

## **An analysis of educational dialogue as support for learning for young pupils with autism in mainstream schools**

Dominant deficit-focused discourses of autism have supported the use of specialized practices within education. This is despite the fact that recent micro-level research provides evidence of overlooked interactional competence in autistic children and problematizes the idea of their unavailability to ordinary teaching methods. The aim of this pilot project was to investigate processes of learning and teaching for two autistic pupils identified as doing well in their respective mainstream primary schools. The study used a participatory design in which practitioners were invited to be co-researchers and contribute to the gathering and analysis of recorded information about interaction.

Transcription conventions used in conversation analysis were applied to moments of interaction that were identified by co-researchers as significant. Analysis demonstrates that practitioners showed a strong preference for a dialogic teaching approach to extend pupil thinking, for example, following the pupil's lead in interaction, asking rather than telling and taking an interest in the pupil as a person. Pupils demonstrated their ability to respond effectively to this, including participating in interaction at a structural level of cooperation and providing preferred responses with minimal pauses. Practitioners used talk flexibly, to support topic learning in relation to lesson content, but also to support areas of social-emotional learning that are seen as important for pupils on the spectrum.

Keywords: autism; inclusive pedagogy; dialogic teaching; conversation analysis

### **Introduction: the importance of dialogue to support pupil learning**

Progressive ideas about learning have moved decisively away from a transmission model of teaching and call attention to the social milieu of the classroom and other learning spaces, including the way in which the pupil participates in and makes sense of learning contexts and the quality of teacher interactions with individual pupils (Pollard 2014). Pupils are constructed as active agents who continually search for meaning and act in purposeful ways that are not always immediately understandable to the teacher, but do make sense once the child's frame of reference is recognized (Hart and Drummond 2013). Curricula innovation, in Wales for example where this research took place, and in the UK and globally, make continual reference to the importance of learning through first-hand experiences and teachers paying attention to

pupil-initiated activity and the ways they engage with learning (Welsh Government 2015).

Over a decade after the introduction of the inclusion agenda, effective inclusive pedagogy is also located in the ways in which teachers respond to differences in pupil learning, much more than in the use of specialist methods (Florian and Black-Hawkins 2011). For all learners, the role of the teacher is seen as one of working with pupils in an intellectual way, that is, continually ‘hypothesizing about states of mind’ in order to understand pupils’ actions and choices and the classroom conditions that support or constrain these (Hart and Drummond 2013). In doing this, knowing when and how to respond to pupils is an integral part of the social practice of teaching and something that good teachers always strive to do (Elwood and Murphy 2015). Good teachers make continuous assessments of pupils and, importantly, seek to offer support flexibly depending on the outcomes of those assessments.

Educational dialogue is a vital method for providing support for learning and offers considerable flexibility in its use. Mercer and Littleton (2007) have outlined the ways in which teachers use dialogue to support learning, which include traditional initiation-feedback-response sequences that prompt already known answers, but also less authoritative communicative approaches that are more effective in extending pupil thinking. Teachers scaffold pupil thinking, for example, through dialogue that positions them as a more knowledgeable though helpful partner in learning interactions. They also engage in less powerfully positioned talk where symmetries of knowledge between teacher and pupil exist (Bateman 2015). ‘Dialogic teaching’ is a term introduced by Alexander (2008) to describe the range of strategies teachers use to engage with and extend pupils’ thinking. These strategies include inviting pupils to say what they think and showing an interest in their ideas, seeking pupils’ explanations and opinions, asking for clarification, and teachers giving their opinion and taking pupils’ perspectives. In educational research, a dialogic approach to learning and teaching has been found to be the most effective form of pedagogy and a key factor in pupil attainment (Mercer 2008).

Teachers use dialogue for purposes other than topic learning too, for example, for behaviour management, and to support the development of positive relationships

(Pollard 2014). However, it should be remembered that such dialogue also supports learning within a wider curricular focus on social and emotional growth in children. Relational talk, for example, has qualities of warmth and care that support the development of strong relationships and provide important opportunities for learning. Teacher-pupil interactions in schools are conceptualized as different to parent-child interactions, being more concerned with shared frames of reference across a group. However, the flexibility of support that learning and teaching demands means that teachers make rapid, moment by moment decisions about this, adjusting the quality of interaction with pupils and the level of support as required (Bateman 2015).

