

## Research Note

# Young children accessing the learning of others: mediation through the 'witnessing' of others' gestural interactions

by K. R. Wall (krwall@tiscali.co.uk)

## Contextualisation

Children's interactions in the classroom arguably underpin many of the learning events and activities they experience. These may involve their classroom teacher, teaching assistants, other adults (including, in the primary school, context, parents / carers), their peers or other children entering the room where they are working. The paper that follows, reflects on the nature of such interactions, focusing on gestural behaviours, observed as part of a programme of doctoral study. It explores the notion of how the 'witnessing' of others' interactions may contribute to and inform the behaviour, understanding and learning of a child, as they work with their peers and a teacher on a grouped task. In so doing, it re-examines the notion of the more experienced other, associated with Vygotsky's ideas on social interaction in a pedagogic context and draws on a range of disciplines for both practical and theoretical inspiration.

**Abstract:** *Arising from a study of grouped 5-6 year olds' gestural interactions, an extension to Vygotskian notions of mediation is proposed. This is developed through a consideration of ideas grounded in: cultural psychology, situated learning, distributed cognition, the analysis of 'task affordances'.*

*The potential significance and role of a child's 'witnessing' of the mediational interactions of others is discussed informed by data drawn from the author's current research. The implications for teachers' practice as a more 'experienced other', in such interactions, are briefly discussed.*

## Introduction

Over the last two years I have been engaged upon transcribing and analysing data from my doctoral study. This related to an exploration of the nature of gestural and verbal interactions among teachers, pupils and their peers as they carried out a variety of tasks in a grouped arrangement in English primary classrooms.

In a series of papers and presentations over this period I have presented the initial stages of instrument development (Wall, 2000), the initial findings of the gestural data (Wall, 2001a) and findings related to pupil position in a group and an implied relationship to friendship patterns (Wall, 2001b).

At a British Psychological Society conference at Worcester in September 2001, I suggested, in the course of the presentation that the 'witnessing' of others' mediated interactions, could provide an additional and potentially important route to developing learning.

In another seminar I developed this further, by taking the Vygotskian notion of the 'more experienced other' (Vygotsky, 1978) involved in a dyadic learning relationship, and asking how this might work in a polyadic grouped context; one in which participants could observe the multiple interactions of others (Wall, 2001d).

This suggestion arose because there appeared to be an almost exclusive focus on interactions in a *dyadic* context in much of the theorising around the Zone of Proximal Development (ZPD)<sup>1</sup>, in the interactional and pedagogical literatures (discussed by Daniels, 2001) including that of gestural interactions (Blurton-Jones, 1973; Woolfolk and Brooks, 1983; McNeil, 1995). Indeed Erickson (1996), has commented that much of this ZPD related empirical work has involved contexts where only *one* more experienced other and *one* novice learner were involved. This ignores the reality of classroom learning where;

‘Teachers and students interact in classrooms, they construct an ecology of social and cognitive relations in which influence between any and all parties is mutual, simultaneous and continuous. One aspect...is the multiparty character of the scene...’ (Erickson, 1996, p 33)

This paper explores this further, from the point of view of a ‘multi-party character’ empirical setting; a group of up to six pupils with and without their teacher constituting in Bronfenbrenner’s sense, a *microsystem* (1979; 1989), by offering my emerging thoughts on this issue and by considering the implications for such a ‘witnessing’ model in terms, briefly, of perspectives drawn from cultural psychology, situated learning, distributed cognition and the analysis of ‘task affordances’.

## Grouped work as microsystem

It is important that the context of the teachers and pupils involved in the activity is clearly established. Bear in mind then that the 5-6 year olds and their teachers, who featured in my study, were working in a grouped<sup>2</sup> arrangement around a table or on the carpeted area of a primary classroom floor (the *microsystem* referred to in the introduction). The tasks they carried out were intended, in the instance of the intervention schools, to develop the children’s cognitive abilities (Adey, Robertson and Venville, 2000; see also Shayer and Adey, 2002) and to a lesser extent their social interaction skills. A parallel series of observations involved similar groups who were working on their normal classroom activities (which were teacher derived) but without a teacher being present in the group for most of its activities. It thus represented the near extreme of a continuum of two aspects reflecting possible teacher involvement in the groups’ activities, from being there all the time and taking a lead in the group on the one hand and hardly being present, except in a monitoring role, and thus taking little part in the group, on the other.

