

How data impacts on early years educators



Data is big business right now, it is everywhere and can seem all-consuming. Over the last few years we have seen the growth of the use of data to judge schools' performance, including in the early years, with assessments taking place in reception.

The importance of data to institutions and government has become a 'buzzword' in recent years, with predictions that 'Big Data' will bring about a 'data revolution' in how we manage services and track performance. In education, we have seen the growth of the use of data to judge schools' performance, including performance related to the early years, with assessments taking place in the reception year.

We had just begun to examine the impact of data on early years settings, including children's centres, nursery schools, and nursery and reception classes in primaries, when the opportunity to research Baseline Assessment as it was introduced appeared (Bradbury and Roberts-Holmes, 2016). As a result, we ended up with extensive research data on a number of different settings and how they were using (and being forced to use) data on children.

Our main conclusion from this work was that the early years is undergoing a process of 'datafication', that is, a process where educators are increasingly subject to the demands of data production as it take prominence in their working lives. Thus, our work explores the 'impact' of data on what educators do – their practices in the classroom and outside – but also how data change 'who people are', or who they are expected to be.

Datafication is something that happens to people, values and cultures, as well as practices; data are 'productive measures' (Beer, 2015) that shape educators' working lives. Here we outline some of our main findings, and the resulting concerns, about how the need to produce data is having an impact on early years educators.

The research studies

Our discussion here about the impact of data on teachers is based on findings from two research projects, conducted during the period 2013-16. The first project aimed to explore practices associated with assessment in a range of early years settings, following changes to assessment and funding policies under the Conservative-Liberal Democrat coalition government of 2010-15. This was a small-scale exploratory project, which led to

a more detailed focus on the use of data as the research progressed. The second project was a larger scale project focused on the introduction of a specific policy – Baseline Assessment. This project was funded and commissioned by two teachers' unions, the Association of Teachers and Lecturers (ATL) and the National Union of Teachers (NUT), and aimed to examine the operation and impact of Baseline Assessment as it was introduced in the autumn of 2015.

The first project involved interviews with educators in a children's centre, nursery and reception classes in primary schools in the South East, and a combined nursery school and children's centre, and with a Local Authority early years advisor. The second project involved interviews with reception teachers, school leaders and parents of reception children in five schools in different regions of England.

We also used a nationwide survey, which was completed by 1,131 people (50 percent of respondents were reception teachers, 38 percent were *Early Years Foundation Stage* or Phase Leaders, seven percent were senior leaders, and the remainder support staff or other). The survey involved a number of questions for teachers and school leaders on their views and experiences of Baseline Assessment.

For some questions, respondents were asked if they 'agree a lot', 'agree a little', 'disagree a little', or 'disagree a lot' with key statements. We brought all this research together to explore and develop our examination of data in early years and primary education, in our book, *The Datafication of Early Years and Primary Education: Playing with Numbers* (2017).

Data in the classroom

Studies on the spread of data in education have described the phenomenon in terms of three Vs – volume, velocity and variety (Laney, 2001; cited in Selwyn, 2016) – but it was the sheer amount of data, not the speed it was produced or the different types of data, that dominated our interviews with teachers.

The problem of being overwhelmed by data was a recurrent theme, particularly for the children's centre educators, who were required to collect health data,



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education data, family support data and wellbeing data; one commented, ‘... to be perfectly honest I just can’t cope with that much data all the time!’

Other teachers described the multiple points of assessment for children from two-years-old, and the need to constantly show progress between key points. Data are used to predict children’s future scores, and to check the ‘performance’ of settings and teachers, which suggests that the early years are increasingly subject to the demands of accountability. For example: ‘We’re totally data driven. If the data is good, Ofsted leave us alone, but if the data is poor they drill right down into everything. We’ll be punished if we have poor data, so obviously it’s a huge, huge pressure to get the data looking good.’

Data recording and collection are a constant presence in these teachers’ and school leaders’ lives, whether they are working with two-year-old children or older, adding to the feeling that data are overwhelming. Importantly, much of the language used by educators in our interviews – of ‘tracking’, ‘checking’ and ‘value added’ – is drawn from economic models of progression through pre-determined stages, or what can be simply described as an ‘input/output’ model of education, based on the idea that you can accurately measure a child’s attainment.

This culture – where producing and analysing data are given high status – has an impact on what teachers do in their classrooms, and how they spend their time.

