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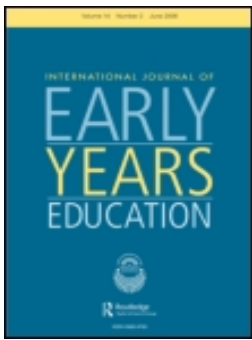
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## Learning conversations: teacher researchers evaluating dialogic strategies in early years settings

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Learning conversations, dialogic interactions with adults, are important opportunities for children to develop their thinking as well as their speech and language skills. This area of teachers' practice is informed by a well-established body of research evidence and professional guidance literature. The design and facilitation of this practitioner research project was framed by a metaphor for teachers' professional learning as 'interplay' between the vertical domain of public, published, knowledge and the horizontal domain of the teachers' practical wisdom. The teacher researchers used a framework based on the published literature to analyse video clips of their conversations with children in early years workplace settings. The study highlights the power of video analysis as a prompt for professional learning within a practitioner research framework. The use of conversation strategies by these teachers involves a balancing act between competing agendas within their workplace setting. In addition to mediating the strategies proposed by the research evidence base to suit their own early years workplace settings, in part by emphasising speech and language development, the teacher researchers identified a useful strategy, based on transportable identity, of 'stepping out' of being a teacher, for example by positioning themselves as a playmate or family member.

**Keywords:** classroom interaction; dialogue; sustained shared thinking; speech and language; practitioner research

### A practitioner research project

This paper presents two interrelated research stories, one is of the empirical research itself, focused on adult–child conversations, and one is a reflexive account of the researchers' experiences. Rather than separating these into two articles this paper deliberately presents them as an integrated whole because, from the sociocultural perspective adopted, it is only possible to fully understand one in combination with the other. The learning conversations referred to in the title not only represent the adult–child dialogue that was the subject of the research, but also signify the professional discussions that arose through collaborative analysis, for example when seven teacher researchers and a research mentor spent one and a half hours discussing, debating and coding the transcript of a five minute video clip.

The paper presents findings from a project completed within a collaborative practitioner research partnership between a nursery school and a primary school with research mentoring and support from a university-based educational researcher. The purpose of

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the project, commissioned by the schools, is to build practitioner research capacity within the early years teaching team (working with children from 4 to 7 years in age) in both schools through the completion of a collaborative research project. The development of teachers as practitioner researchers is seen by the school leaders as enabling them to more effectively act as change agents in evaluating and developing practice and to enhance their role as school-based teacher educators who support professional learning of new and experienced teachers. The two schools are located close together near the centre of Liverpool, an industrial city in the north of England, and it is important to note that it is an inner city area with very high levels of disadvantage with child poverty levels at two and a half times the national average. The schools identified a focus for the research which was to investigate teacher strategies for developing dialogue in everyday interactions with young children, of 3 to 5 years in age, in order to develop speech and language skills and sustained shared thinking (Tizard and Hughes 1984; Siraj-Blatchford et al. 2003).

Conversations in nursery or early years school settings are not isolated interactions but form just one element of the complex learning experience of children and teachers in their daily work. Conversations with a teacher are just one feature of a child's development of thinking, multimodal literacies and learning across home and school (Wolfe and Flewitt 2010). Conversations in nursery or early years school settings are not simply technical linguistic interactions, they are socially and culturally positioned (Street 1984). The significance of home is particularly important because one-to-one conversations, which are more likely to promote sustained shared thinking, may be less frequent in more formal early years settings than in the home (Tizard and Hughes 1984). Whilst acknowledging the significance of conversations at home and linked to their wider lives, this current study focuses on the conversational strategies of teachers whilst talking to children within more formal early years school settings. The study also provides a case study of professional learning with early years teachers as practitioner researchers engaging critically with a well-established body of existing research evidence and professional guidance literature (Fisher and Wood 2012). The project adopted a collaborative practitioner research approach with teachers using small unobtrusive cameras to capture video clips of their conversations with children. The teachers then collaborated in analysis of their own conversational practice and that of their colleagues. In a second stage of the project the teacher researchers are now authoring and publishing a multi-media professional development resource.

### **Teacher learning**

A body of work summarised in systematic research reviews has provided an evidence base for designing continuing professional development for teachers (Cordingley 2008). The characteristics of such effective development for teachers include sustained critical engagement with an issue or new approach, collaboration and good levels of trust with other teachers, external specialist input and challenge, and an element of classroom coaching to support change in classroom practice. Above all Cordingley argues that 'research ... needs to be actively interpreted by users for their own context' (2008, 49). This requires teachers to critically engage with the research evidence base and evaluate it in terms of its relevance to their workplace setting and implications for current local practice.