The interactions between participants were mediated by exchanges of gesture, language and object related interactions. These, summed over the network of individuals’ interactions with others, informed by varying levels of participation and engagement with the learning task, constituted the context in which they worked – the *microsystem* being studied.

---

<sup>1</sup> Vygotsky specifically identified a mechanism whereby the different experiences and knowledge levels of a more experienced member of a particular culture could facilitate the learning of a less experienced member of the same culture through a gradual extension of that person’s understanding. He called this the Zone of Proximal Development (ZPD). For Vygotsky, the ZPD was defined as the distance between a child’s:

‘...actual developmental level as determined by independent problem solving...’ and the higher level of ‘...potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.’ (1978, p 86).

This implied that the help involved was in moving from where a child’s understanding ‘was’ in a particular context, to where they could be, if helped.

<sup>2</sup> Pupils may be seated in a group, but not *work* as a group: as such they may be referred to as ‘grouped’ (eg, Kutnick, 1994).

## **Practices and context**

This description clearly reflects more than a cognitive, developmental view: in emphasising the importance of examining the surrounding social practices, and in particular the social contexts and locations of these social processes informed by their mediational mechanisms, I am adopting an approach consonant with that of Vygotsky (eg, 1978), across the range of his work as discussed by Daniels (2001) and in particular that of Cole (1996) and others in the field of cultural psychology. Such an approach emphasises the range of contexts within any particular society, for mediated interaction, and the need to address this in understanding human development. This perspective takes the view that what differentiates humans from other animals and our near, primate relatives, is the creation of artefacts that allow the experiences and knowledge of one generation to be passed on to the next generation (eg, Tomasello, 1999). Although other animals may use tools there appears to be no evidence at present, that the learning of particular tool activities are 'taught to' another generation or passed on in any consistent way, or having been observed by one animal, are then passed on horizontally to others in the same community, in ways that can unambiguously be regarded as being the same as occurs among human animals.

Contrast this with the manifold artefacts that humans use to transfer the experiences of one generation to the next. These artefacts which may mediate the process of learning and experience gathering can be gestural, speech based or object related; they can be the institutional contexts we create, work within or interact with; they reflect the co-evolution of human activities and the artefacts themselves. Induction into the acquisition and use of these artefactual elements is effected by a process of socialisation, initially in interactions between an infant and its carers and then by an increasingly broader range of interactions with others who may be their peers, or persons from other generations, or cultures.

As a person's communicative competences develop they gain access to further sources of experience and knowledge through the ability to access and use a variety of sign systems culminating, as at present in a western, European context, with writing and reading. In so doing they gain access to and increasing competence within a range of different communities of practice. The practices of one community being made available, to that of another, in another, community. They experience these through a variety of human institutional artefacts such as particular family / caring structures, play groups, nursery schools, etc.

Both the acquisition and development of these skills are mediated by interaction with other people but also with a variety of objects – books, comics, papers, radio, television and the internet, etc, that themselves can act as mediators informing a person's current developmental level. The range of possible sources and modes of sign based communication is expanding and includes visual and related modalities.

Running through these mediational experiences are those that relate to accessing a particular cultures' notions of visual, gesticular and auditory practices: it is not enough to 'know' that a gesture or sound pattern exists and has a meaning: its use in interaction with others, further expands the user's understanding of its value, usefulness and purpose and extends the possible range of contexts within which it may then be subsequently used.

Each person thus develops a personal cultural history that represents and embodies a pattern of interactions with the cultural histories of others in the same or different communities. It represents an accretion of previous experience; both their own and that of others. In so doing they in turn add to and extend their own histories through their actual experiences and so also, to those of others. If they in turn record, by whatever means, their experience of the various artefacts they have 'used' and the knowledge and experience they 'embody' at any one time, then they also add to this cultural store.