Early years educators often felt that they had little choice but to engage in this culture, even when they had concerns – as one teacher told us: ‘In this game, you gotta play the game. If you’re being judged on a score – teach to it – you’re a fool if you don’t’.

Here we can see how education policy shapes what teachers do, by making some activities more important than others, even though many argue that increased testing has the effect of ‘driving teaching in exactly the opposite direction to that which other research indicates will improve teaching, learning and attainment’ (Wyse and Torrance, 2009).

We found that datafication resulted in changes to the curriculum and planning in early years – for example, if they needed to produce data on how many children met particular criteria, teachers would plan activities specifically to target this area of learning. As one teacher noted, in relation to Baseline Assessment: ‘Rather than go with the children’s interests – of what they were interested in – I have geared what I have been setting up in the class to try help me gather information for the purpose of this assessment.’

This is the prioritisation of what can be observed and measured, over what the children are interested in or need to know.

In contrast to Baseline Assessment, pedagogical documentation is open to the possibilities, potentialities and alternatives that young children bring to the early years. Pedagogical documentation tunes in to what

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children are interested in, demonstrating what they can do. It is open to each child's unpredictability and diversity of potential. Baseline Assessment, with its norm-based criteria seek to govern and control teacher's pedagogy through its simplistic categories, numbers and linear outcomes.

Rather than being open to children's infinite possibilities and respectfully listening to their 'one hundred languages', as in Malaguzzi's thriving 'rich child', Baseline Assessment simplistically judges children in terms of a unit of potential 'human capital' from the age of four to 11-years-old. This is a 'deficit' model of what children 'can't do' as opposed to what children 'can do'. One headteacher we interviewed noted: 'I think doing any sort of reputable assessment of very young children is dodgy because the children are so young. You know if those children were in Denmark they wouldn't have had to pick up a pencil yet.'

This means that Baseline Assessment produces a negative, inaccurate and detrimental measure. A teacher told us: 'It's ridiculous. It's not a fair representation of children. Many young children are not yet confident enough to show their new teacher what they can do when put on the spot.' This headteacher knew that Baseline Assessment is 'nothing but a ridiculous simplification of knowledge and a robbing of meaning from individual histories' (Malaguzzi, cited in Cagliari et al, 2016).

Pedagogical documentation in contrast to Baseline Assessment demands that the teacher engages in an intelligent and sensitive pedagogy, respectfully listening to what young children can do. Such respectful listening to young children requires early years professionalism, reflection, and an openness to the unexpected; not professional qualities required or encouraged with Baseline Assessment!

In the case of Baseline, this meant a disruption to the start of the school year and the important settling in period; in our nationwide survey, a majority of respondents (59 percent) agreed that: 'The Baseline Assessment has disrupted the children's start to school' (33 percent 'agree a little'; 26 percent 'agree a lot'). This did not vary with different providers.

The general concern was summed up by one teacher, who wrote in her comments: 'I feel that the Baseline Assessment has to be completed too early in the year and means that teachers are madly trying to collect evidence, rather than concentrating on the welfare of their new pupils and helping to create a calm and relaxing environment, which is vital for a positive start to their school life.'

Another teacher told us: 'It has taken away all the things I have always loved about the first six weeks of reception, helping children settle.'

Tensions: 'Will I be there for the children or will I be there for the paperwork?'

For many educators, the pressures of data and the impact on pedagogy expose tensions between the demands of their settings and their commitment to the children. As

one parent we interviewed commented sympathetically, teachers are forced to choose between 'being there for the children', and doing their paperwork. Early years teachers felt their ability to engage meaningfully with the children was limited by the need to collect data and the pressure of assessments. These quotes sum up these tensions:

- 'If I was sitting in the role-play area talking to the children about what they are making and, you know, engaging with them in that way, I would have to say, "Oh I have got to go and do some Baseline Assessment", it would make me feel guilty and it would just be this thing hanging over me.'
- 'I am now pushing information into three-year-olds rather than developing meaningful relationships. Even in the nursery I now feel that pressure. If a child doesn't recognize a number or a letter I go "aggghhh" and hold my breath. I have to remind myself the child is three and not yet ready for it.'
- 'If you have got 60 young people coming in through the door and in six weeks' time you have got to tick 47 boxes about all of them, of course your mind is going to be on that rather than on talking to them about their nice shiny shoes and about their pet rabbit at home, and all those things that give young people a sound, secure start to learning.'