Cordingley refers to this active interpretation as 'knowledge transformation' to produce useful professional knowledge that leads to enhancement of teaching and learning. Alternative terms to describe this process include knowledge exchange,

knowledge mobilisation and research-informed practice (Levin 2011, 2013; Nutley, Jung, and Walter 2008). This perspective suggests that school leaders should be proactive in engaging teachers with research findings that are relevant to their needs and interests. However, generic policy interventions will only have an impact on classroom practice and children's learning if skilled teacher interpretation and judgement is involved in their mediation and implementation (Blase and Blase 2004).

Teachers' professional learning may be usefully viewed as an 'interplay' between practical wisdom and public (published) knowledge (Boyd and Bloxham 2014; Boyd 2014). Practical wisdom foregrounds 'ways of working' in particular classrooms and educational workplaces, and the situated and social knowledge held by teams of teachers. Public knowledge is hierarchically organised through review and publication processes and foregrounds learning theory, research evidence, professional guidance and policy. The metaphor of 'interplay' helps to capture the power relations within the engagement of teachers with the vertical and horizontal dimensions of knowledge (Boyd and Bloxham 2014; Boyd 2014). This issue of power is important because the research mentor in the current study was acting as an intermediary, broker or boundary spanner in the knowledge mobilisation process (Cordingley 2008; Levin 2013).

Previous research and development projects have found video to be a powerful tool for teacher learning, especially where it is accompanied by coaching (Osipova et al. 2011; Fisher and Wood 2012). In addition to the individual teacher level of learning, analysis of video may also support collective learning of the team of teachers involved in analysis (Derry 2007). Some features of the research design acknowledged the risks taken by teacher researchers in capturing video clips of their practice for analysis. Teachers were in control of making and selecting video clips, they were also involved in the analysis. In addition, support from a school-based professional coach was made available to the teachers so that they could develop their practice in learning conversations in practical ways as part of the project.

### **Analytical framework**

The study used an analytical framework based on three elements which were each applied to the transcripts of video clips made by teachers. These three elements, focused on dialogue, interaction analysis and identity, are outlined in this section.

### ***Learning conversations***

The importance of talking for children's learning as well as for their development of speech and language is a well-established principle (Tizard and Hughes 1984; DCSF 2008a). However, there is evidence of 'insufficient understanding of the centrality of speech, language and communication' by policy-makers and professionals (DCSF 2008a, 6). Perhaps due to their early years workplace settings, and their location in an area with high levels of children from disadvantaged backgrounds, the teacher researchers in the current project were particularly concerned about development and assessment of speech and language skills.

Closely interrelated with speech and language development there has been a considerable body of research and development work in the UK focused on 'sustained shared thinking' in adult-child conversations, meaning that they work together in an intellectual way to solve a problem with both participants contributing (Siraj-Blatchford et al. 2003). Professional guidance and support on talking for teachers has identified a

range of teacher strategies to help develop dialogue in interactions with children (Alexander 2004; DCSF 2008b, 2009). Teacher strategies identified in the research include: building on the child's interests; recasting; extending; questioning; allowing thinking time; making connections; introducing new vocabulary; and aiming to achieve a balanced dialogue despite the teacher's position of power.

Analysis of teacher-child dialogue is at the heart of this study. Dialogue is important for development of speech and language as well as for pursuing children's conceptual understanding related to the topic under discussion (Mercer 2000). Much of this dialogue takes place at home or with peers in school but dialogue with a teacher is important because of the opportunity it offers for learning challenge and formative assessment. Mercer argues for a sociocultural perspective with a focus on 'language as a means for collective thinking' and proposes the term 'interthinking' as an alternative or extension to 'interaction' (Mercer 2008).

### *Analytical frameworks for classroom interactions*

A traditional framework for analysing teacher-child conversation is 'Initiation, Response, Follow-up/Evaluation' (IRF/E) which can be referred to as the 'IRF' framework (Sinclair and Coulthard 1975; McCarthy 2002). This seems unhelpful in analysing situations where the teacher is pursuing conversations that are less teacher dominated. In these more dynamic learning environments teachers are facilitating open-ended learning activities and encouraging learners to (re)construct the story in their own words. This means that the IRF framework is not useful in analysing interactions within the less formal and more child-centred approach that is typical of early years continuous provision including the two case study school settings.