A cultural psychology perspective, then, necessarily draws on ideas from developmental, cognitive, social and evolutionary psychology, in addition to those of linguistics and communication theory, in trying to focus on how a person's psychological experience of, and interaction with, their particular social world develops and what this means for the human mind involved in the process.

## Interactions and mediation

Interactions between a person and their self, and between 'self's' and others, identify a particular individual at a particular time in a particular cultural context. In terms of the group of participants in my study<sup>3</sup>, each child and adult brought with them a personal history of interactive experience involving, to varying degrees, the various artefactual modes available to them. This availability was partly related to their physical and maturational ages and degree of development but was also linked, in turn, to the linked histories of those they had come into contact with in their families, among their friends, neighbours, etc. In addition to the particular group histories those individuals may have had, the cultural traditions and specific mediational means, they were familiar with, and routinely participated in, would also contribute to their cultural history, and thus to the combined history of the microsystem in which they were working.

Further layers of mediation are afforded by their membership of, role in, and power within, particular institutional or organisational contexts. In this case that of the primary school classroom within a primary school setting in the maintained sector of the English education system. The participants in the groups being studied are afforded different positions and powers within this structure related to their age, developmental/ maturational stage, role, gender etc.

In each of the contexts constituting their particular histories they may have participated actively and directly, in the sense that they were the initiator or responder to, of an interaction or they may have been bystanders to the interactions of others and thus 'witnesses' of those interactions.

The extent to which they and the persons observed had a shared history might well affect the impact or importance attributed by the observer to what they witness. I would suggest that there is a difference between being involved in such an interaction directly as an active participant and secondly as a witness-someone who experiences the mediation going on but who stands in a different relation to it and thus possibly may learn from it in a different but no less mediated way. This difference is in part mediated by the various modes of interaction being experienced and how those modes (gesture, speech, etc) interact with each other in a communicative act.

For the pupils concerned, seeing how others interact with their teacher may afford clues as to how they might interact with her: observing the way other pupils negotiate with their peers in particular ways might give the observer insight into how they might go about a similar task themselves.

---

<sup>3</sup> This involved 72 Year 1 primary school pupils and 6 teachers working on tasks in which the teacher was either a member of the grouped setting or a visitor to it. In the former, the tasks used were those being used in the CASE @KS1 project, cited in the text; in the latter, tasks were originated by the classroom teacher as part of their normal classroom preparation. The details of the method, initial reporting of data and conclusions, have been summarised in Wall (2002; 2003). Particular aspects of the methodology are in preparation, being in the process of being submitted for publication to other journals.

## More than modelling!

I would further suggest that there is more than simple modelling going on in what was described above. Other 'lessons' may be being learnt. Gaining access to a person is one matter, but relating to them in an emotional or affective way offers other possibilities unconnected with a particular pedagogic focus. Could the witnessing of others' interactions also be informing observers about the value placed by one or the other interactant on the focus of their work, the way they feel about each other, the respect each has for the other?

I make these comments in order to suggest that adopting the view that more comes out of such an interaction than simply the passing on of factual information or a 'bit' of particular cultural knowledge or experience is important and revealing. Attitudes, affectational states, even perhaps prompts to motivation are there to be seen, in addition to prompts about acceptable and unacceptable social practices. These may be local to that classroom or institution but may also reflect 'rules' and practices that have a wider status in other cultural contexts.

The interpretation of these information streams resides in the person who is observing them informed by their particular histories and experiences. This interpretation may be guided by the direct instructions of a more experienced other, in this instance the teacher (in for example a ZPD type context), but equally with another pupil: the actual synthesis and incorporation of that experience into the personal history of an individual seeming to reside in the person themselves and may be wholly unavailable to us as parties external to that person. Whilst witnessing may be communicable to others, its impact and meaning is primarily one inside of and specific to, the person doing the witnessing.

