Constructing Deficit Data-Doppelgängers: The Impact of Datafication on Children with English as an Additional Language.

Abstract

In this paper, an evaluation of the English early childhood education context reveals children constructed as data. The complex, chaotic and unpredictable nature of the child is reconstituted in numerical form; a form which can be measured, compared and manipulated. Children are reconceptualised as data-doppelgängers (Williamson, 2014), ghostly apparitions which emulate the actual embodied child. The focus of early childhood education and care thus moves from child-centred to data-centred education. I specifically focus on the impact of this aspect of the performative regime on children who have English as an additional language, an under-researched area in the field. Foucault's work on governmentality is used as a theoretical lens through which to understand the process of datafication. I use a composite child, generated from a number of children from my experience as a teacher as a starting point for discussion. This reveals children as disadvantaged, as their home languages are no longer used to assess communication skills. Their data-doppelgängers are not useful to the teacher as they are unable to demonstrate a "good level of development": a key measure of school readiness in English policy. I argue that in post Brexit vote Britain, subtle changes to early childhood education increase disadvantage, promoting white, British culture and thus marginalising those from other cultures.

Keywords

This paper analyses changes in assessment and accountability policy relating to early childhood education and care in England. It uses Foucault's (1977) work on governmentality as a tool to analyse processes of observation, normalisation and examination which I argue, lead to the "*datafication*" (Bradbury and Roberts-Holmes, 2017) of early years education. This process of datafication is defined by Bradbury and Roberts-Holmes (Bradbury and Roberts-Holmes, 2017) in terms of the increase in the use

of data in schools; its impact on child subjectivity and its role as a tool for governmentality. Laney (2001, in Bradbury and Roberts-Holmes 2017) identifies three areas of increased use: volume, variety and velocity. Thus, the amount of data collected, the variety of its use and its processing rate have increased rapidly in recent years. This has led to a transformed educational landscape in which data plays a pivotal role.

I take the performance measure of the Good Level of Development (GLD) as a policy field through which changes to the use of data occur. This measure identifies children who have achieved a specific range of goals at the end of their early years phase of education at the age of 5 and is used to judge the effectiveness of educational institutions in England. The data is gathered gradually over the year, mainly through teacher observation and is then converted into a summative score for each child. I also discuss the recent development of online tracking systems to measure and analyse progress as a feature of datafication (Roberts-Holmes, 2015). Roberts-Holmes and Bradbury (2017) argue that assessment in early years creates data-doppelgängers of each child. This term, originally used to describe the online selves created by users of social media is adopted by Williamson (2014) to refer to the data-other created through the use of databases. These shadowy figures are constructed through the process of converting qualitative, observational data into numerical form for the purposes of national statistical analysis. The demands of accountability have created a system where this data has may be more important than the actual embodied child. Thus, the aim of Early Years education has become the formulation and maintenance of these data-doppelgängers. The doppelgangers create the *"good data"* demanded by national governments (Millei and Gallagher:1528). The embodied child is sacrificed for the doppelgänger as it is the doppelgänger which will be used to judge the school.

My particular focus in this paper, takes Roberts-Holmes and Bradbury's arguments as a starting point, applying their theories of datafication to the experience of the child with English as an additional language (EAL). An examination of policy changes reveals this group of children to be particularly disadvantaged and can be viewed as emerging from the political landscape which gave rise to the Brexit vote in England.

I use reflections on my experience as a pre-school teacher as an initial stimulus for discussion. This takes the form of a vignette, a composite child generated from number of children I have encountered as a teacher. It focuses specifically on the reception year- the final year of preschool, which I acknowledge is only a part of the early years phase. It is also influenced by anecdotal evidence from informal conversations with fellow teachers over the past three years. I use this vignette to illustrate the process of datafication as well as the disadvantage created by current early years assessment policy.

Vignette

In a school reception class in England, 5-year-old Mariam plays alone at the art table. She moved to the UK from Pakistan last year. Prior to entering the class, she had been cared for at home by her mother. Mariam speaks Urdu at home but does not speak at all at

school. She found starting school very difficult and was distressed when left by her parents. Gradually, she settled and began to watch and play.

Mariam has created a picture on the art table. She takes it to the teacher and waits near her. The teacher is working with a writing intervention group and doesn't notice Mariam. After a while, Mariam walks away. She had expected to work with the teaching assistant in the English as an Additional Language group today, but the group has been suspended in favour of a maths intervention aimed at children who are almost at the expected level for mathematics.

During snack time, the teacher gives each child a piece of fruit. Today, Mariam feels that she is ready to try to speak English and in a very quiet voice says, "thank you" to the teacher. This is the first time she has said anything at school and the teacher is clearly very pleased. She hugs Mariam and says how happy she is that Mariam has spoken. She uses her iPad to take a photo of Mariam. Underneath she identifies her as "16-24 months low" for Communication and Language: Speaking. This grading indicates the expected level for an age band. As such, a score of 16-26 months low, indicates that Mariam is functioning towards the bottom of the expected range for an average toddler. Although the teacher is genuinely pleased to see Mariam's progress, she knows that this progress will not significantly change her data. She also knows that Mariam's language at home is probably at the expected level but because she does not speak English, this development will not be measured.