### ***Autism and dialogic support for learning***

Teacher understanding of how autistic pupils participate in contexts for learning is consistently promoted as key to best practice (Charman et al. 2011). The focus of attention in autism education is increasingly on processes of learning and teaching, including how teachers make accommodations for autistic pupils (Powell and Jordan 2012). However, dominant deficits-focused discourses of autism continue to support the use of specialized approaches in education and care. This is despite the fact that recent research into interaction provides evidence of autistic children showing interactional competence they were not thought to have and raises questions about the unavailability of pupils to ordinary teaching methods (Solomon 2015, Sterponi and de Kirby 2016).

The research reported here is a pilot study for a larger knowledge inquiry into ordinary processes of learning and teaching for autistic pupils in mainstream classrooms. Research into educational interactions has tended to take place in specialist settings, with the view that knowledge gained in one setting can straightforwardly be applied to other settings. This research project is positioned within a social constructionist paradigm with the view taken that knowledge about what people do within interaction must take full account of the context in which that interaction takes place (Gubrium and Holstein 1997). Given that two-thirds of pupils on the spectrum are educated in mainstream schools in the UK, this pilot and the larger study are focused on the practice by 'non-specialist' teachers, though the terms

specialist and non-specialist draw from a medicalised discourse of autism and education that is not subscribed to here.

## **Methods**

The pilot study was specifically concerned with exploring the use of participatory research, with teachers acting as co-researchers who identify key moments of interaction for their autistic pupils and contribute to the gathering of information about these. Much has been written about the need to align research and practice in relation to autism and education, but the fundamental principle of the development of knowledge about best practice by researchers who are not teachers and then the prescriptive transfer of this to practitioners has only recently been seen as problematic (Guldberg et al. 2017). This is the case even though, outside of autism research, there is the understanding that teachers make situated decisions about how to teach pupils, a process that makes teaching inherently adaptive, unpredictable and unsuited to guidance that is prescriptive (Kershner 2013). There is the understanding too that teaching takes place in a private space – the classroom – that is generally free from scrutiny and not readily accessed by a researcher outside of the setting (Clandinin and Connelly 1996). In developing this project, it was felt that research into learning interactions needed to take a naturalistic approach, but also value and show respect for what teachers do and be highly sensitive to the private nature of teaching practice. This is all the more given that supporting pupils with autism often involves heightened levels of stress for practitioners as well as feelings of lack of confidence in professional knowledge and competency (Roberts and Simpson 2016).

Two mainstream primary schools participated in the pilot study, with a class teacher who was currently working with an autistic pupil and that pupil's teaching assistant invited to the initial teacher inquiry group meeting. Research questions for the pilot concerned exploring good practice in relation to teacher-pupil learning interactions and the use of participatory methods for gathering and analysing information about these. Schools were therefore invited to be involved in the research on the basis that they were working with an autistic pupil who was considered as learning and developing successfully within mainstream education. Following ethical clearance by the ethics committee of the first author's University, individual informed consent

from practitioner participants and the parents of the two children with autism was sought and an initial meeting with practitioners was set up. In the initial meeting, the first author explained that she was interested in finding out more about how teachers support pupils on the spectrum in the course of ordinary learning interactions. In order to illustrate how micro-level analysis can be used to show ways in which adult talk engages autistic children, examples of research into parent interactions with children with autism were shown. The inquiry group was then asked to agree methods for data collection and decided to use ordinary classroom iPads to collect instances of effective learning interactions, identified by them and without the first author present. This was felt to be the most natural way in which to collect information and the method least likely to interfere with ordinary ongoing classroom activity. Issues in relation to gaining ongoing assent from children was explained by the first author to participants and a time frame for collecting data was agreed.