## Tracing evidence of 'witnessing'

Where we *may* gain access to the incorporation of their experiences, as observers, is via our *witnessing of them* in their interactions and our internalisation and interpretation of what has been witnessed, as we include it in *our* cultural history. We can only have secondary access to it however, and perhaps the individual themselves, also only has a similar level of access.

I have suggested by way of implication, that the particular goals that interactants have in mind when they embark on an interaction (say for example the pedagogic goal of encouraging a person to ask a question after a period of critical reflection), may in the way it is mediated, have additional affordances, or permissioning properties, that allow interactants to take more from the exchange than the just the pedagogic goal itself. In witnessing such an interaction, similar affordances may be made available but the different position in respect of the witness compared to the interactants may allow additional affordances to be accessed: the interaction from the point of view of the witness becoming a test bed upon which the elements of the interactions and their apparent properties and effects; their interplay and interaction itself, may be witnessed and then considered. I am not suggesting here that the witness actively reflects on every aspect of what they have just witnessed straight away. Rather, I am saying that having been perceived, salient parts of the events observed - salient in the sense that they connect in some way with current or previous issues for the observer, may be focused upon and added to the witnesses' existing store of experience. This addition might then be used immediately (having seen the way an answer was given the same approach might be used by the witness when they next interact in the same way) or it may be used later or in a different context.

Each observed event thus has potential template capabilities in much the way that a piece of clipart in a desktop publishing context can be used in a variety of contexts or be modified:

added to or subtracted from, inverted, rotated, etc. Nonetheless each observed event has affordances that relate to the context in which it was experienced as well as to the event itself.

An implication of what was said above is that such witnessed templates could be traceable as they evolve and are manipulated to meet the mediational needs of the person concerned. That is, that it should be possible to identify particular gestures, use of words, use of objects etc that can be identified as having a common origin in the activity of a particular person or event and which can then be followed as it is communicated and re-contextualised by one person to another, one context to another.

In the observations made within my study there were examples of pupils making a point in a particular way, gesturally and verbally and that same approach being used later by another pupil or, in some instances almost straight away, when the action of a previous pupil was used as a template for their own intervention. These were observations that arose incidentally, in the course of observation, but suggest that a focused and more systematic observation targeting such 'witnessed' and re-expressed gestures, might be profitable in looking at how patterns of interaction are disseminated-or not, through groups or classrooms.

## Perspectives on 'Witnessing' across contexts

The extent that such transmission can occur across contexts is also a consideration for cultural psychology; equally it is an issue for those adopting a situated learning approach. Lave and Wenger (1991), have developed the notion of 'legitimate peripheral participation' which they take to mean:

'...that learners inevitably participate in communities of practitioners and that the mastery of knowledge and practice requires newcomers to move towards full participation in the social-cultural practices of the community.' (Lave and Wenger, 1991, p 29);

This requires;

'...access to broad arenas of mature practice...' (*ibid*, p 110).

These areas may be in different task contexts or in different locations within particular communities' practices. There is thus an apprenticeship type relationship occurring that involves working with others and learning from them. From what I have said above, this necessarily involves the witnessing of others' interactions as a learning opportunity, as much as in engagement with any particular task, as a participant themselves.

Another perspective informing this issue is that of Situated Learning. Lave has suggested (1993) that situated learning is usually unintended, arising from increasing participation (perhaps by witnessing as already suggested above), in a community of practice. In this context cognition is stretched over, not divided among (it is thus *distributed*) – a range of possible entities, processes or actors / participants. It is thus in some sense a communal cognition, whose components, modalities and mediations are available to all.

With Prior (1997), after Lave and Wenger (1991), we might say that becoming an expert (and this might apply to the expert role in the ZPD context as well) involves operating within a community that involves:

'...a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice.' (Prior, 1997, p 298)

From the point of view of engaging with a variety of cultural artefacts this offers a wide range of opportunities to witness the acts of others; witnessing being a form of 'relations among persons' but also reflecting indirect participation in others' activities and worlds. These patterns of interaction, activities and tasks offer then, different opportunities to experience the learning and experiences of others.