At the end of the day, the teacher updates her online learning journals, uploading Mariam's observation into her blog. This adds to the emerging but incomplete picture of the child. The blog contains many photographs and observations of Mariam's non- verbal play but lacks information about her language development. After updating the journal, the teacher opens her class online tracking programme. She amends Mariam's score for Communication and Language: Speaking from "8-20 months high" to "16-26 months low", highlighting "Copies familiar expressions" as being achieved. Over the year, Mariam has showed very little progress in this area, having moved up only one sub category. The teacher reflects that for Mariam, achieving a "good level of development" is impossible.

Mariam's position is not unusual. The current English system requires teachers to collect vast amounts of data for each child and many use similar online systems to record this data. Many speakers of English as an additional language, particularly those who are new to English, are unable to demonstrate their language development and as a result, are disadvantaged by the assessment system. In order to gain a deeper understanding of the current situation in school reception classes, it is useful to track the key changes in the English political landscape over the last 20 years which have created the conditions of possibility for its present incarnation.

Policy Context

Prior to the New Labour administration of 1997, early years education held a relatively low status. There was a range of provision available, some of which was within the

school setting. Child-centred pedagogy was dominant, with teachers seen as facilitators of learning. Observation formed an important part of this approach, as it enabled the teacher to determine what kind of provision should be given to children (Palaiologou, 2016)

During the New Labour years of 1997 to 2010, the status of early years education completely changed. The early years sector was seen as crucial in terms of developing human capital (Moss, 2014), enabling mothers to return to work and intervening early to ensure future academic success (Pugh and Duffy, 2014). In 2000, the Department for Education published Curriculum Guidance for the Foundation Stage (Department for Education, 2000). This related to children aged 3-5 and provided a set of norms, based on developmental psychology, for children's education and development. Following on from this in 2003, a standardised, summative assessment for the end of foundation stage was produced in the form of the Foundation Stage Profile (FSP) (Qualification and Curriculum Authority, 2003). In order to complete this assessment, practitioners needed to gather a wealth of observational data about each child. Knowledge of the child, which had previously been largely unrecorded, was converted firstly into writing in the form of observational notes, and secondly into numerical data. This turning point marked the beginnings of children being constructed as data.

A change of government in 2010 led to changes in the Early Years Foundation Stage curriculum. In 2012, the end of early years statutory assessment, the Early Years Foundation Stage Profile (EYFSP) was redesigned, altering the norms against which children's progress was measured (Standards and Testing Agency, 2012). All communication, language and literacy goals were to be assessed in English, rather than the home language. Although teachers were encouraged to evaluate children's proficiency in their home language, the final judgements must relate to the speaking of English. This meant that the communication skills of young children, new to English, were not formally assessed and that communication in English was privileged over all other forms of communication. Prior to this, early levels of communication could be assessed in the home language (Qualifications and Curriculum Authority, 2008), although higher levels of communication, language and literacy were to be assessed in English.

Alongside these changes, a new definition of the Good Level of Development (GLD)was introduced in 2013 (Department for Education, 2014b). This is a performance measure used for accountability purposes. Percentages of children reaching the GLD are submitted to the Department for Education and used to create national statistics. They are also used by the inspection body in the judgement of schools' effectiveness. Prior to 2013, the GLD was defined as the percentage of children achieving the expected level in two areas: personal social and emotional development and communication, language and literacy alongside an average score across six areas of learning. Thus, a child with lower levels of English could still achieve the GLD if they excelled in other areas. The new GLD is a measure of those children who achieve the expected level in five areas: personal social and emotional development; communication and language, physical development, literacy and mathematics. This change has had a marked impact on EYFS pedagogy, as those children who have a "spiky profile", who do not perform equally well in all five areas, are now unable to meet the GLD. Supporting these children to achieve a

GLD has become an increasing focus for many schools (Bradbury and Roberts-Holmes, 2016a).

A final policy development which has impacted on EYFS assessment is the introduction of a new National Curriculum in 2014 (Department for Education, 2013) and its removal of the levelling system which had been in place since 1998. Government set levels enabled teachers to evaluate children's learning against standardised norms. The removal of the levelling system, described as "*Assessment without levels*" (Mcintosh, 2015) opened up the market for businesses to create online tracking systems for Primary-aged children. Changes to the inspection process meant that progress data were increasingly being used as a primary performance indicator. As no system for tracking children in EYFS had been provided by the Department for Education, Development Matters (Early Education, 2012), a non-statutory guidance which has since been removed from the Department for Education website, was used by many teachers to track children's progress. The broad phases of development, described in this document, outlined expected developmental norms for an age-related phase such as 30 to 50 months. Broad phases of learning were found by the creators of many online tracking systems to lack the level of detail required to track the minutiae of child progress over time, so each broad phase was broken down into smaller steps to fabricate a more specific norm (Roberts-Holmes and Bradbury, 2016a).

