

The classroom experiences of pupils with special educational needs in mainstream primary schools—1976 to 2012. What do data from systematic observation studies reveal about pupils’ educational experiences over time?

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This paper presents results of an analysis of primary-aged pupils’ educational experiences over a 35 year period. Data drawn from a set of large-scale systematic observation studies, conducted in the UK between 1976 and 2012, are used to describe pupils’ average classroom experiences at six points in time over this period. These data are then used as markers for comparing the experiences of a subset of pupils—those with special educational needs (SEN)—over the same period. Results for the average pupil show an increase over time in the proportion of time spent interacting with teachers and peers. In contrast, relative to these non-SEN pupils, those with SEN have experienced a more moderate increase in the proportion of time spent interacting with the teacher, and almost no change in the amount of time spent interacting with peers and in whole class teaching contexts. The increase in the number of teaching assistants in mainstream primary settings, employed and deployed to assist the learning and inclusion of pupils with SEN, is identified as a key observable influence on the difference between the classroom experiences of pupils with and without SEN over time. This paper additionally defends the use of systematic observation methods, and concludes that the broad, but stable, measures of activity and behaviour, plus the rigorous approach to data collection it provides, are necessary for painting objective, descriptive and retrospective pictures of classroom life that can elude other research techniques.

Introduction

For decades, the classroom has provided a rich and dynamic environment for educational research. Since the 1970s, defining features of classroom life have been captured using a particularly effective method of data collection called systematic observation. The development of systematic observation studies in the USA in the 1970s coincided with researchers’ realisation that existing efforts to describe and understand the features of effective teaching were limited. Greater emphasis was given to teachers’ personality and characteristics, rather than what they actually did in classrooms.

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Since the 1970s, a number of landmark UK studies have used systematic observation to provide valuable insights into what happens in classrooms. Data from these studies provide a snapshot in time, showing how teachers organise the classroom for teaching and learning, and how pupils experience the curriculum, teaching and interactions with their teachers and peers. Longitudinal efforts provide a sense of the extent to which things have changed over time. While Croll (1996a) summarised results from prominent UK observation studies to highlight trends in classroom organisation and interactions from the teachers' perspective, as far as the author is aware, there has been no attempt to use these data to provide a similar picture from the pupils' perspective.

The data from systematic observation studies conducted in the UK offer the prospect of providing this analysis. Furthermore, data on the average pupil experience can be used as a point of comparison for examining the experiences of other pupils. The comparison of interest in this paper is between the experiences over time of pupils with and without special educational needs (SEN).

The evidence from systematic observation studies in mainstream settings is limited in terms of explaining to what extent, if any, pupils' particular SEN affects how they experience teaching and life in school. However, some observational research provides data on another factor known to have a profound quantitative and qualitative effect on how pupils with SEN experience mainstream classrooms: the presence of teaching assistants (Giangreco, 2010; Rutherford, 2012; Webster & Blatchford, 2015). These data are helpful in illustrating how pupils with SEN experience contemporary UK classrooms, and how these experiences differ from pupils without SEN.

Over the period in which systematic observation emerged as a useful technique for collecting reliable data on life inside the classroom, there has been a steady increase in the number of pupils with SEN being included in mainstream schools in the UK. Since the late-1970s, the overall proportion of the school population identified as having SEN has remained fairly constant at around one fifth (Croll & Moses, 2000; DfE, 2014a), but the proportion taught in special schools has been in decline (House of Commons Education and Skills Committee, 2006).

Improvements made in the precision with which such data are collected in England, enable us to know more about the composition of this group of pupils. Since 2000, the proportion of pupils with SEN in mainstream schools has changed from 21.9% to 16.6% in 2003, up to 18.9% in 2007, then 20.7% in 2010, and down again, to 17.1% in 2014 (DfES, 2004, 2007; DfE, 2014a).

Included in this group of pupils are those with the highest level of SEN, whose needs meet the criteria for statutory assessment and provision. The proportion of pupils educated in English mainstream primary and secondary schools in this category has increased steadily since 1990 (Dockrell *et al.*, 2002). Since 2007, it has remained relatively constant at around 1.4% of the primary school population and 2.0% of the secondary school population (DfES, 2007; DfE, 2014a).

Alongside the increase in the number of pupils with often complex SEN included in mainstream schools, there has been a growth in the number of classroom support staff, commonly known in the UK as teaching assistants (TAs).¹ Data from the Department for Education (DfE, 2014b) show the number of full-time equivalent

TAs working in mainstream schools has tripled since 2000. Currently, TAs comprise 24% of the English school workforce.