The material presented here is taken mainly from recorded interactions made by Jenn, a teaching assistant who was working with Sam, a 6-year-old boy with autism. Jenn had been working with Sam for two years at the time of the research and in the school where the recordings took place for seven years. Sam was reported by Jenn, his class teacher, parent and the school special needs coordinators as doing well and developing in terms of his ability to understand others and participate in individualized learning activities. Taking turns and sharing ideas with other pupils was said to be an area of challenge, however, and much of his learning was done in interaction with Jenn. A challenge for Sam was the ongoing activity of the classroom so that, on occasion, he carried out a task in quiet break-out spaces attached to the classroom. This was done minimally, but is mentioned here because videoing for this study took place in these spaces.

Also presented here is interaction recorded by Mererid who is the class teacher of Tom, a 7-year-old boy with autism, and interaction recorded by Siwan who is a special needs teacher and sees Tom twice a week for small group literacy work. This research took place in Wales where there is a bilingual education system that encompasses schools teaching through the medium of Welsh and the medium of English. Mererid and Siwan are practitioners in a Welsh-medium school and their recordings were made in Welsh and then transcribed and translated by them into

English for the purpose of analysis. Tom was reported by all practitioners involved in the pilot study as doing well in school and developing in terms of his ability to participate in ordinary classroom activity, including whole class discussions, group work, interactions with peers and everyday learning tasks. His teachers expressed pleasure in his progress on a number of occasions and said that he was a fully participating member of his Year 2 class.

### ***Analytic approach***

Participant practitioners were asked whether conversation analysis could be applied to the recordings they had made in order to examine moments of learning and all agreed to this. Conversation analysis (CA) is a sociological approach to the study of human interaction that is especially good at investigating the situated nature of talk-in-action (Schegloff and Sacks 1973). As a method, it is focused on the sequence of turns that take place between speakers, looking at what speakers say and how turns follow on from one another. Examination of prior turns provides information about how a speaker is making sense within interaction, whilst examination of next turns provides information about what the speaker perceives as important (Enfield 2011). Thus, CA is uniquely placed as a method for studying the social construction of knowledge and the development of practice. In studies of interaction between autistic children and their parents, teachers and doctors, CA has been found to be effective at pinpointing areas of difference in interaction, but also children's abilities (Antaki and Wilkinson 2013). A number of key studies have demonstrated that autistic children often show abilities they are not thought to have, such as using verbal and non-verbal language to accomplish appropriate interactional turns (Dickerson et al. 2007, Korciakangas et al. 2012), adjusting their communication to suit different social contexts (Sterponi and de Kirby 2016), reflecting on self-other experiences (Ochs 2015), and demonstrating intersubjective awareness of another living being (Solomon 2015).

In this study, analysis was inductive and driven by the data, beginning with 'unmotivated looking' (ten Have 2007) by the first author to ascertain what was generally happening within the recorded sequences. Early on, the pattern emerged that teacher interactions reflected processes in dialogic teaching across all recorded conversations from both settings, notably, a practitioner following the pupil's lead,

asking rather than telling, encouraging the pupil to reason and give his opinion, and taking an interest in the pupil as a person. Following the identification of this pattern of dialogue, all sequences that involved this type of talk were transcribed using CA conventions adapted from Sidnell (2010) (see Appendix). Two-thirds of the total length of recordings (60 minutes) was transcribed in this way. When the first author had completed this stage of the analysis, the sequences identified as significant and their transcription were shown to the relevant practitioner for further comments and reflection in follow up visits to the schools.

### **Analysis and findings**

The analysis will first demonstrate abilities of the pupils within interaction and the ways in which dialogic teaching was used to support and extend their thinking in relation to ordinary learning tasks. The analysis will then demonstrate that processes in learning and teaching for these pupils focused not only on the topics of lessons, but on important areas of social, emotional and language learning too.

#### ***Autistic pupils demonstrate capacities in relation to teacher-pupil dialogue***

There was a good deal of evidence that both pupils were able to participate effectively in interactions involving teacher-pupil dialogue. Elsewhere, research into the interactions of children and young people with autism has found capacities in relation to conversation, including the ability to provide expected responses (Ochs et al. 2004, Stribling et al. 2007). In Extract 1, Siwan and Tom talk about the weekend and Tom eagerly tells Siwan about a friend whose brother put popcorn in his ear and went to the doctor to have it removed. The extract shows a structural level of cooperation between Siwan and Tom in the way responses match next turns that are preferred (Sidnell 2010), for example Tom's response 'you need to eat it' to Siwan's inquiry about what you generally do with popcorn in lines 6-9. Pauses between turns are minimal and some turns are 'latched' (lines 1-2, 3-4, 10-11) or overlapping (lines 7-8) with no pauses apparent. Tom's verb form error in line 2, where he confuses the verbs 'mynd' and 'dod' (go/come), is quickly self-corrected in the manner that children who are non-native speakers of Welsh often do and so shows facility in language learning. He also provides a reasonable situational scenario in response to Siwan's inquiry about what might happen if you put popcorn in your ear (line 10). This turn takes a