Immigration (this section has been moved)

As part of its 2010 Manifesto, the Conservative Party committed to reducing immigration and promoting integration. This has been followed by an increasing focus on developing English Language skills in immigrants with tighter regulations requiring those applying for citizenship to possess English Language qualifications as well as the Life in the UK test. The current Prime Minister, Theresa May, has vowed to make Britain a "*really hostile environment*" to illegal immigrants (Hill, 2017) and since coming to office has presided over 7 immigration bills. A recent government report (Casey, 2016) into integration in the UK recommended that promoting English language must be a priority. This has been followed by changes to the census requiring all schools to collect data of the English Language proficiency for the first time (Department for Education, 2017a). This data will be used to identify communities which are not well integrated. In addition to this, schools are now required to promote fundamental British values. These are defined as democracy; individual liberty; the rule of law and mutual respect and tolerance for people with different faiths or no faith (Department for Education, 2014a). The current society is a society in which the British culture, British values and the English language are privileged; a society increasingly hostile to immigrants.

The increase in movement of peoples across the globe in a post 9.11 world gave rise to an increase in nationalism which could be seen in the rise of nationalist parties such as the UK Independence Party. Nationalism can be seen as a necessary aspect of neo-liberalism. Hoops eg al argue that as neo-liberalism demands open markets, nationalism is "deployed as glue" to unite the nation in this global market (2017:730). This in turn has given rise to such initiatives as *Prevent* (HM Government, 2011). This

policy is part of the UK Government's counter terrorism strategy and requires those working with children and young people to report those who they feel are at risk of being "radicalised" and becoming involved in extremist groups. It has been criticised by the National Union of Teachers and the Muslim Council of Britain for discriminating against Muslim children and promoting distrust (Versi, 2015). This is the political landscape which in 2016, gave rise to the Brexit vote, in which the British public voted to leave the European Union. The public began to see immigration as a key cause of the global economic downturn.

In order to understand these changes to the political landscape and the emerging policy implications more fully, an examination of Foucault's work on governmentality is useful. This analysis builds on the work of others, such as Ball (2013, 2017) and Mac Naughton (2005) who use Foucault as a lens to interpret current educational policy. In his work *Discipline and Punish* (1977), Foucault provides a commentary on the technologies of power, which he refers to as *disciplines*, used to create and control citizens. He specifically discusses education in terms of disciplinary power which he identifies in the schools of Eighteenth Century France. In part three: *Discipline,* Foucault identifies three instruments of power: hierarchical observation; normalising judgement and the examination. I will examine each of these instruments in turn, relating them to current policy and practice in early years education.

Hierarchical Observation

Observation has always been and still is central to early years pedagogy. In order to teach the child, the teacher must know the child. This knowing takes the form of observation, as the child at this age produces little "work" which could be assessed (Dubiel, 2016). The young child exists within a dense network of surveillance. Foucault refers to the infant thus: *"The body of the child, under surveillance, surrounded in his cradle, his bed, or his room by an entire watch crew of parents, nurses, servants, educators, and doctors"* (Foucault, 1978:98). Surveillance is a necessary part of caring for children. It is essential to keep them safe and is central to the child/carer relationship. The child who is not observed, whose parents do not keep it under constant surveillance could be constructed as "neglected", such is the need for observation (Palaiologou, 2016).

Observation in the pre-school classroom has intensified as changes to policy have altered the function of observation. The purpose of observation has shifted from being predominantly used to inform future planning to generating a body of evidence for accountability purposes and has thus moved from formative to performative assessment (Hatch and Grieshaber, 2002). This can be seen in the vignette where the teacher constantly collects evidence to enter into the child's blog. Each day she spends time collating this evidence and using it to update her online tracking system.

The early years pupil is under constant and thorough surveillance. A body of evidence is collected about the child before they enter the class through home visits and liaison with the previous setting. A baseline assessment is usually completed within the first few weeks at school and is entered onto an online tracking system (Palaiologou, 2016). During the day, children are watched, photographed and measured in every aspect

of their work and play. Detailed notes are kept on their every moment, measuring development in all seven areas of learning from use of the toilet to knowledge of letter sounds (Palaiologou, 2016). Checklists are used during adult- led sessions alongside tests for specific skills and knowledge with pictures, writing and mark-making retained and analysed as evidence of progress (Dubiel, 2016). Thus, surveillance is "*inscribed at the very heart of the practice of teaching*" (Foucault, 1977:176). It is part of the technology of power as it enables the teacher to know everything about the child.

In current practice however, these data are not just used to inform future planning. The data- double of the child, constructed through recorded observation, is used to judge the teacher and the school. Failure to produce data which compare well to the national average results in teachers being judged to be failing (Department for Education, 2016). These data are used in the judgement of the school, intensifying the significance of each observation and leading to an increase in the amount of observational data collected.

