level of poverty through the proportion of children eligible for free school meals.

greater focus on the core subjects of literacy and numeracy (see combined percentages in the penultimate row of Table 6). This would support Bernstein's claim that poorer schools will focus more on the 'basics' than more abstract or creative subjects.

There is also evidence that children in schools with high levels of disadvantage experience a narrower curriculum. Table 7 shows that only 14.9% of children in the poorest schools were observed learning in more than one curriculum area during the observations. This contrasts with 26.2% of children in more advantaged schools. So not only does it appear that children in high FSM schools were more likely to be observed learning basic skills (i.e. literacy and numeracy) and experiencing a narrower range of the curriculum, but also they were less likely to be exposed to a more embedded curriculum (i.e. where more than one Area of Learning may be the focus of each task).

It is also the case that the interactions between teachers and children and the location within the learning environment vary according to the level of disadvantage. Table 8 shows the different pedagogic elements that are experienced by pupils according to the level of poverty in their schools. In general, it would appear that in

Table 7. Exposure to the number of Foundation Phase areas of learning (AoL) by school FSM band[†]

	Cumulative percentage		
No. of AoLs observed per child	Low FSM	Medium FSM	High FSM
0	10.1%	23.4%	15.7%
1	73.8%	79.4%	85.1%
2	96.1%	96.4%	98.3%
3	99.8%	100.0%	100.0%
4	100.0%	100.0%	100.0%
n	933	1,190	1,028

[†]FSM band indicates the relative level of poverty through the proportion of children eligible for free school meals.

Table 8. Foundation Phase teaching and learning by school FSM band[†]

Learning activities	Low FSM	Medium FSM	High FSM
Child-directed	51.3%	48.1%	54.3%
Adult-directed	50.4%	53.9%	58.8%
Adult Instructions	27.1%	36.3%	43.3%
Activity instructions	17.9%	13.1%	11.0%
Worksheet	10.0%	10.6%	4.6%
Review	6.2%	6.8%	4.6%
Workstation	25.1%	22.1%	32.0%
Outside	8.0%	13.0%	16.3%
Out of class	13.3%	9.5%	9.5%
Active	35.4%	35.0%	47.9%

[†]FSM band indicates the relative level of poverty through the proportion of children eligible for free school meals.

the poorer schools, pupils are more likely to experience adult-directed activities and adult instructions. The kinds of activities observed were more likely to be 'didactic' rather than 'co-constructed', to involve 'closed' rather than 'open' questioning. Children in these schools were less likely to be given worksheets to structure their own learning. There were also twice as likely to be involved in activities in the 'outside' area rather than at desks and work stations.

However, it is in the area of classroom interactions that we see some of the most marked differences (Table 9). These data suggest that children's social experiences within the classroom vary according to the level of disadvantage. In more affluent schools, peer collaboration was observed twice as often as in the poorest schools. Interactions between the children were more likely to be 'warm'. Interactions between adults and children were also likely to be visibly 'warm'. In the poorest classrooms, children were not observed interacting with each other, and when they did so, these interactions were not as 'warm'. Children in these settings were also less likely to be observed experiencing warm interactions with the adults. These were usually observed to be 'neutral'—which more often than not involved the passing down of instructions rather than, say, praise or encouragement. Of course, it is likely that this

Table 9. Quality of classroom interactions by FSM[†]

Classroom interactions	Low FSM	Medium FSM	High FSM
Peer collaboration	21.5%	18.0%	12.0%
Neutral adult interaction	11.4%	22.4%	23.3%
Warm adult interaction	46.3%	40.1%	43.5%
Cool adult interaction	2.1%	2.9%	2.2%
No adult interaction	39.4%	35.6%	32.2%
Neutral child interaction	3.8%	3.4%	1.4%
Warm child interaction	49.0%	38.2%	32.6%
Cool child interaction	1.2%	1.1%	1.5%
No child interaction	45.3%	57.6%	64.8%

[†]FSM band indicates the relative level of poverty through the proportion of children eligible for free school meals.

pattern of the quality of interactions would also be reflected in more traditional teacher-centred classrooms. However, the emphasis placed on the affective domain of learning within child-centred settings (e.g. the self-directed nature of enquiry, expressiveness, motivation) would suggest that this dimension may have more significance for children's learning. If this is the case, it might be possible to argue that an invisible pedagogy universally applied will doubly disadvantage working class children. Not only will they lack the requisite resources and educationally oriented activities in the home, but they will also experience a relatively impoverished and less supportive pedagogy in the classroom.

Child-centred education and gender

As already noted, our data suggest that girls fare much better under child-centred pedagogies than boys. In Wales, as elsewhere, girls have outperformed boys in primary school for many years. However, after the introduction of the Foundation Phase, the gap appears to be growing. As noted earlier, girls were far more likely to have achieved the FPI at 7 years old and by the time they reach 11 (the end of Key Stage 2), they were 75% more likely to have reached the key benchmark in English proficiency. What is of interest here is not to revisit explanations of why it is that girls do better at school, but to examine what it is about the introduction of the Foundation Phase and its child-centred pedagogies that has widened an already existing gap. Clearly, the explanations for the gendered differences are likely to be somewhat different to those that may apply to social class—as we must presume that girls and boys are distributed relatively evenly across the nurseries and schools.