grammatically unexpected form, but it is unclear whether this is because of language learning or Tom's autism.

**Extract 1: Siwan asks Tom what he did at the weekend**

1. Siwan: beth wnest ti dros y penwythnos diwethaf ↑=  
*what did you do over the weekend*
2. Tom: =mae ffrind y mynd (.) roedd ffrind fi wedi dod i ↓ (0.5) tŷ fi achos
3. roedd brawd e wedi rhoi dau ↑popcorn↑ yn ei (0.5) glust e↑=  
*a friend went...a friend came over because his brother put popcorn in his ears*
4. Siwan: =rhoi popcorn yn y glust ↓  
*popcorn in his ears*
5. Tom: ie  
*yes*
6. Siwan: oh ↑ (0.5) beth ddylet ti wneud gyda popcorn ↓  
*oh what should you do with popcorn*
7. Tom: ti angen bwyta [fe  
*you need to eat it*
8. Siwan: [ie (.) pam dyw e ddim yn syniad da rhoi popcorn yn
9. y glust ↑  
*yes why isn't it a good idea to put popcorn in your ears*
10. Tom: achos falle ti'n gallu cael operation ↓=  
*because you might be able to have an operation*
11. Siwan: =wi:::r (.) ydy e'n well nawr ↑  
*indeed is he better now*
12. Tom: err wel ie ↑  
*er well yes*

***The focus of teaching is to extend pupil thinking and co-construct knowledge***

Different purposes for teacher-pupil dialogue are evident from the analysis, including direct instruction and scaffolded learning interactions, but also the co-construction of knowledge involving knowledge positions between teacher and pupil that are more symmetrical in nature (Bateman 2015). In Extract 2, Sam has been responsive to direct instruction from Jenn in a computing lesson. She has instructed him to

programme his robot to reach given destinations on a floor mat, but also supports his learning through scaffolding. Sam is experiencing difficulty in programming the robot to turn corners and Jenn offers scaffolding by pointing out the nature of the problem (lines 36-7) and suggesting a possible solution (lines 39-40).

**Extract 2: Jenn supports Sam in a computing lesson**

32. Jenn: can you programme him so he goes along the road *((points to road on mat))*
33. Sam: well well he keeps turning ↑
34. Jenn: well you're in charge of him – he's following your instructions ↓
35. Sam: *((replaces robot to start position and presses buttons))*
36. °I think I'll [press°
36. Jenn: [so if he's not going the right way ↓ you can programme him to
37. go the right way ↓
38. Sam: *((presses several buttons))*
39. Jenn: you might find Sam (.) if you programme him one step at a time it will be
40. easier ↓
41. Sam: *((presses one button at a time, watches as robot moves forward but keeps*
42. *hand nearby))* °it is easy°

Interestingly, Jenn offers her suggestion tentatively as if to avoid the sense of her being overly directive in the interaction. Much of the information gathered by practitioners shows avoidance of overt displays of teacher knowledge, with turns shaped to maintain conversational sequences, provoke reasons or opinions from the pupil and extend their thinking. There is evidence of practitioners asking questions to invite pupils to express their feelings or ideas, of practitioners claiming not to know something and seeking pupil knowledge or clarification, and of practitioners repeating inquiries to elicit further responses from pupils. In Extract 3, Jenn supports Sam with the classroom task of writing out his family tree. They are looking together at the names of Sam's family members and Jenn asks Sam an open-ended 'why' question in line 90 that she repeats in line 92 to encourage Sam to reason about why his grandparents are the same age even though they were born in different years. Jenn asks a question to which she knows the answer, but Sam demonstrates good grasp of the topic too, adding new information ('they're both the same age', 'it's not a year after') and adding the reasoning words 'because' and 'so'. He confidently answers

Jenn's question and asserts his K+ status (Heritage 2013) as the person who knows about his family. It is only at the end of the sequence that there is a sense of divergence in knowledge positions, with Sam noting the magical quality of the similarity in his grandparents' age despite their difference in year of birth and Jenn valuing his contribution by repeating it back (line 97), but with the downgraded assertion 'a bit' to show lack of agreement.