The danger here is that the overriding concern with producing the 'right' data damages the relationship between educator and child, and thus the child's experience and learning. This shift towards data represented a de-professionalisation, because it undermined what they saw as key values of care and relationship-building, central to their profession.

Data-driven identities in education

One of the results of datafication is a shift in the way we think about what it means to be a 'good teacher' in the early years. A good teacher becomes a 'new type of individual' formed 'within the logic of competition' (Ball and Olmedo, 2013), engaged with data production as a record of the progress their children have made.

In our research, teachers told us they felt pressure to improve their data, which they felt represented their professional worth. As Ball describes it, these teachers are 'subjected to numbers and numbered subjects', their value defined by data (Ball, 2015).

Moreover, as discussed above, they felt de-professionalised by collecting data for accountability rather than focusing upon the child's best interests. Often, this de-professionalising took the form of not feeling 'trusted'; one said: 'I feel no longer trusted as a professional.'

In some cases, teachers were inured to the impact of policy on their practice, and simply accepted having to go against their values; for example, one commented: 'I have always taken the philosophy that, as a teacher, you know you have to do things you don't necessarily want to do or you might not see a purpose for, but it is just one of those things that you have to do.'

Similarly, the school leaders we spoke to felt unable to challenge the priorities demanded by Ofsted and league tables; one said: 'We are bound down and



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broken by those judgements and the way people view us.’ One deputy head pointed out that spending her time analysing data was not efficient: ‘I should be in classrooms supporting colleagues but I spend far too much time looking at assessment data and it is for proving to Ofsted that we are great. I’m an expert at speaking to Ofsted and telling them everything they want to know about data in our school. But actually I would be far more effective if I were in class and the children would benefit more.’

It is noticeable that these teachers and school leaders are inured to the problems caused by continual changes to assessment systems. One teacher described Baseline as ‘another tool with which to bash teachers’.

But despite their negative feelings, they accept reforms because their professional identities are bound up with this process of constantly adapting to change; they simply ‘sigh’ and carry on, or see it ‘as just one of those things’. They are ships buffeted by the latest storm; flexible, adaptable, willing, just as the system requires them to be, but also engaged in some questioning and resistance. Even though they speak out against the system, they are to some extent accepting of their new roles as they see that they have little choice, even when this risks them becoming ‘transparent but empty, unrecognizable to ourselves’ (Ball and Olmedo, op cit).

Playing with numbers: teachers’ and schools’ responses

The reaction of educators to the demands of datafication vary, but can be grouped loosely into two: ‘Begrudging acceptance’ – Selwyn et al’s research (2015), as seen above – and resistance or rebellion. This latter option can take the form of opting out of the ‘data deluge’, described as ‘folding’ (like in a card game) or ‘gaming’, where ‘the social actor plays within the proposed field but not under the set rules’ (Souto-Otero and Beneito-Montagut, 2016).

Under the ‘tyranny of transparency’ (Lewis and Hardy, 2015), where educators’ ‘performance’ is laid bare through data, the temptation to improve data through manipulation is strong, and indeed is a rational response to the pressure. We found that teachers were aware of the possibility of manipulating data, often seeing it as a logical response; for example: ‘Schools want their Baseline scores to be low in order to maximise the progress they can show. [...] Headteachers’ wishes for low Baseline scores also means that we are beginning the year looking for the negatives in children – what they can’t do and how low they can be scored in order to make our scores low.’

Another headteacher said: ‘Obviously, you are not going to shoot yourself in the foot,’ meaning you would not score children unnecessarily high. For others, there

was a practical or moral imperative not to engage in this ‘playing with numbers’ – as one headteacher said: ‘We don’t play those games. I know a lot of schools are forced to do that, particularly schools that are in trouble.’ Another talked about the need for a ‘strong moral compass’ to resist this temptation.

The future of data in the early years

Our research suggests that the growing prominence of data collection and analysis produces particular pedagogies and practices, and affects relationships, as teachers become data collectors, rather than engaging with children.

Data practices create tensions, as other ideological positions on the purpose of education relating to care and nurture are left to one side. Finally, datafication produces data-driven identities, as teachers and school leaders are understood in relation to the stages of data production and processing (and children too, as we discuss in detail in our book).

Teachers are torn between their roles as carers and their roles as producers of data, which demonstrates that learning is happening. School leaders are simultaneously in control – of both the analysis of the data and the teachers that collect it – and under the control of policy developments.