As an alternative to IRF, new frameworks for analysis of teacher-child conversations have been developed through research in modern languages classrooms that are aiming for spontaneous talk in the target language (Crichton 2013). These frameworks may particularly lend themselves to early years settings where speech and language development is also a high priority. Crichton argues convincingly for the potential of Goffman's (1981) 'production' format and Wadensjo's (1998) 'reception' format as frameworks to analyse classroom dialogue that is more conversational and that also engages and provides a resource for other learners.

Goffman's (1981) production format focuses on three possible roles in relation to an utterance. The 'animator' is the speaker of the utterance, the 'author' is the originator of the content and form of the utterance and the 'principal' is the person that bears the responsibility for the meaning being expressed. This final role seems important although the boundary between author and principal appears to be rather fuzzy. The 'reception format' developed by Wadensjo (1998) identifies three types of 'listener' to a conversation: the 'reporter' simply repeats the utterance, the 'recapitulator' re-authors the utterance and the 'responder' builds on the utterance with their own contribution to the conversation. The integration of these frameworks proposed by Crichton seems useful because for practical purposes in analysing dynamic learning environments it is not usually easy to identify the starting utterance or to distinguish between roles as a listener rather than participant. Also, the development of these frameworks in modern languages classrooms appears to align to the focus on speech and language development in early years settings.

In integrating the Goffman and Wadensjo frameworks there appeared to be a lack of emphasis on learning and so we introduced the use of metaphors. Metaphors of

‘acquisition’ and ‘participation’ may be linked to behaviourist/transmission and social constructivist perspectives (Sfard 1998) and a third metaphor of ‘contribution’ may help to capture a situated learning theory perspective. Importantly, these three metaphors help to capture a progression in learning as teachers’ use formative assessment and ‘in the moment’ strategies to guide conversations. Merging the formats of Goffman and Wadensjo in combination with these three metaphors for learning produces a potential framework (Table 1) for conversational analysis by teachers in a fast moving, collaborative and play focused early years setting where teachers are pursuing sustained shared thinking but realistically will often have only limited one to one time with individual children.

The acronym for this proposed framework ‘Repeats, Edits, Authors, Leads’ (REAL) is also very helpful for teachers to bear in mind because ‘REAL’ helps to promote empathy with the child’s agenda so that ‘keeping it REAL’ becomes a potentially powerful guide for reflection-in-action (Schon 1987). The REAL framework analyses each contribution to an interaction, from adult or child, in the same way, rather than focusing on the teacher strategies. This is more useful when considering conversations with more than one child involved and where the teacher is seeking a ‘basketball’ group discussion rather than a ‘ping-pong’ style one to one conversation. This tentative analytical framework was developed, applied and evaluated within the current study.

### *Teacher identities and dialogue*

The teacher strategies and even the REAL discourse analysis framework create an emphasis on technical aspects of learning conversations. This tends to contradict the practical wisdom of early years practitioners which emphasises the passion needed for working with children and the fascination that an effective early years practitioner will hold for listening to children. Even the general approach to professional learning adopted by the project, which has emphasised collaborative workplace learning, might be critiqued for not placing sufficient focus on the individual biography, values and dispositions of individual teachers (Rainbird, Fuller, and A. Munro 2004). Teacher identities, meaning the multiple stories that individual teachers might hold and tell about themselves, do provide a way of considering learning conversations. These teacher-child conversation aspects of the teacher’s identity may be classified as ‘discourse identity’, ‘situated identity’, or ‘transportable identity’ (Zimmerman 1998). In relation to their contribution to the sequence of the discourse, the teacher might display aspects of identity for example as speaker, listener, or questioner. In relation to their context, a formal early years school setting, the adult might be likely to adopt the identity of teacher. This situated identity carries with it many contextual influences including accountability for progress in children’s learning and perhaps for ‘delivery’ of the curriculum. Again

Table 1. The ‘REAL’ framework for analysis of classroom discussion.