**Extract 3: Sam and Jenn talk about Sam's family tree**

85. Sam: grandad was born in nineteen fifty ↓ and nanny was born in nineteen  
86. forty-nine ↓  
87. Jenn: so who is older ((*pointing*)) nanny or [grandad ↓  
88. Sam: [nanny ((*pointing*)) nanny is sixty seven  
89. years old and grandad is sixty-seven as well ↓ they're both the same age  
90. Jenn: are they ↑ but they were born in different years  
91. Sam: I know but they're still sixty-seven years old ↓  
92. Jenn: how come ↑ if they were born in different years  
93. Sam: because (.) because nanny was born in September and grandad was born in  
94. January so it's not a year after so they're both sixty-seven years old ↓  
95. Jenn: oka::y  
96. Sam: isn't that magic  
97. Jenn: it is a bit like magic isn't it ↑

In Extract 4, Jenn is similarly scaffolding a task for Sam, who this time is building a house for Superman out of Lego. This is quite a difficult task for Sam and Jenn supports his thinking about the problem of constructing a house that is stable enough to stand up. Rather than simply giving him the answer, she uses her talk to enact her shared sense of responsibility about the task, using 'you' but also 'we' in lines 9-10. The sequence in lines 11-14 shows clear communication between the two and their alignment in the task (Stivers et al. 2011), with Sam stating that he is taking up Jenn's suggestion and Jenn fully agreeing with this. The nature of the interaction changes in line 17, however, with Jenn expressing her uncertainty about what Sam is about to do. Sam's explanation in lines 18-21 moves the interaction away from one of cooperation and towards a sequence of turns that exist in pretend play, that is, where one speaker stipulates what the (pretend) situation is and asserts that that knowledge is within in

their epistemic domain (Sidnell 2011). Jenn makes an attempt at repair in lines 24-5 by asking a question about the construction of the house to which Sam tries to give a corresponding answer (line 26), but he hesitates and his turn is not clearly understandable. The sequence ends with Jenn trying to make a connection between the original topic of the house construction and the narrative of Superman jumping to the roof, but with much less clarity in shared communication at this point.

**Extract 4: Sam builds a house for Superman out of Lego**

9. Jenn: well last time we...we built the roof first and it broke ↓ do you think we  
 10. should maybe start by building a different part of the house  
 11. Sam: here's gonna be the base=  
 12. Jenn: oka::y  
 13. Sam: here's gonna be the bottom of the house  
 14. Jenn: nice strong solid base  
 15. (2)  
 16. Sam: also I have *((reaching for brick to left))* one of these pieces here ↑  
 17. Jenn: so what...what part is that going to be that you've just stuck on  
 18. Sam: that's going to be=he can *((lies on side))* stand on there and just jump ↑  
 19. *((lifting right arm up into the air))* to the roof su::perfast (.) and just *((rolling  
 20. back onto tummy and indicating structure))* climb up there and jump to the  
 21. roof su::perfast  
 22. Jenn: oka::y=  
 23. Sam: =that's how he does it  
 24. Jenn: so is this *((pointing briefly at structure))* <inside the house> now ↓ or is it  
 25. outside the house  
 26. Sam: so (0.5) so (0.5) so ( ) I've made a nice thick layer for the outer house  
 27. Jenn: so this jump... this piece that Superman can jump from is this inside the  
 28. house Sam ↑ or outside ↓

Sam's positioning of Jenn – from a relative position of knowledge (K+) about Lego construction to the weaker position of not knowing (K-) about the Superman narrative – has a quality similar to the interactions reported by Maynard (2005) in relation to autistic children's responses within a test situation. Maynard's analysis demonstrated that children showed reduced ability to identify the requirements of certain sequences

of talk, switching from one mode of interaction to another when they encountered a communication difficulty. Maynard found that the children he studied introduced a different interactional structure that was not inherently wrong, but was misplaced in the context of the test. This seems to be the case for Sam when he suddenly switches to a pretend play mode of interaction, though it is the response of the adult in such situations that will be the focus of the final part of this analysis.