This paper uses descriptive data collected via systematic observation to show how the experiences of pupils with SEN in English mainstream primary schools has changed over time, relative to pupils without SEN. A key starting point for the analysis detailed here is findings from UK research that show unintended consequences for pupils as a result of TA support. Therefore, this paper also considers to what extent the increase in TAs has affected how pupils with and without SEN experience the classroom. The investigation reported here provides a potentially useful historical context in which to consider the impact of inclusion policies and practices.

Systematic observation

Systematic observation allows researchers to take snapshots of the classroom at regular intervals, focusing on the observed behaviour of teachers and/or pupils. Mutually exclusive categories of teacher behaviour (e.g. use of statements, questions and non-verbal interactions), pupil behaviour (e.g. interactions with teachers and peers, and working silently) and interactional contexts (e.g. where the pupil is part of the class, with a group or one-to-one with an adult) are coded on a consistent basis, typically minute-by-minute. Analyses conducted on the large datasets these studies produce provide a valuable objective insight into the main features of classroom life often unavailable to everyday experience or received opinion. For example, results from the UK ORACLE² study by Galton *et al.* (1980) showed the premises of concerns from the political right about the effects of child-centred progressive teaching methods (e.g. excessive pupil freedoms and neglect of literacy and numeracy ‘basics’) were largely unfounded.

Systematic observation is a technique that draws criticism. Critiquing the methods used in the ORACLE study, Barrow (1984) sought to undermine its results by claiming they missed important features of teaching, such as creativity, and important background pupil characteristics, such as support at home were overlooked. Other general critiques about the validity of systematic observation as a data collection method have come from those who favour a more qualitative, interpretative approach to classroom research. Delamont and Hamilton (1986) provided a strong critique of systematic observation methods, focusing in particular on the Flander’s Interaction Analysis Category System. They argue systematic observation techniques do not take account of the intentions of the teachers and pupils whose interactions are the subject of observation. Such critiques lead to criticisms about the generalisability of results. As Blatchford *et al.* (2005) note, given the time-consuming nature of collecting systematic observations, analyses are typically based on total frequencies of behaviours. Therefore, conclusions made on the basis of analyses of systematic observation data can be somewhat limited to broad features of classroom life.

McIntyre and MacLeod (1986) and Paul Croll (1996b) mounted a stiff defence, arguing that systematic observation is, by design, necessarily limited in terms of capturing the more contextualised and nuanced features of classroom life and teacher–pupil and peer-to-peer interaction. Consequently, systematic observation

methods have been criticised for not providing a level of detail that they were never designed to provide.

Research methods that prioritise and enable the collection of data on a substantial scale, in order to produce cumulative and replicable results, inevitably have to weigh practicalities against the desirable, but less achievable, aim of capturing the sometimes hidden, personalised and contextualised aspects of teaching and learning, and classroom life.

For specific, well-defined research purposes, systematic observation provides one way of describing classroom life. Used in conjunction with other methods of data collection, often in large-scale studies, systematic observation contributes to the construction of the detailed picture researchers strive for. Where activities are (i) straightforward to identify, (ii) behaviours under observation are limited to binary categories, and (iii) frequency measures are a meaningful expression of behaviour, ‘systematic observation techniques can be used across a large number of classrooms and a long period of time, by a large number of observers, all engaged on a common purpose’ (Croll, 1986).

This paper takes the use of systematic observation data a step further by drawing together data that are consistent across a number of studies, and using a comparison of results as the basis for a commentary on the key changes to affect pupils’ classroom experiences since the mid-1970s. Such an analysis necessarily involves comparing results from different research studies. Croll (1996a) and Galton *et al.* (2002) recognise the appropriateness, viability and complexity of interpreting data from different observation studies, given the variations in samples, use of different instruments, observation systems and data analysis methods. Consequently, the discussion presented later is limited to what can be said about the results of the analysis undertaken for this paper and avoids speculation that the evidence is unable to support.

This paper

The analysis reported in this paper is based on data from systematic observation studies conducted between the school years 1976/77 and 2011/12, on pupils aged 7–11 years, attending mainstream primary schools in England. The results of the analysis of this historic dataset are used as the basis for identifying similarities and differences in how pupils have experienced the primary classroom over time. The data allow three strands of analysis.