This intensification of observation is not unique to the English system. Hatch and Greishaber (2002) explore the changing ways in which observation is used in both Australia and the US, concluding that both have moved towards observing against standardized norms. Scott's poignant essay film *Seeing Children* (2015) comments on the emphasis on data collection and data management in a US preschool. Her two contrasting stories of a Korean preschool child echo Mariam's story. Scott first presents the child as a series of statements, followed later in the film by a description of the significant contextual information missing from the data. Her work draws attention to the limitations of assessment against standardized norms to represent the real embodied child.

Normalising judgements

The purpose of the vast body of evidence collected about each child is to enable the teacher to make normalising judgements. The expected norms for the end of the Early Years Foundation Stage are set out in the Statutory Guidance (Department for Education, 2017b). As there are no current expectations of development prior to this point, many teachers and the producers of online tracking systems use the broad phases of learning established in *Development Matters* (Early Education, 2012). By knowing how their pupils compare to the expected level, teachers can plan appropriate activities to meet each child's needs. Mariam's language is assessed against the broad phases of learning. She is judged as being at the lowest level expected of a child aged 16-26 moths when in fact she is 60 months old.

Expectations based on *Development Matters* (Early Education, 2012) or other tracking systems are also used for the purpose of classification. Even before children enter the setting, the information collected about them is used to rank them into those meeting the expectations and those who are not. Each child is judged against the norm and ranked by their score. The highest-ranking children may demonstrate development and knowledge of an age band above their actual age, while the lowest ranking children, like Mariam, will demonstrate the development of a much younger child.

The use of numbers to classify is an essential aspect of neo-liberal policy. Dahlberg (2016) argues that numerical data are seen as neutral and objective. Thus, numbers acquire "significant power in the public space" (p125). Children must be classified in order for schools to be classified. This in turn enables schools to compete with each other which is seen as a driver for raising educational standards (Winter, 2017).

Foucault describes the disciplinary power of normalisation as consisting of five aspects: Comparison, differentiation, hierarchisation, homogenisation and exclusion (Foucault, 1977). Normalisation *compares* the individual child to the development of the whole, thus establishing their rank within the group. The statements of the tracking system constitute the behaviour of the whole and thus become a "*field of comparison*" (Foucault, 1977:182). Mariam is compared to her classmates and found to be ranked lowest in the class. Normalisation *differentiates* individual children, showing how they compare to the average or "rule". Mariam is found to be far below the expected level of her age. It *hierarchises* children according to how they compare to the expected level. In this way, children are ranked according to ability and often grouped according to rank for the purposes of differentiated teaching (Frederickson and Cline, 2009). The process of *homogenisation* requires all children, irrespective of culture, race, gender and language to meet the same norms. They are seen as a homogeneous group rather than diverse individuals whose development reflects their culture. Mariam's culture and context are not taken into consideration in the assessment process. She is compared with native speakers of a language with which she is largely unfamiliar. Finally, it *excludes* by measuring who is "normal" and who is "abnormal" or in the case of EYFS, having special educational needs. Mariam is identified as abnormal as she has such low levels of English. As her actual communication skills are not assessed however, any special educational needs relating to language could be overlooked.

The process of normalization constitutes Mariam's data as useless to the teacher in two ways. The progress which she has made over the year cannot be measured as it is hidden in Mariam's head. Her language acquisition has been developing over the year but is not yet visible to the teacher as utterances. This is in line with Krashen's input hypothesis theory (Krashen, 1981) in which he suggests that a silent period is a normal part of second language acquisition as the learner processes the new language. In addition to demonstrating no progress, Mariam also cannot demonstrate attainment of the norms. With the exception of physical development, the early learning goals which constitute the Good Level of Development are dependent on language and so cannot be met. In this way, Mariam's doppelganger is useless.

The norms against which Mariam and children across much of the Western world are judged, like numbers, are presented as neutral and objective. They emerge from the developmental norms of psychology. Burman (2017) however, argues that such norms are anything but neutral. Rather, they emerge form an Anglocentric, white, middle-class, monolingual view of children. She notes that Anglo-US developmental psychology textbooks discuss bilingualism in the context of educational disadvantage and the failure to achieve in English language programmes. Bilingual children are expected to meet the norms of monolingual children from the moment they enter school and are constructed as failures when they are unable to do this.

In order to compare, differentiate, hierarchise, homogenise and exclude, a vast body of evidence is needed. Thus, the child is reconstituted in data. The data-other, which has been created for each child in the form of this corpus of data, is scrutinised, compared and polished to create the ideal version of the child needed for accountability purposes (Roberts-Holmes and Bradbury, 2016a). Hierarchisation is crucial as it identifies those who may possibly reach the Good Level of Development. These children then receive more attention. This process is referred to by Bradbury and Roberts-Holmes as "*educational triage*"(2017), where children are divided into three groups: those who will meet the expected level, borderline children and the no-hopers. The teacher then focuses on the borderline children in an attempt to increase the percentage of children meeting the measure. More data are collected for the borderline children and interventions are planned to try to make them "good". This can be seen in the intervention classes delivered to the borderline maths group in the Vignette. This phenomena is not unique to the UK but has also been documented in other countries such as the US, where high stakes tests are implemented. Lauen and Gaddis (2016) for example report findings that for lower ability children, the focus on "bubble kids" (p127), or those who are close to meeting the expected level, lead to an increase in the gap between the low and high achieving students.