***Interaction supports emotional and social learning as well as topic learning***

Later in the same Lego task, Sam becomes frustrated with attaching the bricks, something he finds hard to do. His communication becomes increasingly unclear and eventually he starts to shout at Jenn. In Extract 5, Jenn objects to Sam's shouting (lines 85-6) and so acknowledges her role as being one of managing his behaviour. However, this aspect of her response is muted and embedded in her continuing requests for Sam to think through the task. She persists with her interest in his ideas and reasoning ability and continues to ask exploratory questions (lines 81-2, 85 and 89), but the manner in which she does this becomes very calm. In this extract, she speaks with a falling intonation throughout and adds calming hand gestures to her talk, which remains evenly paced and unruffled. It is probable that such behaviour would be treated in a different manner from another child in the class, but Jenn seems to be accommodating Sam's autism in this sequence and giving him extra consideration. In due course, Sam becomes calm himself, responding in a much less frustrated manner in line 95 to the ongoing problem of attaching Lego bricks to each other.

**Extract 5: Sam gets frustrated building Lego**

78. Sam: uh...I CAN'T PUT IT ON THE BE:::NCH  
79. Jenn: okay ↓  
80. Sam: AND THAT'S THE ONLY WAY TO GET IT UP  
81. Jenn: *((hand gently indicating slow down))* right, hang on though (.) what's  
82. happening  
83. Sam: THE BED IS ALWAYS BREAKING WHEN I PUT IT ON *((vigorously pushes*  
84. *Lego brick onto his structure))*  
85. Jenn: *((hand still indicating slow down))* is there a way – please don't shout  
86. at me – is there a way you could stop the bed from breaking – have a

87. think ↓ why is the bed breaking ↓=
88. Sam: =because it's a bigger piece
89. Jenn: right (.) but how could you stop the bed from breaking ↓ ((hand
90. indicating slow down))
91. Sam: by by doing this instead ((places Lego brick onto structure gently))
92. (3.5)
93. Sam: maybe by putting it to one side ↓ ((places brick at one end))
94. Jenn: okay try that
95. Sam: oops it broke ↓

Extract 5 demonstrates the use of dialogue for purposes other than the learning of content in relation to a topic. In this extract, Jenn displays an interest in Sam's capacity for thought, but she uses verbal and non-verbal interaction to accomplish another task too. This is to help him regulate his emotional responses to a situation of frustration and thus support his emotional learning and development. This sequence reminds us that the role of the educational practitioner is one of relatedness and care and not only one of academic support. Sacks (1972) calls attention to the fact that people see themselves as members of different relational categories depending on whether the purpose of their interaction is primarily about sharing knowledge, making them members of category collection K, or whether it is more about care and concern, making them members of category collection R. Sacks points out that membership determines what rights and duties operate within an interaction, with different sets of obligations found in category collection K compared to R. In writing about a teacher-pupil category set, Bateman (2015) notes that this would ordinarily belong to the category collection K, but can shift to category collection R if the interaction becomes more emotionally significant, for example, when a pupil becomes ill or is hurt. Bateman argues that this shifting of teacher-pupil interactions, between the co-production of K and R category collections, is wholly to be expected given that education is concerned with holistic development and children's well-being, empowerment and self-control. Indeed, these aspects of children's learning are often seen as foundational to the healthy development of the individual child.

Extracts 6 and 7 provide further demonstration of support for learning other than topic learning with turns invoking rights and responsibilities that are related more to care

and R category collections. In Extract 6, Jenn and Sam have noticed a group of parents and toddlers who are visiting the school's nursery provision. Jenn starts to reminisce about the time when Sam was that age and Sam is very interested in what she has to say. Jenn is clear in her communication and specific about what memory is being shared, whilst Sam looks at her with great attention during much of the interaction (for example in line 13). The interaction contains affiliative responses that are not simply aligned but cooperative at an affective level (Stivers et al. 2011) and display two people's enjoyment of each other in sharing a fond memory, and also Jenn's empowerment of Sam by her valuing of his contribution throughout.