Identifying trends over time for pupils without SEN

The ORACLE studies of 1976 and 1996 (Galton *et al.*, 2002), the One in Five study (Croll & Moses, 1985), School Matters (Mortimore *et al.*, 1988) and the PACE³ project (Pollard *et al.*, 2000) all used systematic observation to collect data in primary classrooms at points between the mid-1970s and mid-1990s. Results from these studies are at a general level and describe pupils’ experiences in terms of their behaviour and the contexts in which they worked and interacted with teachers and each other. Two further systematic observation studies—the Deployment and

Impact of Support Staff (DISS) project (Blatchford *et al.*, 2012), and the Making a Statement (MAST) study (Webster & Blatchford, 2013), conducted respectively in 2005/06 and 2011/12—provide data on pupil behaviour. The data collection methods and category coding systems used in these studies have a common lineage; the One in Five system was based on the ORACLE system, and the DISS and MAST systems on the One in Five system. Thus the methods allow for results capable of identifying trends over time.

Identifying trends over time for pupils with SEN

In the early 1980s, the English education system saw an extension in the range of children and young people identified as having SEN educated in mainstream schools. A main catalyst was the recommendations from the Warnock committee report [Department of Education and Science (DES), 1978], incorporated into the 1981 Education Act, which introduced a system of statutory assessment for pupils with the highest level of need. Assessment led to a Statement, which set out a pupil's SEN alongside the provision required to meet their needs. Provision is taken to mean that which is additional to, or otherwise different from, the provision normally available to children in mainstream settings.

Data relating only to primary-aged pupils is unavailable, but between 1979 and 1991, the total number of pupils in special schools fell by 27.5%, from 131,000 to 95,400 (House of Commons Education and Skills Committee, 2006). Between 1991 and 2000, the number of pupils in special schools declined by 5.3%, and the number of Statemented pupils in publicly funded mainstream schools increased by around 30% (95,000 pupils). Between 1997 and 2005, there was a 7% decline in the number of special schools in England (House of Commons Education and Skills Committee, 2006).

Since 2000, the proportion of all pupils with Statements educated in mainstream English primary schools has fallen slightly, from 28.7% to 25.9% in 2012 (DfES, 2004; DfE, 2014a). In 2003, Statemented pupils comprised 1.6% of the primary school population, but since 2009, the proportion has remained constant at 1.4% (DfES, 2004; DfE, 2013). Some of these fluctuations may reflect nuanced changes to the criteria for which Statements were awarded over this period.

Statistics on pupils with SEN who do not have a Statement attending in mainstream primary schools (collected for the first time in 1995) show a steady increase (House of Commons Education and Skills Committee, 2006). Since 2003, these pupils have been categorised as either on School Action or School Action Plus; the latter grading is given to children whose needs require a greater level of provision than those on School Action, but whose needs fall short of the criteria required for a Statement. Since 2000, the proportion of pupils on School Action or School Action Plus in all publicly-funded mainstream schools has fluctuated between 15% and 19% (DfE, 2013).⁴

Three of the systematic observation studies listed above either captured data on pupils with SEN or differentiated between data captured on pupils with and without SEN. Again, these results allow for the identification of trends over time.

Differences between pupils with and without SEN over time

On the basis of the above, a third strand of analysis is possible: a comparison between the experiences of pupils with and without SEN over time. The literature is clear on the impact of TAs on classroom organisation (Blatchford *et al.*, 2012) and the particularly negative effect high amounts of TA support have on pupils with SEN (Webster *et al.*, 2010; Webster & Blatchford, 2013). Based on this, the author developed a working hypothesis: taken together, the results from descriptive systematic observation studies from the UK dating back at least 30 years, would likely show an observable effect on the experiences of pupils with SEN of increasing TA presence in classrooms, with less effect apparent for pupils without SEN.

Despite the clear increases in the proportions of pupils with SEN and TAs in mainstream primary classrooms since 1980, to date, there has been no attempt to use these data to examine how the experiences of pupils of SEN have changed over time. A key purpose of the research described in this paper, therefore, was to provide a means to identify any detectable differences over time in the classroom experiences of pupils with SEN in mainstream primary schools, relative to the experiences of average, non-SEN pupils in the same settings.

The research questions addressed in this paper are:

- (1) How have pupils with SEN experienced life in English mainstream primary classrooms relative to pupils without SEN, between 1976 and 2012?
- (2) Over this period, to what extent has the presence of TAs affected how pupils with and without SEN experience life in English mainstream primary classrooms?

Methodology

Selection of systematic observation studies

To address the research questions, an analysis was undertaken using data from selected systematic observation studies conducted between 1976 and 2012. In each case, the observations formed one data collection component of a large-scale research project.

Identifying a consistent sample. The analysis presented here draws on data from six systematic observation studies. Though specific studies had specific foci and observation schedules, broad and key categories are identifiable across the observation systems. As noted above, in some cases, the design of the observation procedure and tools had origins in a previous study. In order to achieve the highest degree of reliability possible, it was necessary to select studies with a similar design and which used similar data collection and sampling methods, plus collected data on similar categories of behaviour on pupils of a similar age. A review of the literature was conducted in order to identify suitable studies for inclusion.