Progress	Metaphor for learning	Speech role of the child or adult	Criteria
1	Acquisition	Repeats	Repeats the utterance
2	Participation	Edits	Reconstructs form and content
3	Contribution	Authors	Introduces new content
4	Framing	Leads	Sets a new focus for discussion

borrowing from work in modern language classrooms a later stage in the current project was informed by the possibility of using Zimmerman's concept of transportable identity to help to understand the video clip interactions (1998). A study applying an identities approach to analysis of interactions in English as a second language raised some implementation issues and related them to 'authenticity'. For a teacher to deliberately adopt a transportable identity in the early years classroom, for example to switch from teacher to playmate, family member or to someone with a special interest, appears to involve considerable emotional, relational and moral considerations (Richards 2006). Also, such a teacher strategy might possibly undermine authentic dialogue and require the teacher to draw careful boundaries, for example they may hold beliefs as a parent that clash with accepted professional values or practice within their school (Zimmerman 1998; Richards 2006). This paper will argue that the use of less formal 'continuous provision' in the early years, that is children learning through play in planned environments, may provide particular opportunities for teachers to consider adopting transportable identities to promote dialogue during interactions.

### Methodology

A collaborative practitioner research approach was adopted because it appeared to align with the purposes of this research *and* development project (Hopkins 2008). The immediate research team included seven teachers, a head teacher, a school governor with a background as an educational adviser and two academics from the university. The level of collaboration developed as the project unfolded over a two year period. It was expected that the university research team would need to progress the research work in between the workshop sessions with teachers which took place at intervals of six to eight weeks. Teachers contributed to the project through data collection and especially through collaborative analysis of data in face-to-face workshops. One teacher and the school governor coach also visited the university to spend a full day on initial analysis of the first transcribed video script. Teachers responded to the developing collective analysis and findings. The project unfolded in a series of small-scale action research cycles and the research design, including the analytical framework, developed in an iterative way as the initial data were collected and analysis began.

The project used an initial framework for teacher dialogic strategies and for assessment of children's progress in speech and language. The teacher strategies element of the framework was constructed through interpretation of the research and professional guidance literature (Siraj-Blatchford et al. 2003; DCSF 2008b, 2009) and the assessment of speech and language development was considered using relevant early years curriculum guidance in England. This framework was introduced to the whole research team and discussed prior to any collection of data as a shared starting point for our investigations. This framework also formed the basis for our initial analysis of video scripts. However, the application of multiple theoretical perspectives may be useful in attempts to understand classroom discussion (Drie and Dekker 2013). Additional frameworks, for analysis of classroom interaction and for teacher identity within conversations, became part of the approach to analysis.

Using video, rather than for example observation or audio recording, was considered to have the potential to strengthen the study in several ways. Most importantly, it enabled the teachers to be directly involved in the analysis. It allowed repeated viewing and development of analysis to establish shared understanding, development of an analytical framework and testing of inter-rater reliability. The use of video also enriched the data



compared to audio recordings because it helped to capture children's actions, expressions and body language. Other research on adult-child interactions in early years settings has demonstrated the usefulness of video for capturing and analysing classroom practice (Fisher and Wood 2012). The current study used small harness mounted water and shock proof cameras designed for use in adventure sports. The intention of using these small cameras was to allow teachers to get on with their work and allow children to become familiar with the presence of the camera, the teacher would then start filming to collect some more naturalistic video footage. Teachers were encouraged to collect a considerable amount of footage and then select a clip themselves for sharing and analysis as part of the project data.

A considerable amount of video footage was collected by teachers and in terms of ethics this came under existing agreements with parents on filming for educational and professional development purposes. However, once a clip had been selected for inclusion in the research then permission was sought from the parent and child for its use as data. The project gained clearance through the university ethics procedure and in addition to seeking parental consent this included careful control of video footage. The selected clips were transcribed in preparation for detailed analysis. The teachers were filmed whilst being interviewed about their video clip. During the filming the teachers viewed their original video clip on a laptop computer, pausing and rewinding the video at intervals to comment on the footage. This approach enabled the transcriber to insert teacher reflective comments into the original video clips in preparation for analysis. In addition, the filmed teacher worked with the other members of the research team analysing the transcribed script and video clip in detail. This kind of collaborative analysis enabled the filmed teacher to explain contextual issues including their knowledge of the particular child or children involved and it allowed the research team to debate and reach some agreement on interpretation of the scripts and development of the analytical framework. Collaborative analysis was pursued to some extent on the first six video scripts in order to try and establish a shared understanding of the conversations and to develop the analytical framework before applying it to all of the data which in total consisted of twelve video clips with teacher interviews. At this stage the scripts (including teacher interview comments) were uploaded into ATLAS.ti and a qualitative analysis of the whole data-set was undertaken applying the three elements of the analytical framework. The emerging analysis was shared with the research team using quotes to illustrate particular codes or emerging categories.