The normalization process can be seen as an aspect of the neo-liberal system explored by Moss (2014). He argues that the story of quality and high returns dominates education. The purpose of education in the neo-liberal world is to develop human capital. In order to measure the returns of the investment in this human capital, norms must be set against which children are measured. The focus of education thus becomes determining whether a child is "normal" or not rather than what they can actually do. This can be seen in many developed countries, where measures of "school readiness" are assessed at the end of the ECEC phase (OECD, 2017). This normalising function, he argues, determines the type of citizens produced by the state, transforming not only the systems for creating human capital but also the subjectivities of individuals.

The Examination

Foucault describes the examination as the combination of normalisation and surveillance. It is the means by which children are known. They are observed and classified through the process of examination. Examination makes each child into a case to be studied; an object to be measured and investigated; a scientific specimen. It also links knowledge with power as the teacher increases her knowledge of the child through the process of examination and as a result, alters the power relationship. Examination is a process which makes the invisible visible. Everything about the child must be known and examination is the process though which this visibility is established. In terms of the EYFS, examination reflects both the medical examination in terms of the close scrutiny of each pupil, and the educational examination in terms of assessing the knowledge of the children.

Children are examined on a daily basis to identify what they know. Evidence is collected from observations, photographs, video recordings, conversations with parents,

data from previous settings, tasks, activities and a whole array of surveillance techniques (Palaiologou, 2016). It is then used to reveal the soul of the child, making their thought processes and development visible to the teacher. It is referred to in schools as "assessment", the process of "*knowing and understanding children*" (Dubiel, 2016:8).

This daily form of examination is then used to demonstrate progress, the key tool, used by the Office for Standards in Education, Children's Services and Skills (Ofsted) to measure the performance of a school. The purpose of this body is to inspect and regulate services that care for children and young people. In order to do this, data are collected and analysed by the school and presented for inspection. Qualitative, observational data are converted into numerical data in order to demonstrate progress over time. Many schools use online tracking systems to do this (Dubiel, 2016). Algorithms are used to identify how many children meet the expected level and how much progress has been made (School Pupil Tracker Ltd, 2017)

The examination can also be seen in early years in terms of summative assessment. In England, this takes the form of the Early Years Foundation Stage Profile (EYFSP) (Standards and Testing Agency, 2016). This examination can be described as a high stakes test as the results of the test are used to judge the performance of the school (Hutchings, 2015). Data from the EYFSP are mined by local authorities and the Department for Education and form part of the data set given to Ofsted to support their judgments of school effectiveness (Department for Education, 2016).

Research into high stakes testing indicates that it does indeed raise test results (Hanushek and Raymond, 2005). However, the negative impact of high stakes testing on children and teachers is also well documented. Knowledge is found to be restricted to the knowledge specifically required by the test and teaching is found to be narrowed, focusing only on the test (Amrein and Berliner, 2002; Koretz, 2008 in Hutchings, 2015). Hutchings, in her report for the National Union of Teachers lists the negative effects of high stakes testing on pupils and teachers as being:

> *less creative teaching; a narrowing of the curriculum; a focus on borderline students at the expense of others; pupil anxiety and stress; and temptation to both pupils and teachers to 'game the system' (Hutchings, 2015)*

Foucault describes examination as a process which "*introduces individuality into a field of documentation*" (Foucault, 1977:189). The surveillance and normalising judgements of the examination must be recorded, thus placing individuals in a "*network of writing*" (p189). For each EYFS child, like Mariam, there exists a vast body of written and numerical data. This mass of documents acts to "*capture and fix*" the child (Foucault, 1977:189). The chaotic, unpredictable nature of the child is converted into fixed data which can them be measured and compared. It captures the child as it is then fixed in time, unable to change the version of itself formulated in the data. The use of online data analysis systems intensifies this process as it produces a "*machine readable*" (Williamson, 2014:1) child. The huge quantity of qualitative data recorded in blogs and profiles are converted into numbers and inserted into the system. This datafication constitutes the child as an individual, a "*describable, analysable object*" (Foucault,

1977:190). The purpose of this is to individualise the child. It pins down and fixes the individual, making them predictable and manageable: what Foucault calls "*the calculable man*" (Foucault, 1977:193) Thus, individualisation creates a version of the child, determined by the examination and created through data: a data-doppelgänger.

This data-double follows the child through school. Although Mariam may well have been labelled without the data, the increased focus on data strengthens the impact of this labelling process. Before Mariam enters Year 1, her EYFSP scores, her learning journal, her end of year report and the online tracking data will all be used to inform the new teacher. The teacher may well use this information to rank Mariam and put her into a differentiated group. Expectations will probably be low, as the doppelgänger is not the "right" kind. In this way, Mariam's doppelgänger precedes her into the next class and determines the teacher's expectations. A distorted doppelgänger showing very low language development will create distorted predictions of progress. Thus, expectations of Mariam's development will be low, possibly leading to a lack of challenge and under-performance in her future education.