**Extract 6: Jenn and Sam remember his time in nursery**

2. Jenn: do you remember *((points at Sam))* you (.) when you first came to nursery to  
 3. visit us all those years ago  
 4. Sam: oh (0.5) mmm (0.5)  
 5. Jenn: can you remember back [to that time  
 6. Sam: [yes yeah ↑ I can remember ↑ (.) I was in nursery (.)  
 7. all the way down *((gestures 'down' by lowering hand))* since three years ago  
 8. *((makes shape of number three with fingers))* when I was three years old ↑  
 9. Jenn: you were three years old ↑ can you (.) I can remember <the very first time>  
 10. *((Sam picks up written work about his family tree))* (.) I met you ↑ when you  
 11. came to visit nursery <with Daddy> ↑  
 12. *((Sam puts family tree down and looks at Jenn))*  
 13. (6)  
 14. Sam: what was it like ↑  
 15. Jenn: can you remember ↑  
 16. Sam: what was it like ↓  
 17. Jenn: what was what like ↓ What was your visit like ↑ What was nursery like ↑=  
 18. Sam: =nursery like ↓=  
 19. Jenn: =°nursery like° [mmm  
 20. Sam: [was first day like (.) my first day like=  
 21. Jenn: =your first day in nursery ↓ erm  
 22. I think I remember you drew a picture ↑ (0.5) a::::nd I think <you might have  
 23. played in the sand> ↑ can you remember ↑

Extract 7 also demonstrates an affiliative level of cooperation that is particularly relevant to a discussion of autism. In this extract, which comes from the interactions about building a Lego house for Superman, Jenn asks Sam what he intends to build. In line 5, Sam asks Jenn what she *thinks* he is going to build and Jenn emphasizes through the use of repetition that she does not know. As in Extract 6, Sam is very engaged in this conversation, communication between Sam and Jenn is clear throughout and, in line 8, Sam takes a moment to contemplate Jenn as if trying to understand her stance (Stivers 2008). In line 9, he announces that Superman can ‘say anything he wants’ in clear and elongated talk that seems to reflect his own situation in relation to knowledge at the present moment: Jenn does not know what he is thinking and he can tell her anything he wants to. Interestingly, Sam appears to choose the route of reflecting on his real-world experience through pretend play in a manner that many children do. After this, Jenn returns to the original inquiry in line 8 and from that point the two enact the asymmetry of knowledge that exists between them, that is, Sam knowing something that Jenn does not. When Jenn asks again in line 10 what he is building, Sam gives her a definite response which she then fully accepts.

**Extract 7: Sam is interested in what Jenn knows**

1. Sam: umm *((rummages in Lego brick box))*
2. Jenn: what you building now Sam ↑
3. Sam: *((places Lego bricks onto base plate and holds up to show Jenn))*
4. (5)
5. what do you think I’m building here
6. Jenn: =I don’t know ↑ I’m hoping you’ll tell me ↑ because I (.) don’t know ↑
7. Sam: *((looks at Jenn then at top of Lego structure))*
8. (3)
9. Sam: here he can climb up and say <anything he (1) wants> *((touching top of Lego structure))*
10. structure))
8. Jenn: so=
9. Sam: =he can stand on this space ↑
10. Jenn: right (0.5) is this still part of Superman’s (.) house ↑
11. Sam: yes it is
12. Jenn: okay

To return once again to Tom, we can see that opportunities for important social learning arise even within the busy ongoing activity of the classroom. In the final two extracts presented here, Tom is provided with support for his language as part of the ordinary activity of teaching. In these extracts, he appears to experience the type of difficulty that autistic pupils sometimes have in expressing an idea through language (Powell and Jordan 2012). In Extract 8, Tom has enthusiastically told his class about his learning in relation to their topic of superheroes, but finds it difficult to supply specific details when Mererid, his class teacher, presses him to say more. It is apparent from Tom's responses from line 15 onwards that he knows what he thinks about his superhero character, but he uses Mererid to co-produce this in talk, responding to her suggestions to express what he wants to say. In the final extract, Extract 9, Tom is explaining to Siwan, his special needs teacher, about his friend's brother who has put popcorn in his ear. He cannot generate the word for 'meddyg' (doctor), approximating it with 'deintydd y glust' (ear dentist), and, as part of their conversation, Siwan offers the word that Tom needs, elongating both terms to emphasize them and making her communication very clear so that he can more easily focus on the important parts of her turn.