The project gained ethical clearance through the University of Cumbria ethics committee. A key ethical issue in the project was the control of video data. Consent was obtained from parents or carers and from children to use selected video clips as data in the research project. The quotes from transcripts are anonymous but the schools and staff involved in the project agreed to be identified in the acknowledgements to this paper and are in the process of publishing a professional development resource building from the research project.

## **Findings**

This section sets out the outcomes of our analysis of the video clips under three closely linked analytical frameworks: teacher conversational strategies; interaction analysis and metaphors for learning (REAL); and teacher identities. Short quotes from the transcripts of video clips are used to illustrate our interpretation of the data.

***Teacher conversational strategies***

A set of teacher strategies were drawn from the research evidence base on developing sustained shared thinking and formed our initial analytical framework for understanding the video clips of conversations with children.

A strategy entitled ‘building on the child’s interests’ involves listening and building on the topic of conversation initiated by a child. Within the sample of conversations this was a frequently used code:

*Transcript 9: Baby Monitor*

Child 27: I’m going to my baby cousins

Teacher 9: ... that’s lovely isn’t it?

Child 27: An, an my little baby cousin and he’s, an he’s one

Teacher 9: ... tell me more about your baby cousin who’s one

Child 27: An, an Alfie he is, an he ... sometimes when I go he’s asleep an when he wakes up he’s mad

Teacher 9: He’s mad, Why is he mad?

Child 27: He jumps up in his cot

Teacher 9: Does he?

Child 27: Yea, he jumps up, he jumps up and he stands and we watch him on a little telly

However, in the complexity of early years environments, where learning through ‘play’ is being encouraged, the teacher is still a powerful figure who is clearly influencing the direction of the conversation.

A strategy of ‘power-reciprocity’ seemed to be frequently of relevance during our collaborative analysis of the video clip data. This strategy involves the teacher ‘allowing’ the child to take an equal part in the conversation. For example in the following extract the teacher allows the child to make decisions:

*Transcript 2 – Water Play*

Teacher 2: What have you got?

[Child waves a stick in the air] a stick

Teacher 2: And what are we going to do with the stick?

Child 7: [Child points to the water] Unblock that hole

Teacher 2: To unblock it, aren’t we? It’s blocked now. We’re going to unblock it.

In addition, the teacher uses a strategy of ‘asking questions’ to stimulate thinking. We found that this approach of teacher questioning needed to be used in moderation in order to maintain the flow of conversations. An additional strategy of ‘thinking time’ simply means that the teacher allows sufficient time for children to compose an answer. The teacher needs to resist the urge to fill the silence. This strategy was observed in several of the video clips and was closely related to power because it is easy for the teacher to dominate. Unless the teacher was willing to allow thinking time then it was difficult for them to build reciprocity in the conversation.

A teacher strategy of ‘extension’ involves the teacher extending the thinking of the child in some way. They may summarise the idea expressed by the child and then add a new idea to it. In the early years context in particular we found that the teachers are concerned with developing speech and language and sometimes the extension is focused on introducing new vocabulary as much as it on new ideas:

*Transcript 6: Santa's Sleigh*

Teacher 6: Can you look to see if there is anything else we can use to stick our sleigh together?

Child?: Glue

Child?: Sellotape

Teacher 6: Sellotape, masking tape. Shall we use some masking tape?

Child?: Yes

Teacher 6: Say masking tape

Child?: (Shouts) Masking tape

Teacher 6: Masking tape, right, lets see

It was important for the teachers to be involved in the analysis of video clips because they were able to explain their conversational responses that were sometimes based on knowledge of the child. Where the extension strategy did mainly focus on introducing new vocabulary it often involved the teacher making a judgement about the child's familiarity with a particular word. This was also apparent in the decisions teachers made around correcting the language used by a particular child.

A teacher strategy of 'connections' involves the teacher making links to previous teaching or to events in school or from the home life of the child. Where the teacher referred to previous teaching this was debated and eventually coded as 'connections' but we felt that it tended to emphasise the teacher's power over the curriculum, the school was deciding the agenda rather than the child. In the strategy of 'recasting' the teacher makes a positive correction of the child's language by including it in their response. Along with making extensions and connections the analysis of recasting tended to emphasise the importance of the teacher knowing the child well in order to decide on what strategy was most appropriate during conversations.