Looking forward to the future, we are aware that the ‘turn to data’ is gathering strength, with the proposed re-introduction of Baseline in reception, and with UK participation in the pilot of the OECD’s ‘mini-PISA’, the *International Early Learning Study* (IELS). It seems that there is something attractive and seductive about the apparent ‘precision of data’ within the world of education, which is seen by many as ‘messy’ or unregulated – this is what Biesta calls the ‘pseudo-security of numbers’ (2017).

But we caution against the view that data are neutral tools, which simply record reality; there is no such thing as ‘raw data’, untouched by human influence (Gitelman and Jackson, 2013). Behind the data are human decisions, about what to measure and how, and these are analysed using assumptions made by people, not computers. Furthermore, in the early years, the reliance on teacher observations for assessments makes the entire process of producing data a subjective one, so that the numbers produced cannot be used in the same way as other measures.

We suggest that politicians have made undemocratic choices about Baseline Assessment and accountability that undermine early years professional autonomy. Politicians have made the choice to use reduced, simplified and demeaning numerical data, such as Baseline Assessment, to ‘measure’ young children.

Reducing young children to numbers in this way is wrong because it is an inappropriate pedagogy for young children – it focuses on what children ‘can’t do’. So within Baseline Assessment, children’s lives, voices and their context specific complexities are disrespectfully ignored. Similarly, early years professionalism and autonomy is

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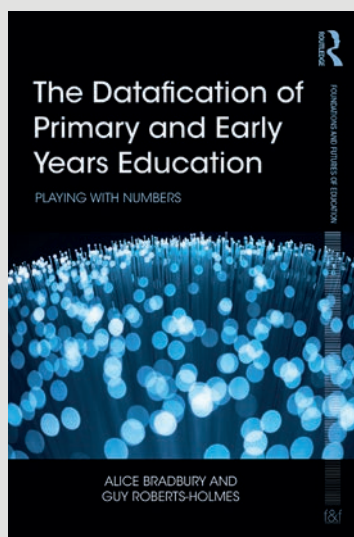


negated and disrespected. Baseline Assessment means that early years education, at ever earlier ages, becomes akin to an ‘exam factory’ (Hutchings, 2015) where children acquire and reproduce pre-determined knowledge to become school ready at even earlier ages and be able to compete in a ‘global race’ (DfE, 2013).

What does all this mean for early years professionals? Baseline Assessment does not need well educated, thinking and ethical early years educators – Baseline Assessment only requires technicians who know how to switch on an iPad, because we now know that the new Baseline Assessment will be tablet-based.

Useful resources

- The ideas for this article come from the following text: *The Datafication of Primary and Early Years Education: Playing with Numbers* by Alice Bradbury and Guy Roberts-Holmes, UCL Institute of Education; from the Routledge series: *Foundations and Futures of Education*
- This book explores and critically analyses the growing dominance of data in schools and early childhood education settings. Recognising the shift in practice and priorities towards the production and analysis of attainment data that are compared locally, nationally and internationally, this important book explores the role and impact of digital data in the ‘data-obsessed’ school. The text explores how data have become an important part of making teachers’ work visible within systems which are both disciplinary and controlling, while often reducing the complexity of children’s learning to single numbers. It offers a unique insight into the links between data, policy and practice and is a crucial read for all interested in the ways in which data are affecting teachers, practitioners and children.
- Hb: 978-1-138-24215-9 | £105.00
Pb: 978-1-138-24217-3 | £29.99
eBook: 978-1-315-27905-3



Key points

- The importance of data to institutions and government has become a ‘buzzword’ in recent years, with predictions that ‘Big Data’ will bring about a ‘data revolution’ in how we manage services and track performance
- In education, we have seen the growth of the use of data to judge schools’ performance, including performance related to early years, with assessments taking place in the reception year
- Early years is undergoing a process of ‘datafication’, that is, a process where educators are increasingly subject to the demands of data production, as it take prominence in their working lives
- This article explores the ‘impact’ of data on what educators do – their practices in the classroom and outside – but also how data change ‘who people are’, or who they are expected to be

Decisions about the detail of Baseline Assessment and what to prioritise have been taken away from the child and early years educators and given to computer programmers and technical experts who simplistically determine ‘what works’. This means that the early childhood educator’s professional skills and sensitivities are not needed – a mere technical assistant could do the job. Indeed, there may come a time when Baseline Assessment can be completely automated without the need for early educators at all. Young children and their early childhood educators are ‘More Than A Score!’ **eye**

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