A number of prerequisites were applied in order to isolate potential studies for inclusion. First, studies had to have been conducted in a consistent context so as to reduce the variation between education systems. Therefore, selected studies were all

conducted in mainstream schools in England. The second stage of selection concerned the study sample. Analysis was limited to data from studies involving primary school-aged children aged 7–11 (e.g. pupils in Key Stage 2).

Studies with a particular focus that produced data unlikely to help with generalisability were then filtered out. These included the Curriculum Provision in Small Primary Schools project (Galton & Patrick, 1990) and the Implementation of the National Curriculum in Small Schools project (Galton *et al.*, 1998). These were deselected because of their focus on small, often rural, schools. The School Matters study (Mortimore *et al.*, 1988) was also rejected because data were collected in schools in the Inner London Educational Authority only, so results may reflect a particular local variation.

The criteria for inclusion in the analysis are summarised below. To be included, data from each study had to be:

- Collected on pupils in Key Stage 2 (aged 7–11) attending mainstream primary or junior schools
- Collected in schools in at least two geographical areas (e.g. local authorities)
- As representative as possible of a national sample of pupils in terms of background characteristics (e.g. gender, ethnicity)
- Collected on pupils whose activities/behaviour were representative of what could be termed the ‘average’ pupil experience at the time of the study
- Restricted to data collected in lessons in mainstream classrooms (not elsewhere in school).

Data meeting these criteria allowed a comparison of key variables over time. In addition, data were included from studies that differentiated between data collected on pupils identified as having SEN, as well as average-attaining ‘control’ pupils. These two sets of data allowed a comparison of the experiences of pupils with and without SEN over time. Though the number of pupils and lessons observed differed for each of the six selected studies, each study had a substantial dataset accumulated over many hours of classroom observation. Details of the sample sizes of each study and the sources from which data were drawn are shown in Table 1. Access to the original DISS project data allowed the preparation of analyses using data for Year 3 pupils only.

The ‘average’ pupil. The selected studies reported results in terms of the ‘average’ pupil experience, based on the mean or average of all pupil observations. With the exception of the MAST study, however, this approach does not necessarily imply that the ‘average’ pupil experience is that of a child whose academic attainment is in the average range. For clarity, Table 1 shows the attainment level of all pupils included in each study sample (where available), regardless of whether they had SEN. Where attainment level was recorded, researchers tended to use a three-point scale to indicate pupil attainment.

Pupils with SEN. Three studies collected specific data on pupils with SEN. SEN pupils in the One in Five study were selected on the basis of teachers’ identification of their needs, in terms of whether they had learning difficulties and/or behavioural

Table 1. Studies included in the analysis: pupil samples

Name of study and key data source	Attainment level						SEN status									
	Schools (n)	Classes (n)	Year group (age range)	Total pupils (n)			Pupils without SEN (n)	Pupils with SEN total pupils	Main SEN need (% of total pupils)			Level of SEN (% of total pupils)				
				Low	Below average (%)	Above average (%)			High	Learning	Behaviour	School Action	School Action Plus	Statement of SEN		
ORACLE, Galton <i>et al.</i> (2002)	19	58	3-6 (7-11)	489	25	50*	25	N/A	489	Pupils with SEN omitted from sample						
One in Five, Croll & Moses (1985)	20	34	4 (8-9)	280	Pupils randomly selected from class list			227	19	13	9	Sub-categorisation not in place at time of study				
PACE, Pollard <i>et al.</i> (2000)	9	18	3-6 (7-11)	54	7	16	32	29	15	54	Data on pupils SEN status not collected					
ORACLE 2, Galton <i>et al.</i> (2002)	14	28	4-6 (8-11)	600	Pupils randomly selected from class list**			600	Pupils with SEN omitted from sample							
DISS, Blatchford <i>et al.</i> (2009)	22	22	3 (7-8)	170	39	N/A	41	N/A	33	100	41	Data on SEN need not collected	25	12	4	
MAST, Webster & Blatchford (2013)	45	48	5 (9-10)	199	24	N/A	76	N/A	0	151	24***	15	7	0	100	

Notes: Percentage figures have been rounded. *Target pupils were selected on basis of reading test scores. **When test data became available, pupils were grouped by attainment for the purposes of comparison. Three categories were used to stratify observation data: high, intermediate and low attainment. However, the author cannot find any reference in the literature to the proportions of the pupil sample in each category. ***Two per cent of total pupils had a more complex composition of difficulties, of which one of the main presenting needs was either learning or behavioural difficulties.

difficulties; pupils with sensory or physical impairments were not included. The DISS project included pupils on the three stages of the SEN register: School Action, School Action Plus and those with Statements. All types of SEN (e.g. cognitive, behavioural, sensory, physical) were included, but pupils were not defined in these terms, as these data were not collected. All SEN pupils in the MAST study sample had a Statement for either moderate learning difficulties or behavioural, emotional and social difficulties. One reason for selecting these types of SEN over others was to ensure consistency with the design of the One in Five study, and on which the MAST study was based.