From a Bernsteinian perspective, the main explanations focus around the lessening of visible hierarchies in the classroom, the emphasis on individual expression and the privileging of language. As noted earlier, our observational data show that the girls had much higher levels of well-being than boys in the same classroom. There was a statistically significant difference in the observed levels of well-being and involvement (as measured using the Leuven Scales) between boys and girls across the whole sample (Table 10). The mean difference between boys and girls is particularly large for observed child involvement.

Table 10. Independent samples *t*-test of observed pupil involvement and well-being between males and females in the Foundation Phase

Measure	Sex	*N*	Mean	SE	*T*⋆	Sig
Involvement	Females	1,664	3.66	0.021	5.26	0.000
	Males	1,622	3.49	0.023		
Well-being	Females	1,665	3.67	0.017	2.86	0.004
	Males	1,621	3.60	0.018		

⋆Equal variances not assumed.

Unlike the differences between advantaged and disadvantaged settings, we did not see girls covering more Areas of Learning than boys. There were, though, some predictable gender differences in the Areas of Learning. Girls were more likely to be learning about language, literacy and communication (34.3% of girls compared with 30.6% of boys) and boys more likely to be learning about mathematical development (14.9% of boys compared with 13.3% of girls). A similar gender difference was also observed for physical development (in favour of boys) and creative development (in favour of girls).

We also see differences in some of the elements of the pedagogy that girls appear to have experienced differently from boys (Table 11). Girls' learning activities, like those of the children in the more advantaged classrooms, were more likely to be self-directed rather than adult-directed. Girls were also more likely than boys to be engaged in activities at workstations and desks. We also see marked gender differences in the quality of interactions (Table 12). As in the more affluent schools, it would appear as if there is more peer collaboration between girls than boys. Girls are also more likely to experience warm interactions with adults (e.g. praising, encouraging) than boys, who are more likely to experience 'cool' interactions (e.g. disciplinary).

These findings suggest that girls' experience of child-centred education is different from that of boys—even when they are in the same classroom. As already indicated, the causes of this are complex and may arise from different dispositions, skills and

Table 11. Foundation Phase teaching and learning by gender

	Female		Male	
Learning activities	*n*	%	*n*	%
Child-directed	877	52.1	829	50.7
Adult-directed	905	53.8	879	53.8
Adult Instructions	584	34.7	579	35.4
Activity instructions	235	14.0	204	12.5
Worksheet	126	7.5	140	8.6
Review	106	6.3	85	5.2
Desk	426	25.3	402	24.6
Carpet	632	37.6	635	38.9
Workstation	458	27.2	413	25.3
Outside	228	13.6	215	13.2
Out of class	161	10.0	161	10.4
Total number of obs.	1,682		1,634	

interactions with adults. Whatever the cause, it seems incontrovertible that child-centred approaches will do little to close the gender gap.

Conclusion and discussion

The evidence from Wales' Foundation Phase policy suggests that the introduction of child-centred education has improved well-being and learning outcomes in nursery and primary schools. Although the implementation of child-centred pedagogies has been uneven, our research indicates that the gains have been greatest in those settings that are more child-centred than others. However, this generally positive picture can largely be attributed to increases in attainment by girls and learners in more advantaged settings. It is clear that some pupils benefit more from this kind of approach than others. Those who benefit the least are the poorer children and boys. While the Foundation Phase is associated with improved attainment for pupils eligible for FSM, there is no evidence to suggest it has made any observable impact so far on reducing inequalities. In relation to gender, it would appear to have increased the attainment gap between girls and boys.

In attempting to understand why this might be the case, we have found Basil Bernstein's analysis of the differences between visible and invisible pedagogies—and the classed and gendered assumptions that underpin them—to be very useful. He argues that invisible (i.e. child-centred) pedagogies assume a second site of acquisition and require greater investment of time and space than visible (i.e. teacher-centred) pedagogies. Because of this, he argues that schools in poorer neighbourhoods may well provide a narrower range of experiences, focus more on the basic skills and be more relaxed about what they expect their pupils to learn. Certainly, our observations indicate that pupils in schools with high levels of disadvantage were more likely to cover fewer Areas of Learning and to focus more on the 'basics'. The quality of the social interactions in the classroom also seems less positive—there was less collaboration between peers and they did not appear to receive as much 'warm' feedback from adults as their counterparts in the more advantaged classrooms. There is some

Table 12. Quality of interactions by gender

	Female		Male	
Classroom interactions	*n*	%	*n*	%
Peer collaboration	295	17.5	265	16.2
Neutral adult interaction	306	18.2	313	19.2
Warm adult interaction	760	45.2	701	42.9
Cool adult interaction	33	2.0	45	2.8
No adult interaction	590	35.1	585	35.8
Neutral child interaction	40	2.4	52	3.2
Warm child interaction	685	40.7	652	39.9
Cool child interaction	21	1.2	22	1.3
No child interaction	936	55.6	904	55.3
Total number of obs.	1,682		1,634	

evidence that while the children in the disadvantaged settings receive more direction from adults, the lower levels of assessment and worksheets may indicate lower expectations.