The collaborative coding of the video clip transcripts using the teacher strategies drawn from the literature on sustained shared thinking helped to reveal the complexity and contested nature of teacher conversational strategies. During the coding we were evaluating the strategies as well as making judgements about the teacher behaviour captured by the video clips. Sometimes the teacher appeared to become more obviously 'teacherly' and took an opportunity to introduce an element of the curriculum or to assess the child:

*Transcript 1: Hedgehog Hunt*

Teacher 1 Oh, B [*child's name*] has had an idea. A hedgehog on there, on top or underneath? What do you think, on top or underneath? (signals under and over)

Child B: Underneath

Teacher 1: Underneath. You have a quiet look then

This quote captures a situation where the teacher appears to let the child choose a likely spot, a park bench, in which to search during a hedgehog hunt in a nursery outdoor area (child's interests). However, the teacher then introduces the idea of being over or under the bench and introduces the positional words (extension/questioning). Overall, we agreed to code this as 'assessment opportunity' because that appears to capture the teacher's strategy of seizing the moment and being more 'teacherly' within the conversation.

***Classroom interaction analysis***

In order to pursue the analysis we considered the Initiation, Response, Follow-up (IRF) framework that has been developed in the past to understand formal classroom interactions. We only found one example in the video clip data of an IRF style exchange, it was related to a counting task that formed part of reading a story. In this interaction the teacher adopted a ‘teacherly’ approach by using questions to focus on the difference between words and letters. Beyond this one example this kind of interaction, following the IRF framework, was not evident in the data. This was largely due to the context of the video clip conversations which were mainly made in less formal situations within early years learning environments. We sought frameworks for analysing interactions that were more able to cope with less formal settings that often involved more than one child. The REAL framework, developed from interaction research in modern language classrooms, was used to pursue the analysis.

When applying REAL in the analysis of the video clips ‘Repeats’ means that the previous contribution is simply regurgitated with little or no further elaboration:

*Transcript 9: Baby Monitor*

Child 29: And I hide behind the thingy where all the dirty clothes are.

Teacher 9: What is that? Where all the clothes are. What’s a thingy?

Child 29: A washing basket

Teacher 9: A washing basket

In this quote, following use of questioning, the teacher uses ‘Repeats’. Reflecting back to the teacher strategies applied in the previous section of analysis the use of ‘Repeats’ by the teacher at least has the advantage of allowing the child to choose the next step in the conversation.

In applying the REAL framework to the data ‘Edits’ is used to code contributions where some reconstruction of the form and content, offered by the previous speaker, is made:

*Transcript 4: Owl Story Book*

Teacher 4: Badgers live in ‘sets’ but what do owls live in?

Child 12: Um, trees

Teacher 4: They live in trees but what do they live in, in the tree? [teacher cups her hand] What would we call that?

Child 12: A nest

Teacher 4: A nest

Child 12: [points to the page] That’s the big hole where they go out and in

Teacher 4: So they’re nice and safe, they’re in a hole, in the tree, in their nest.

Teacher 4: ...so let’s have a look

Both teacher and child demonstrate ‘Edits’ within this quote. Within the REAL framework we sometimes found it difficult to distinguish between edits and the next level of ‘authors’. ‘Authors’ is taken to mean introduction of new content:

*Transcript 2: Water Play*

Teacher 2: What’s happening down here? (pause) What’s happening down here Leon?

Child 5: [points to the ground]. It’s blocked again

Teacher 2: [Teacher kneeling beside one of the containers] What? Umm, why is it blocked?

Child 5: There's a froggy inside

In this quote the child, in response to teacher questioning, introduces the issue of the drain of the pool being blocked. This same pattern is shown in a different example of authoring:

*Transcript 7: House of Gold*

Teacher 7: And then what would you do with all the gold?

Child 23: [Child stands up and points to the elephant] Well we'd give it away to sick people. We'd give it away to the sick people

Again, there is a tension around power of the teacher because these authoring contributions were mainly found to be responses to the teacher's questions rather than more spontaneous new contributions. These interactions again capture the 'teacherly' approach of the adults and link to the final element of REAL which is 'Leads' in relation to the interaction. The use of metaphors for learning seems helpful in understanding this issue and the linking of acquisition to Repeats, participation to Edits, contribution to Authors and then finally framing to Leads helps to link the analysis of interaction more firmly back to the learning that may be taking place. Framing is a useful metaphor to help understand the way the context of the early years setting helps to influence the conversations that take place within it. The 'teacherly' behaviour of the adults in the study is not surprising because they are teachers. Their workplace context has considerable influences on their day to day interactions with children.