Identifying consistent observation category variables for comparison. The final stage of the study selection process involved a careful investigation of the observation design and coding categories used in each study. In addition to the criteria listed above, each study had to fulfil some additional criteria to justify inclusion in the analysis. The observation systems had to be complete across a common set of category coding variables, and data had to have been collected using a systematic (not random) time sampling method in lesson-length observations. Time sampling is well suited to studies designed to capture frequently occurring and discrete behaviours. The selected studies used either an instantaneous sampling approach (coding observable activity at a precise interval) or a one-zero approach (observing for a short interval and then coding the activity that occurred in that interval directly after it has ended). Both approaches locate behaviours at a point in time and offer a degree of standardisation to aid the generalisability of results. Details of the systematic observation procedures for each study are shown in Table 2.

Though the studies differed in the amount of time each pupil was observed and the duration of the observation and coding windows, this has not precluded previous attempts to summarise results from two or more different systematic observation studies using common coding categories (Croll, 1996a; Galton *et al.*, 2002). In order to achieve as reliable a set of results as possible, commonalities across category codes were identified and refined to produce a set of consistent variables. Data from one study—the Class Size and Pupil Adult Ratio project (Blatchford, 2003)—had to be rejected at this stage, as several coding categories were not as fine-grained as they were in the other studies.

Given each study used its own observation system, expressly designed for the purposes of collecting data to answer specific research questions, there is a risk that definitions or uses of particular categories can differ between observation systems. For example, in one system, peer interaction might relate to occasions when children work alone but are allowed to talk to one another; in another, peer interaction may refer to group tasks. Any potential confound between such nuances was mitigated by selecting a limited number of broad level variables capturing activities and behaviours, the meaning of which were consistent and consistently applied by observers in each of the studies.

The variables selected for comparison were common and consistent across the observation schedules used in the six studies. The variables concerned three ‘social modes’, plus no interaction:

Table 2. Studies included in the analysis: systematic observation procedures

Name of study and key data source	Time sampling method used	Time spent observing in classroom (per pupil)	Observation window (per pupil)	Coding interval
ORACLE, Galton <i>et al.</i> (2002)	Instantaneous sampling	1 hour	10 consecutive coding intervals	Every 25 seconds
One in Five, Croll & Moses (1985)	Instantaneous sampling	Two non-consecutive hours	4 minutes	Every 10 seconds
PACE, Pollard <i>et al.</i> (2000)	Instantaneous sampling	One morning and one afternoon over one school week	6 minutes	Every 10 seconds
ORACLE 2, Galton <i>et al.</i> (2002)	Instantaneous sampling	1 hour	10 consecutive coding intervals	Every 25 seconds
DISS, Blatchford <i>et al.</i> (2009)	One-zero sampling	Two school days over one school week	10 seconds	Once per minute
MAST, Webster & Blatchford (2013)	One-zero sampling	One school week	10 seconds	Once per minute

- (1) Pupil interaction with adults
- (2) The contexts in which interaction with adults occurred (e.g. as part of the class, a group, or one-to-one)
- (3) Interactions with classmates
- (4) When no interaction took place.

These variables were used as the basis for separate analyses of experiences over time for pupils with and without SEN, and a third analysis of the experiences over time of pupils with SEN, relative to those without SEN.

Results

Though each of the selected cross-sectional studies deployed robust methods to produce reliable and valid results, a longitudinal comparison of results across the studies is inevitably weakened by subtle nuances in the observation systems that are likely to exist, but not possible to discern from the available literature. It is important to note that the results presented here are purely descriptive. The authors of the respective studies explored the possible causes and implications of their findings in their publications, and some of this is reflected in the discussion section that follows.

Conclusions drawn from these results are limited only to what the data reveal and avoid speculation. That said, great care has been taken to use data that allow a plausible commentary on the likely factors and educational trends impacting, directly and indirectly, on the classroom experiences of primary-aged pupils with and without SEN over a 35-year period.