The reconstruction of children in data is not new to the English EYFS, but has become more instrumental in shaping pedagogy and practice following changes to the GLD measure. The new GLD requires children to demonstrate attainment in a narrower range of areas and to meet more challenging targets. This makes it harder to achieve in two ways: the first is that children must achieve equally across five areas and the second is that they must achieve a higher level than previously. This was reflected in the statistical analysis of the EYFSP score results which showed a drop from 64% achieving a GLD in 2012 to 52% in 2013 when the new measure was introduced (Ofsted, 2014). The early learning goals for literacy and maths became significantly more challenging, with children now being expected to independently write simple sentences and solve mathematical problems using doubling, halving and sharing. The change in the GLD also privileges certain subjects such as literacy and maths, but marginalises the subjects which are not measured, such as expressive arts and design and understanding the world.

Research into Datafication

As the GLD is a performance indicator, the creation of the "right" kind of data, the "right" kind of doppelgänger has become increasingly important to preschool teachers in schools. In pursuit of these useful doppelgängers, research reveals teachers staging intervention groups to try to get borderline children to the GLD, particularly in the summer term. These interventions are found to use more direct teaching and a less play-based approach, with an increased focus on English and mathematics (Roberts-Holmes, 2015). This increase in direct teaching is reflected in a recent report from Ofsted (2017) which recommended that in order to prevent children from "falling behind their peers" (p4) schools should "*devote sufficient time each day to the direct teaching of reading, writing and mathematics"(p7).* Play, it suggested was not the best way to teach certain subjects. This move towards direct teaching reflects a view of the child as a recipient of knowledge rather than a constructor of knowledge. It prioritises direct teaching as it is seen as more efficient, quicker and results in short term performance "*predefined and*

transmittable body of knowledge and predetermined outcomes" (Dahlberg, 2016). In the global race for educational success, constructing knowledge is too slow. It is geared towards ensuring that in neo-liberal terms, a high return is guaranteed for the investment in human capital (Moss, 2014).

Research into child development suggests that in order to develop effective social and communication skills, children need to play. Play enables children to collaboratively create meaning which leads to a "*deep understanding of self and others*" (Brock et al, 2014:290). This kind of deep understanding cannot be transmitted from the adult to the child in a direct teaching approach. Jarvis (2018) goes further, drawing on evidence from neuroscience which indicates that children under the age of 7 have incomplete neural pathways. Thus, they are unable to process new information which does not relate to existing concepts in the child's memory. Through play, children are able to build up knowledge at their own pace, relating it to their existing understanding. Direct teaching on the other hand, adds new knowledge which may not fit with existing knowledge. Jarvis uses a useful analogy of a wardrobe with insufficient hangers. If a child does not have the right hangers on which to build knowledge in the brain, the clothes will fall to the floor of the wardrobe in a jumbled mess (Jarvis, 2018). The increase in the use of direct teaching as an approach to support children who have not met the GLD can therefore lead to poor quality learning experiences and can deny them the learning through play which they need in order to develop appropriately.

Within the constructs of the importance of play however, are notions of the "normal" child with "normal" development. Olusoka (Brock et al, 2014) explores these culturally defined notions of "normal" play, analysing a teacher's statement "a lot of children come to school unable to play" (p39). Clearly, there is a norm of play in the mind of the teacher which is not demonstrated by the children from "deprived backgrounds" who do not speak English in her class. Her concept of normal play is not neutral, but culturally biased, based on classed, raced and gendered ideas about what play should be. Grieshaber and Mcardle (2010) also problematize the notion of play, questioning whether play is normal, fun, natural or leads to learning. They contend that a culturally mediated version of play is promoted in settings. Childhood practices manufacture a version of the "natural child" participating in "natural play" and any deviations form this norm are regarded with suspicion. Thus, even the EAL child's play is measured against Anglo-American, white, middle-class, monolingual norms (Burman, 2017).

In addition to changes in pedagogy, researchers found evidence of teachers fabricating doppelgängers which reflected their own prejudices as moderation procedures demanded that the data must "look right". Bradbury found evidence of teachers changing the data to reflect their expectations (Bradbury, 2011) as well as evidence that teachers' professional judgements were highly influenced by deficit discourses about groups such as EAL children. There is considerable evidence of teachers "*gaming the system*" (Hutchings, 2015:36), creating the doppelgängers which will portray them in a good light and result in the school being ranked as "good", rather than attempting to support the child's progress through the assessment system (Roberts-Holmes, 2015; Hutchings, 2015).

EAL children are particularly disadvantaged by the current system. Their communication is not measured and therefore has no value as only communication is English counts. When a national baseline assessment for the start of Reception was trialed in 2015, language development was again assessed only in English. Bradbury and Roberts-Holmes (2016b) identified disadvantage for EAL children as a key concern as knowledge of these children's development could not be assessed accurately. Their deficit doppelgängers are more shadowy than their English-speaking counterparts, as an incomplete data-double is created. As EAL children struggle to adapt to a new language and sometimes a new culture and place, their needs are neglected in favour of those whose doppelgängers who will be more useful to the school. This can contribute to increasing marginalisation of children from immigrant families.