### ***Teacher identities***

The final framework we used in the analysis related to the identity of 'teacher'. The concept of 'situated identity' helps to explain the previous quotes where a 'teacherly' style was adopted by the adults. Even if the teacher has other identities, for example as a daughter or son, as a sibling or as a parent, within their workplace their professional identity is likely to be foregrounded. As a teacher the 'delivery' or 'coverage' of the formal curriculum is likely to be an important driver and assessment of children in line with policy guidance and quality assurance pressures is likely to be seen as important. However, we applied the concept of 'transportable identity' to the data and found examples where teachers adopted alternative identities during their conversational interactions with children:

*Transcript 3: Wiggly Worms*

Teacher 3: You're doing another one? Oh, can you teach me how to do a wiggly worm?

Child 9: Yes

[Child 9 moves over towards Teacher 3]

Teacher 3: What do you have to do?

Child 9: You have to rub it in, look, see

Teacher 3: Ah, there, so roll it with your fingers

Child 9: Yes, and then it makes a snake like this

[Child 9 holds up the wiggly worm]

Teacher 3: Oh, 'M' [child's name] look I'm making one. I'm rolling, rolling, rolling. (pause) 'M' what do you think of mine?

In this quote the teacher appears to adopt the identity of a playmate when she asks ‘can you teach me how to do a wriggly worm?’ In other examples the teachers adopted the identity of a family member in order to moderate their power and encourage reciprocity in the conversation. To some extent this seems like common sense and we all do this kind of switch in identity when playing with children. The reason why it seemed more significant and useful as a finding within the context of the study was because the teachers are at work when they are ‘playing’ with the children.

## Discussion

The collective approach to analysis initially identified that in these early years settings it is not easy for teachers to engage children in learning conversations that generate sustained shared thinking. Most one-to-one, adult to child, conversations are soon joined by other children. With hindsight, provided by repeated viewing of a video clip, it is possible to notice how teachers may have missed opportunities to implement conversational strategies recommended by the research evidence. This challenging finding, that it is not easy to achieve sustained shared thinking in formal school settings, is in line with the evidence base (Tizard and Hughes 1984; Siraj-Blatchford et al. 2003; Bilton 2012). The recommended strategies, such as ‘extension’ or making ‘connections’, were identifiable in the practice of the teachers in this study, often in slightly modified and personalised forms that reflected individual characteristics or style. In these early years settings the teachers felt they have a particular focus on speech and language development and to some extent that influenced their implementation of the conversational strategies. For example this emphasis means that the strategy of introducing or reinforcing ‘new vocabulary’ was perhaps more frequent than it may be in conversation with older children. The teachers found it useful to engage with the recommended teacher strategies during analysis of the video clips and in on-going development of practice. To a large extent it was felt to be useful to ‘refresh’ their tacitly held conversational strategies that did already reflect to varying degrees those proposed by the literature (Damhuis and De Blauw 2008).

The project findings also suggest that such collective analysis might use multiple analytical frameworks to avoid a rational-linear approach and to tease out the meanings of situated practice. The teachers in this study found that their practice in building learning conversations with young children was shaped not only by their workplace context in very practical ways but also through more subtle influences on their responses during adult-child conversations. Video analysis using the REAL framework positioned the teacher as just one member of a small discussion group. This shifted the emphasis away from ‘ping-pong’ style adult-child interaction and towards consideration of a more ‘basketball’ type of discussion. This shift helped to critically engage the teacher researchers in the recommended strategy of ‘power/reciprocity’ and this was identified as a key issue. Generally, this strategy means that the teacher tries to respond during conversations to the agenda of the child, encouraging them to develop their thinking.

Focusing on the strategy of ‘power/reciprocity’ emphasises the complexity of the teachers’ work and workplace setting. Their use and development of conversation strategies involves a balancing act between competing agendas including their identification of the child’s needs, priorities related to curriculum and assessment, requirements of the external quality assurance review body (in the UK that is ‘Ofsted’), their engagement with professional guidance and research, and their identity as a teacher. Even within potentially rich learning scenarios it appears to be all too easy for teachers to

miss opportunities to develop dialogic learning conversations because of these competing influences on their ‘in the moment’ decision-making. The teachers in the study often found it difficult to avoid being ‘teacherly’ during conversations. Rather than follow the child’s agenda it is tempting, as a teacher, to respond in ways that focus on elements of the curriculum such as referring to previous teaching or to speech and language development. Of course this is perfectly reasonable behaviour by teachers, but video analysis showed it to sometimes be in tension with the development, in the moment, of sustained shared thinking. The concept of ‘transportable identities’ (Zimmerman 1998) was found to be of some practical use in understanding successful teacher conversational strategies captured in the video clips. By adopting the identity of a ‘playmate’ or of a ‘family member’ the teachers seemed to be able to resist the temptation to be ‘teacherly’, or at least to delay that moment and allow the conversation to develop further with a more equitable power balance.