Pupil-teacher interaction

Trends over time for pupils without SEN. Results for pupils without SEN suggest the overall proportion of time spent interacting with the teacher has more than doubled between 1976 and 2012 (from 16% to 40% of the time). Results from the studies conducted in the mid-2000s show an increase in interactions with the teacher as part of the whole class. Pupils appear to spend three times as much time in class mode as they did in the late-1970s: 35% (MAST) vs 12% (ORACLE). Although not shown in Table 3, the ORACLE, DISS and MAST studies independently found that for the vast majority of the time, when pupils were in the whole class situation, their role was a passive one, listening to the teacher teach. The results in Table 3 suggest the proportion of time pupils without SEN interact with teachers in a group or one-to-one context has remained relatively unchanged over time.

Trends over time for pupils with SEN. Compared with pupils without SEN, those with SEN appear to have experienced a more moderate increase in the amount of time spent interacting with the teacher: from 26% (One in Five) to 36% (MAST). The proportions of time spent interacting with teachers in group and one-to-one contexts are broadly comparable with those observed over time for pupils without SEN.

Differences between pupils with and without SEN over time. In the One in Five study, class interactions were broadly similar for pupils identified as having SEN and those without SEN. Yet results from the DISS and MAST studies imply that more recently, compared with their non-SEN peers, the proportion of time pupils with SEN spend interacting with teachers as part of the class has risen less sharply.

Table 3. Comparison of the classroom experiences of pupils with and without SEN

	Pupils without SEN (%)						Pupils with SEN (%)		
	Oracle 1976/ 77	One in Five 1981/ 82	PACE 1993– 96	Oracle 2 1995/96	DISS 2005/ 06	MAST 2011/ 12	One in Five 1981/ 82	DISS 2005/ 06	MAST 2011/ 12
<i>Teacher and pupil</i>									
Part of class	12	23	24	21	44	35	21	36	30
Part of group	2	3	2	4	3	2	2	3	2
One-to-one	2	2	4	3	4	3	3	7	4
<i>Teacher total</i>	16	28	30	28	51	40	26	46	36
<i>TA and pupil</i>									
Part of class	–	–	<1	–	0	1	–	<1	3
Part of group	–	–	<1	–	2	1	–	5	5
One-to-one	–	–	<1	–	2	1	–	9	13
<i>TA total</i>	–	–	<1	–	4	2	–	15	20
Peer interaction	19	19	22	27	20	32	18	16	18
No interaction	66	53	46	45	25	26	56	23	26
Total interaction	100	100	100	100	100	100	100	100	100

Note: Croll and Moses (1985) present data for pupils with learning difficulties and behavioural difficulties separately. Here, these results are summed and the mean value given.

Interestingly, the results from the MAST study shown in Table 3 somewhat understate the case in relation to pupil–teacher interaction. The MAST study data presented here are from observations made within mainstream classrooms, yet the researchers also collected observation data in out of class contexts. They found that overall, Statemented pupils spent 25% of their time working outside the classroom (Webster & Blatchford, 2013). Across all observations, the proportion of time these pupils spent interacting with the teacher in whole class contexts reduced from 30% to 22%. Not only is this markedly lower than for pupils without SEN (35%), but it is proportionally similar to the 21% for pupils with SEN found in the One in Five study 30 years previous.

Pupil–TA interaction

Trends and differences between pupils with and without SEN over time are somewhat redundant in this analysis, as the pre-DISS studies either did not capture pupils' interactions with 'non-teachers' or—far more likely—because such interaction was very rare owing to the limited number of TAs working in schools at the time. However, on the basis of the data in Table 3, we can see that for pupils without SEN, interaction with TAs constitutes only a fraction of their classroom experiences (between 2% and 4%), with one-to-one and group interactions with teachers outweighing interactions with TAs in similar contexts.

In contrast, interactions with TAs have become a key part of the experiences of pupils with SEN. Results from the DISS and MAST studies show interactions with TAs comprise up to a fifth of all observations these pupils experience. The systematic observation results from the DISS project found that the higher the level of pupil SEN, the more likely it is that they interact more with a TA and less with a teacher (Blatchford *et al.*, 2012). The proportion of interactions with TAs on a one-to-one basis is particularly marked for pupils with SEN, compared with interactions with teachers in the same context (e.g. in the MAST study, 13% vs 4%).

Peer interaction

Trends over time for pupils without SEN. The results suggest there has been a steady increase in the proportion of peer interactions for pupils without SEN. Peer interaction comprised a fifth of all classroom interactions for the pupils in the first ORACLE and One in Five study (1970s/80s), over a quarter in the second ORACLE study (1990s), and a third of interactions for those in the MAST study (2010s).