The important role of what Foucault calls "*exclusion*" (1977) or identifying those children with special educational needs is also hindered by the creation of data-doppelgängers. Changes to assessment of language have meant that only English language development is measured. Language development may not be measured at all in non- English speakers like Mariam, which could lead to children in need of specialist language support not being identified. This is a well-documented concern explored in depth in Cline and Shamsi's literature review (2000), Children with special educational needs at all levels of education were found to be overlooked at times as their language issues were misinterpreted as a result of their bilingualism rather than a specific learning difficulty. Cline and Shamsi also found that the opposite could occur, with children categorised as having special educational needs when in fact they did not display any evidence of specific learning difficulties. An example of this explored by Bligh and Drury (2015) is a child mistakenly diagnosed as being a selective mute when in fact they were displaying the expected behaviour of a child in the silent period of second language acquisition.

Conclusion

The demands of accountability have created a system where the data-doppelgänger may be more important than the actual embodied child. The emphasis on pupil progress, where data are the key indicators used to judge the child, teacher and the school creates a landscape in which anything which cannot be measured is irrelevant. Thus, the aim of the Early Years Foundation Stage has become the formulation and maintenance of these data-doppelgängers. The embodied child is sacrificed for the doppelgänger as it is the doppelgänger which will be used to judge the school. The impact of the creation of data-doppelgängers remains with the child throughout their education. Before they even enter the following year group, the data-doppelgänger is already there, constructing the child in the mind of the teacher.

The creation of data-doppelgängers has privileged certain children, while the doppelgängers of others are deficit doubles. The system disadvantages children with English as an additional language as they are classified as "no-hopers" and therefore receive less attention than the children who are almost at the good level of development. Their progress is hidden as their early stages of second language acquisitions prevent it

from being measured. Their development is measured against culturally unfamiliar norms which actively discriminate against young bilinguals. Their data is incomplete as their language development is not assessed, which can lead to special educational needs being missed or mistakenly identified.

The datafication of early years education has the capacity to lead to increased knowledge of the child and therefore more accurate planning for progress. The use of data to judge the status of the school however, has repositioned assessment as a control mechanism to produce the "right" kind of child and the "right" kind of teacher. With such high stakes, assessment becomes more important than teaching; data become more important than children. Changes to the early childhood education system have led to children with English as an additional language being particularly disadvantaged, positioning them at the margins of the class and limiting their capacity to learn and develop. This may be symptomatic of an increasingly nationalistic society in which English Language is used as a tool to exclude and marginalize those from other cultures.

Reference List

Bligh C and Drury R (2015) Perspectives on the 'Silent Period' for Emergent Bilinguals in England. Journal of Research in Childhood Education, Routledge 29(2): 259–274.

Ball, S (2013) Foucault, Power and Education. Oxon: Routledge

Ball, S (2017) Foucault as Educator. London: Springer

Bradbury A (2011) Rethinking Assessment and Inequality: The Production of Disparities in Attainment in Early Years Education. Journal of Education Policy 26(5): 655–676.

Bradbury A and Roberts-Holmes G (2016a) Creating an Ofsted story: The Role of Early Years Assessment Data in Schools' Narratives of Progress. British Journal of Sociology of Education (August): 1–10.

Bradbury A and Roberts-Holmes G (2016b) The Introduction of the Reception Baseline Assessment 'They are children…not robots, not machines' London: NUT

Bradbury A and Roberts-Holmes G (2017) The Datafication of Primary and Early Years Education: Playing with Numbers. Oxon: Routledge.

Brock A, Jarvis P and Olusoga Y (2014) Perspectives on Play: Learning for Life. 2nd ed. Oxon: Routledge.

Burman E (2017) Deconstructing Developmental Psychology 3rd Ed. Oxon: Routledge

Casey L (2016) The Casey Review: A review into Opportunity and Integration. London: Crown. Available from: https://www.gov.uk/government/publications/the-casey-review-a-review-into-opportunity-and-integration.

Cline T and Shamsi T (2000) Language Needs or Special Needs? The Assessment of Learning Difficulties in Literacy among Children Learning English as an Additional Language: A Literature Review. London: Crown.

Dahlberg, G (2016) An Ethico-aesthetic paradigm as an alternative discourse to the quality assurance discourse. Contemporary Issues in Early Childhood. 17 (1) pp124-133

Department for Education (2000) Curriculum Guidance for the Foundation Stage Early Years. London: Qualifications and Curriculum Authority.

Department for Education (2013) The National Curriculum in England: Key stages 1 and 2 Framework Document. London: Crown.

Department for Education (2014a) Promoting Fundamental British Values as part of SMSC in Schools. London: Crown

Department for Education (2014b) Statistics: Early Years Foundation Stage Profile results in England. London: Crown.

Department for Education (2016) Early Years Foundation Stage Profile results in England 2016. London: Crown.

Department for Education (2017a) School census 2017 to 2018. London: Crown.