**Extract 8: Mererid asks Tom to describe his superhero**

13. Mererid:beth oedd yn arbennig ↓ am dy archarwr di oedd e'n gallu hedfan ↑ oedd
14. e'n anweledig ↑ oedd e'n=  
*what was special about your superhero could he fly was he invisible was he*
15. Tom: =na roedd e ddim yn anweledig ↓  
*no he wasn't invisible*
16. Mererid:>doedd e ddim yn anweledig<  
*he wasn't invisible*
17. Tom: °na°  
*no*
18. Mererid:oedd e'n gallu hedfan ↑  
*could he fly*
19. Tom: na  
*no*
20. Mererid:oedd e'n (.) gryf

*was he strong*

21. Tom: ie

*yes*

22. Mererid: oedd e'n gallu rhedeg y::n

*could he run*

23. Tom: cyflym

*fast*

#### **Extract 9: Tom cannot recall a specific word**

17 Tom: deintydd y (.) y glust ↓

*the ear dentist*

16. Siwan: >deintydd y glust< ni'n galw hwnna'n <meddyg>

*the ear dentist we call that a doctor*

18. Tom: meddyg

*doctor*

#### **Conclusions**

The analysis provided here demonstrates that autistic pupils who are considered as doing well in mainstream education have competence within teacher-pupil learning interactions. Findings are therefore aligned with previous related research that has taken place in specialist settings (see for example Stribling et al. 2007). There is evidence of a structural level of cooperation between pupil and teacher in different types of dialogue, including direct instruction, dialogue used to scaffold pupil learning, and non-authoritative dialogue that involves symmetries of knowledge and supports the co-construction of knowledge. A distinctive pattern emerged from the data which was that practitioners favoured a dialogic teaching approach to extend pupil thinking, for example, by following the pupil's lead in interaction, asking rather than telling, and taking an interest in the pupil as a person. Dialogue was used to support pupil learning of the topic content of lessons, but also areas of learning that are identified as a particular need for pupils on the spectrum. These include learning in relation to the regulation of emotions, learning about language, and learning about other people and what they know. Learning across these domains was supported by the willingness of practitioners to move flexibly between different relational arrangements (K and R) and their attendant responsibilities and rights. The flexibility

of practitioners probably stemmed from consideration for a pupil's autism, but it was not necessarily conceived of as distinctive or specialist practice by the practitioner. Rather it could be viewed as part of the process of learning and teaching – business as usual, as Bateman (2015) points out in writing about early years education – and what teachers are able to do given certain circumstances.

Inclusive practice calls attention to extending what is ordinarily available as part of the ongoing routine of the classroom (Florian and Linklater 2010). These findings identify opportunities in ordinary teaching methods for autistic pupils and raise questions about the need for the development of specialist practices. A focus on what mainstream practitioners successfully do in terms of teaching autistic pupils not only supports confidence in this area, but also ensures that knowledge about practice is appropriately rooted in the context in which it takes place. Everyday practice in classrooms and the ways in which teachers support pupil learning are partially hidden processes and far from straightforward in terms of investigation. This study indicates that the idea of engaging practitioners as co-researchers to collect naturally occurring information about everyday practice has merit and may be important to the building of capacity in relation to autistic pupils in mainstream schools.

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### **Appendix**

[	beginning of overlap in turns
]	end of overlap in turns
=	turn follows with no gap (latching)
(2)	pause in seconds
(.)	very short pause
:::	elongation of vowel sound

<u>word</u>	utterance is emphasized
WORD	utterance is said in a loud voice
°word°	utterance is said in a quiet voice
↓	falling intonation
↑	rising intonation
<word>	elongated talk
>word<	fast talk
((action))	description of speaker actions

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