Trends over time for pupils with SEN. The data from the same studies imply there has been virtually no change in the amount of peer interaction involving pupils with SEN over the last 35 years: 18% in both the One in Five and MAST studies.

Differences between pupils with and without SEN over time. While the results from the early-1980s show little difference in the proportion of peer interaction experi-

enced by pupils with and without SEN in the classroom (19% vs 18%), results from 2011/12 found pupils with SEN had about half as many interactions with their classmates as non-SEN pupils (18% vs 32%).

No interaction

For completeness, Table 3 includes instances from the observation studies of when pupils did not interact with anyone, but were engaged in independent activities or (less probably) off-task (e.g. day-dreaming). In the early studies, pupils with and without SEN spent over half their time in the classroom not interacting (53%+). Over the mid-1990s, the proportion of time spent not interacting had fallen to just under half the time (around 45%), and then further still from the turn of the century, to around a quarter.

Discussion

One needs to take great care in discussing the results above, as there is little that can be said without entering into outright speculation. For example, on the basis of these data, it is not possible to say with certainty why the primary classroom seems to have become a more 'active' environment in recent decades, with pupils interacting with adults and one another with greater frequency over time. However, there are some tentative explanations as to why the average (non-SEN) pupil nowadays appears to enjoy almost twice as much time interacting with the teacher compared with similar pupils 35 years ago, which are discussed below.

Pupils without SEN

Based on the data presented in this paper, it seems that today, the average pupil experiences the primary classroom differently to how similar pupils experienced it in the preceding decades. Broadly speaking, compared with the 1980s and 1990s, the average pupil experiences more whole class interaction with the teacher, more peer interaction, and spends less time working alone in silence.

It is, of course, not possible to identify the precise cause or causes of these changes, yet the authors of several of the studies in the analysis sample have suggested that the broad trends observed are likely to owe something to the introduction of the National Curriculum in the late-1980s. 'Because of the amount of subject content and standards of attainment that were now required' (Pollard *et al.*, 2000), teachers were 'forced to concentrate more on whole class teaching' (Moses, 1996; Brown, 2012). McNess *et al.* (2001) found lessons in Key Stage 2 typically consisted of whole class teacher input followed by individual tasks; one-to-one interaction was rare. Fitting the new statutory requirements into the school day, suggest Galton *et al.* (1999) placed 'too heavy an imperative on teachers to cut down the amount of pupil participation in order to "get through" the curriculum content'.

Pupils with SEN

If the influence of the National Curriculum has had an effect on teaching and, in turn, the classroom experiences of pupils without SEN, then it has almost certainly affected those with SEN in similar ways. Indeed, it is worth noting Croll's (1996b) claim that the way the National Curriculum applied 'pressures to concentrate on the whole class and the class average would disadvantage' pupils with SEN. In the context of this paper, pursuing this line of argument would lead only to further speculation in terms of what the results presented above might mean. We are, however, on slightly firmer ground in relation to a different claim about how the experiences of pupils with SEN have changed over time, and relative to the experiences of pupils without SEN.

The results of the analysis reported in this paper appear to support the view that the intuitive appeal of increasing the number of TAs in mainstream primary settings to assist the learning and inclusion of pupils with SEN has had an observable impact on the experiences of these pupils, which is not shared by pupils without SEN.

The use of TAs to support pupils with SEN has become an established part of life in the primary school classroom. For those with SEN, interactions with TAs comprise a key part of their day-to-day classroom experience. Data from the later systematic observation studies show how interactions with TAs have, in a sense, replaced interactions with teachers. Consequently, pupils with SEN—particularly those with the highest level of need—experience less interaction with a qualified teaching professional than pupils without SEN.

High levels of TA support also appear to affect the opportunity for peer interaction in the classroom. The results suggest pupils receiving little or no TA support now have proportionally more peer interaction compared with similar pupils in the early 1980s. However, over the same period, there has been seemingly no change in the amount of peer interaction involving pupils with SEN.

As the proportion of time pupils with and without SEN spend not interacting is almost the same (23% vs 25% in the DISS project; 26% in the MAST study), this suggests that interaction with TAs replaces interaction with others.

The data presented in this paper suggest the inclusion of TAs in the primary classroom to support pupils with SEN has resulted in the educational experience of these pupils diverging from that of the average (non-SEN) pupil. Additional findings from the MAST study show how the lives of pupils with high-level SEN are characterised by a high degree of separation from the classroom, the teacher and peers, and a lower quality pedagogical diet, as a result of systems of SEN provision that prioritise the employment and deployment of TAs, rather than teacher input. A decade earlier, Croll and Moses's (2000) survey of 300 teachers found that two-thirds of Statemented pupils were regularly withdrawn from mainstream classrooms to work with TAs for an average 3.7 hours per week. This matters, because findings from the DISS project show that this separation, and the subsequent way in which TAs are used as an *alternative* to teacher support, has unintended and troubling consequences.