In relation to gender, it would appear that the learning contexts afforded by child-centred education are more favourable for girls. Their levels of attainment and well-being are significantly higher than for boys. Quite why this is the case is difficult to unravel. If Bernstein is right, the relaxation of hierarchies, the emphasis on individual growth and the privileging of language may be contributory factors. Girls certainly appear to enjoy warmer interactions with adults in the classroom. They also appear to be engaged in more self-directed learning activities and spend more time in collaborative activities, at desks and workstations.

The implications of these findings for policy and practice are complex. The fundamental question is whether the differentiated experience and outcomes of this child-centred curriculum is because it has been only imperfectly implemented (for a variety of reasons related to resourcing and teacher practices and expectations) or because the underpinning principles will always selectively advantage and disadvantage different groups of learners. Basically, are the uneven outcomes we have witnessed a result of too much child-centred provision or not enough?

'Traditionalists' would probably argue that the class and gender assumptions of invisible pedagogies will inevitably privilege some learners over others. This may indicate that we would be better off forgetting about progressive education altogether —and certainly for schools serving disadvantaged communities—and return to a traditional teacher-centred pedagogy. This proposition would be supported by the advocates of initiatives such as the KIPP charter schools mentioned earlier. However, there are issues with this kind of approach too. It may appear as if the visible pedagogies make it easier for disadvantaged learners to succeed in the short term. The downward transmission of traditional subject knowledge, the explicit teaching of skills and transparent assessment criteria may provide visible pathways to attainment. However, there are many unanswered questions about the long-term consequences of these approaches—about whether they provide disadvantaged learners with the kind of intellectual engagement and orientations required for successful higher education, and even about whether the transmission of knowledge in this way constitutes a form of cultural imperialism (see Sadovnik, 2008).

Moreover, there is a danger that rejecting progressive approaches in their entirety would be foolhardy. As our research has shown, the introduction of the Foundation Phase in Wales has brought system-wide benefits. The issue is whether these benefits can be experienced more universally than they are now.

There is some indication that introducing elements of visible pedagogies into invisible pedagogies may provide a way forward. Evidence from the small-scale study by Morais and Neves (2001) suggests that relaxing the hierarchies between teachers and children and integrating knowledge, while at the same time providing explicit guidance on evaluation criteria, fosters the learning of marginalised children, but the issue of whether this can be 'scaled up' is uncertain. Bernstein (1995, pp. 419–420) argued that invisible pedagogies are only likely to benefit disadvantaged learners if a number of conditions are met. At a minimum, these include careful selection of appropriately experienced teachers who are given enough time to develop coherent teaching plans

across subjects. These provisions underscore the crucial need for extra investment. Child-centred pedagogies are expensive, not only in terms of space and material resources, but also most importantly in terms of time for training, material preparation and evaluation. As Bernstein argues it 'is *not* that invisible pedagogies are necessarily intrinsically inappropriate, but if they are to be effectively institutionalised in public schools rather than *one-off exceptions* they must be *effectively funded on the scale required* (1995, p. 420, his emphases).

There was significant extra investment in Wales. Indeed, we estimate that the introduction of the Foundation Phase curriculum has cost an additional 11% to the recurrent cost of education in the primary years (for children aged 3–11 years) in Wales. This has mainly gone on staffing to achieve a high teacher–pupil ratio. In addition to this, the equivalent of nearly £100 million has also been spent on increased staffing, new training and support and £50 million on associated capital developments. However, it would appear as if even this extra funding has not been sufficient to change the attainment levels between disadvantaged and advantaged learners.

It would appear that even more resourcing, and more experienced teachers, are needed to ensure that all children are exposed to a more cognitively demanding curriculum and more training is going to be essential if teachers are to improve the quality of social interactions in the classroom so that learners in disadvantaged settings receive the same degree of warmth and encouragement as their peers in more affluent classes. It is perhaps even more difficult to know how boys' educational attainments can be improved within child-centred classrooms. Again, the quality of social interactions for boys in the classroom appears to be less supportive to learning, but these social interactions are likely to arise from very different and deep-rooted socialisation practices—in the home and in the workplace, for the children and their teachers.

In short, the introduction of child-centred education seems to have many positive outcomes. But reducing the attainment gap—between boys and girls and between disadvantaged and advantaged children—is not currently one of them. Whether greater investment and adjustments to pedagogy will help with this is impossible to ascertain from our research. If Bernstein is right, the social assumptions that underpin child-centred education may mean that it will inevitably privilege some learners over others. Whether the benefits of this kind of pedagogy, in terms of overall levels of attainment and improved involvement and well-being, justify the perpetuation and possible increase in the attainment gap is a difficult, but important, educational and political decision.

NOTE

[1] There are approximately 1,300 primary schools in Wales.

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