### Teacher learning

The research project supports previous work in showing that collective analysis of video clips of their own practice is a powerful approach in efforts to engage teachers with practice (Osipova et al. 2011; Derry 2007). In this project however the teachers went beyond reflection on their practical wisdom and became critically engaged with a body of established research evidence. The teacher strategies gathered from the research evidence base were made much more meaningful by the process of analysing the video clips. The process enabled teachers to relate the recommended strategies to their particular situated workplace settings. The additional and more abstract analytical framework of REAL (Repeat – Edit – Author – Lead) proved to be useful in evaluating and refining the more concrete ‘good practice’ type guidelines provided by the research evidence-based teacher strategies or by one to one interaction frameworks such as IRF (Intervention – Response – Feedback) (Crichton 2013).

The process of applying and critically evaluating the analytical frameworks provoked debate and negotiation to agree on our shared interpretation of the situated practice captured in the video clips. In evaluating the project the teachers overwhelmingly focused on the collaborative analysis as the key element in supporting their professional learning. It had provoked professional development coaching activity back in school and led to changes in practice. In addition, some of the teachers were involved in presenting the project at a conference and they felt that the pre-reading and preparation for this event helped to sharpen and embed their understanding of the literature and findings. However, the teachers did not all feel that they had learned sufficiently about how to undertake practitioner research independently in the future and this perhaps reflected the lack of much formal training on research methods within the project.

The project appears to include elements not only of ‘rational-linear’ but also of ‘interactive’ models of research-informed practice in education (Nutley, Jung, and Walter 2008). The sustained nature of the project, the collaborative sharing of practice by teachers, the presence of an intermediary in the form of the university research-mentor, the support of institutional leaders, the critical engagement with the research evidence-base, and above all the enquiry-based approach, all point to the alignment of the project with the recommendations, based on review of the relevant research evidence base, for effective continuing professional development for teachers (Cordingley 2008). The metaphor for teachers’ professional learning as ‘interplay’ appears to be useful in conceptualising the current project because the teachers engaged not only with their own

practical wisdom but also with the vertical knowledge domain in the shape of the research evidence-base used to build the analytical framework (Boyd and Bloxham 2014; Boyd 2014). The case for classifying such projects as either rational-linear or interactive seems rather fragile (Nutley, Jung, and Walter 2008), not least because the style of facilitation by intermediaries and the level of engagement and ownership by teachers appear to be critical, but these seem likely to vary according to the local situation. Such projects might more usefully be positioned along a dimension between top-down and bottom-up sources of power. The head teachers commissioning the project would seem to be powerful top-down players, and the University research mentor is also in a potentially powerful position, especially in relation to the vertical knowledge domain. However, providing a little counterbalance, the teachers have their own level of classroom autonomy and expert practical wisdom that appears to provide them with some measure of bottom-up power. Overall the project supports the findings of larger scale study by Fisher and Wood in terms of the benefits of practitioner research on adult-child interaction in the early years (2012).

### **Conclusions**

This is a small-scale collaborative research project and clearly has considerable limitations in terms of generalisability. The REAL classroom interaction framework developed during the project provided an analytical tool for teachers by linking conversations to learning. The project found in these early years settings that completely one to one adult-child conversations during continuous provision may be rare. In addition, teachers became aware of the considerable challenge of developing sustained shared thinking in practice. Ironically, this is made more difficult, at least in these settings in England, because of the considerable workplace pressures on teachers to be 'teacherly' and to focus on curriculum and assessment. The use of transportable identity appears to offer one strategy by which teachers may counteract the pressures on them. Critical engagement by collaborative teacher researchers with the evidence base and with analysis of video clips appears to be an effective way by which teachers may be seen to learn through 'interplay' between the vertical domain of public knowledge and the horizontal domain of practical wisdom. Engaging in collaborative analysis of shared practice as teacher researchers proved to be a powerful professional learning experience and a potential middle way between 'rational-linear' and 'interactive' models for developing research-informed practice in education. The paper set out to tell two stories, an empirical research project and a reflexive account of the researchers' experiences. It has argued that teacher learning requires critical engagement with bodies of public knowledge, and that teacher researchers are able to contribute to co-construction of public knowledge on classroom practice.

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