An analysis of the progress in English, mathematics and science made by 360 pupils with SEN in Years 3 and 6 over a school year, found that pupils receiving the most TA support made less progress than similar pupils who received little or no TA support, even after controlling for factors likely to be related to attainment

and the allocation of TA support, such as prior attainment and SEN status (Webster *et al.*, 2010; Blatchford *et al.*, 2012). Effects were particularly marked for pupils with the highest levels of SEN (e.g. those on School Action Plus or who had Statements). Similarly, Reynolds and Muijs (2003) found primary pupils who struggled most with mathematics who were assigned TA support made less progress than their unsupported peers.

It is important to note there is no suggestion that the negative relationship between TA support and pupil progress is attributable to TAs; in other words, that it is somehow their fault. Training for teachers and TAs, plus the lack of time for quality pre-lesson preparation and feedback are equally key factors in explaining the attainment results from the DISS project (Webster *et al.*, 2011).

It is difficult to escape the conclusion that over the last 20 or so years, mainstream primary schools in England have drifted towards a situation where unqualified, non-teaching staff have taken on the role of 'primary educator' for children with often complex learning needs. This raises concerns about how schools organise to provide support for pupils with SEN, and about fairness and discrimination in education. As Giangreco *et al.* (2005) have argued, it is unlikely we would allow such an educational regime for pupils without SEN.

Conclusions

It has been the aim of this paper to use carefully selected descriptive data from a set of systematic observation studies to conduct an analysis of pupils' classroom experiences between 1976 and 2012. Data describing the average pupil experience at points in time were used as markers for comparing the experiences over time of pupils with SEN. The results suggested variations in relation to the proportion of time these pupils spent interacting with teachers, TAs and peers, and working alone, both over time and relative to pupils without SEN.

On the basis of the results of this analysis, the large increase in the number of TAs working in mainstream primary classrooms was identified as a key explanatory factor in the differences between the experiences of pupils with SEN over time, and relative to the average pupil. Additional reasons for the difference in the experiences of pupils with and without SEN over time are limited to supposition, although researchers have identified the National Curriculum, and how it has changed the way teachers teach and arrange the classroom, as a potential source of influence.

The most recent research studies referred to in this paper highlight how pupils with high-level SEN experience a lower quality pedagogical diet as a result of school and classroom arrangements that rely heavily on TAs to provide key, moment-by-moment instructional input (Blatchford *et al.*, 2012; Webster & Blatchford, 2013). Elsewhere, the author and colleagues have set out how schools can begin to reverse the current situation, working towards models of practice in which teachers use TAs in ways that: (i) free them up to spend more time working with pupils with SEN; and (ii) make an appreciable difference to pupils' progress (Russell *et al.*, 2012).

It has also been the aim of this paper to provide something of a defence of systematic observation methods. The limitations of using data derived via systematic

observation have been apparent in the discussion above. While it provides a relatively straightforward (though often labour intensive) means of obtaining descriptive data, the picture of classroom life it paints is typically achieved using broad strokes. That said, it is chiefly by using these more stable measures of classroom activity, which are less susceptible to nuanced interpretation by individual observers within and across studies, that allows us to create a retrospective picture of life in the primary classroom.

NOTES

- ¹ In line with common usage, the term ‘teaching assistant’ is used to cover equivalent classroom-based paraprofessional roles, such as ‘learning support assistant’, ‘special needs assistant’ and ‘classroom assistant’. ‘Higher level teaching assistants’ are also included in this definition.
- ² The Observational Research and Classroom Learning Environment (ORACLE) project, led by Maurice Galton, was a study of teacher effectiveness. It was the first large-scale observational study of primary classrooms to be conducted in the UK. The aim was to provide descriptions of typical teacher–pupil and pupil–teacher interaction. Observations were carried out in some of the same schools in a replication study 20 years later, which for convenience, is referred to in this paper as ‘ORACLE 2’.
- ³ The Primary Assessment, Curriculum and Experience (PACE) project, led by Andrew Pollard, studied the impact on English primary schools of the introduction of the National Curriculum and its attendant assessment procedures, following the 1988 Education Reform Act. Randomly selected pupils were observed and interviewed throughout Key Stage 2.
- ⁴ School Action and School Action Plus were scrapped in September 2014 and replaced with a single school-based SEN category.

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