Department for Education (2017b) Statutory Framework for the Early Years Foundation
    Stage. London: Crown

Dubiel J (2016) Effective Assessment in the Early Years Foundation Stage. 2nd ed.
    London: Sage Publications.

Early Education (2012) Development Matters in the Early Years Foundation Stage.
    London: Crown

Foucault M (1977) Discipline and Punish. Harmondsworth: Penguin Books Ltd.

Foucault M (1978) The History of Sexuality Volume I: The Will to Knowledge. London:
    Penguin Books Ltd.

Frederickson N and Cline, T (2009) Special Educational Needs, Inclusion and Diversity.
    Maidenhead: Open University Press

Grieshaber S and McArdle F (2010) The Trouble with Play. Maidenhead: Open
    University Press

Hanushek EA and Raymond ME (2005) Does School Accountability Lead to Improved
    Student Performance? Journal of Policy Analysis and Management 24(2): 297–327.

Hatch JA and Grieshaber S (2002) Child Observation and Accountability in Early
    Childhood Education: Perspectives from Australia and the United States. Early
    Childhood Education Journal. 29(4) pp227-231

Hill A (2017) 'Hostile environment'_ the hardline Home Office policy tearing families
    apart. The Guardian, 28th November.

HM Government (2011) PREVENT Strategy. London: Crown.

Hutchings M (2015) Exam Factories? The Impact of Accountability Measures on Children and Young People. Available from: http://www.teachers.org.uk/files/exam-factories.pdf (accessed 8 June 2016).

Jarvis P (2018) Child Development: The Invisible Man. The Psychological Historian. Available from: http://histpsych.blogspot.co.uk/ (accessed 2 January 2018).

Krashen SD (1981) Second Language Acquisition and Second Language Learning. Oxford: Pergamon Press Inc

Lauen DL and Gaddis SM (2016) Accountability Pressure, Academic Standards and Educational Triage. Educational Evaluation and Policy Analysis 38(1) pp127-147

Mac Naughton, G (2005) Doing Foucault in Early Childhood Studies: Applying Poststructural Ideas. Oxon: Routledge

Mcintosh J (2015) Final Report of the Commission on Assessment without Levels. London: Crown.

Millei Z and Gallagher J (2017) Ad-hoc Numbers forming Provision and Policy: round and round of universal access in an Australian preschool. Early Child Development and Care, 187:10, 1528-1542,

Moss, P (2014) Transformative Change and Real Utopias in Early Childhood Education. Oxon: Routledge

OECD (2017) Starting Strong V: Transitions form Early Childhood Education and Care to Primary Education. Paris: OECD Publishing

Ofsted (2014) Early Years Report 2012/2013. No. 130237, Manchester: Crown.

Ofsted (2017) Bold Beginnings: The Reception Curriculum in a sample of Good and Outstanding Primary Schools. Manchester: Crown

Palaiologou I (2016) The Early Years Foundation Stage: Theory and Practice. 3rd ed. London: Sage Publications Ltd.

Pugh G and Duffy B (eds) (2014) Contemporary issues in the early years. 6th ed. London: Sage Publications Ltd.

Qualifications and Curriculum Authority (2003) Foundation Stage Profile Handbook Early years. London: QCA Publications.

Qualifications and Curriculum Authority (2008) Early Years Foundation Stage Profile Handbook. London: QCA Publications

Roberts-Holmes G (2015) The Datafication' of Early Years Pedagogy: 'if the teaching is good, the data should be good and if there's bad teaching, there is bad data'. Journal of Education Policy 30(3): 302–315.

Roberts-Holmes G and Bradbury A (2016) Governance, Accountability and the Datafication of Early Years Education in England. British Educational Research Journal 42(4): 600–613.

Roberts-Holmes G. and Bradbury A (2016) The Datafication of Early Years Education and its Impact upon Pedagogy. Improving Schools 19(2): 119–128.

School Pupil Tracker Ltd (2017) School Pupil Tracker. Available from: http://www.spto.co.uk/schoolpupiltracker/eyfs.php? (accessed 15 June 2017).

Scott M. (2015) Seeing Children. Available from: https://vimeo.com/143630188 (accessed 14 February 2018).

Standards & Testing Agency (2016) Reception Baseline Comparability Study. London: Crown.

Standards and Testing Agency (2012) Early Years Foundation Stage Handbook 2013. London: Crown.

Standards and Testing Agency (2016) Early Years Foundation Stage Profile. London: Crown.

Versi M (2015) Meeting between David Anderson QC and the MCB: Concerns on Prevent. The Muslim Council of Great Britain. Available from: https://www.mcb.org.uk/wp-content/uploads/2015/10/20150803-Case-studies-about-Prevent.pdf.

Williamson B (2014) Reassembling Children as Data Doppelgängers: How Databases are making Education Machine-readable. In: Powerful Knowledge Conference, Bristol, pp. 1–14.

Winter C (2017) Curriculum Policy Reform in an era of Technical Accountability: fixing curriculum, teachers and students in English schools. Journal of Curriculum Studies. 49(1) pp55-74