## **'Witnessing', the ZPD and the classroom**

In reflecting upon the data from my current study I am beginning to see evidence that could be construed as gestural, verbal and object associated 'witnessing'. In developing my ideas about the nature and role of 'witnessing' I have been engaged in a process of theorising, informed by data analysis, itself informed by further theorising.

This has become necessary because, having explored a polyadic rather than a dyadic context (although one that some may feel is merely a series of overlapping dyadic interactions) and wanting to understand the various learning processes being engaged in, I have found the Vygotskian dyadic approach, of more experienced learner and novice, unhelpful when applied to the reality of a grouped learning context. Within such a context, there are multiple and continuing exchanges of role as first one, then another, participant becomes the more or less 'experienced other', depending on the particular aspect of the task, at a particular moment.

In drawing on ideas from a wide range of areas I am trying to extend existing theory, in a sense to 'save' the ZPD notion so that it may be applied to my study. In introducing the notion of witnessing as described above I am trying to extend the idea of the ZPD by making the mediational nature of any learning interaction between a more and less experienced other itself explicitly, a source of mediated learning for others – the witnesses; accidental or 'unintended' as it may be. The affordances it offers may be powerful and influential in children's learning. In doing so I am suggesting a need on the part of more experienced learners to be aware of how the manner, and substance of their other' directed interactions may be viewed, read and assimilated by witnesses. In addition I am suggesting a need for practitioners to be sensitive to how learning flows through the community of learners they are responsible for and the extent to which their behaviours and approaches, as sources of cultural knowledge and experience, offer positive and helpful templates for those same young learners as they structure their own experiences.

It may be however that the ZPD approach itself needs replacing with something more able to address the practical polyadic contexts of the classroom and which can integrate directed and indirect routes of learning across a range of modalities. In further analysing and reflecting upon my data I am trying to understand how this might be achieved, however a new approach may be inevitable. I would welcome reader's comments!

## **References**

Adey, P., Robertson, A. and Venville, G. (2000) *CASE @KS1 HandF – Group based activities for the CASE project*. London: King's College, University of London.

Blurton-Jones, N. G. (1973) Non-verbal communication in children, in R. A. Hinde (ed) *Non-verbal communication* (Chapter 10, pp 271-296 and pp 416-418). London: CUP.

Bronfenbrenner, U. (1979) *The Ecology of Human Development*. Cambridge MA: Harvard University Press.

Bronfenbrenner, U. (1989) Ecological systems theory, in R. Vasta (1992) (ed) *Six theories of child development* (pp 187-249). London: Jessica Kingsley Publishers.

Chaiklin, S. and Lave, J. (1993) (eds) *Understanding Practice: Perspectives of Activity in Context*. Cambridge: Cambridge University Press.

Cole, M. (1996) *Cultural Psychology: a once and future discipline*. Cambridge: The Belknap Press of Harvard University Press.

Daniels, H. (2001) *Vygotsky and Pedagogy*. London: Routledge / Falmer.

Erickson, F. (1996) Going for the zone: the social and cognitive ecology of student-teacher interaction in classroom conversations, in D. Hicks (ed) *Discourse Learning and Schools* (p 33). Cambridge: Cambridge University Press.

Hicks, D. (1996) (ed) *Discourse Learning and Schools* (p 33). Cambridge: Cambridge University Press.

Huide, R. A. (1973) *Non-verbal communication*. London: CUP.

Kutnick, P. (1994) Use and effectiveness of groups in classrooms: towards a pedagogy, in P. Kutnick and C. Rogers (eds) *Groups in schools* (pp 13-33). London: Cassell

Lave, J. (1993) The practice of learning, in S. Chaiklin and J. Lave (eds) *Understanding Practice: Perspectives of Activity in Context*. Cambridge: Cambridge University Press.

Lave, J. and Wenger, E. (1991) *Situated learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press.

McNeil, D. (1995) *Hand and Mind* (pp 295-328). Chicago: The University of Chicago Press.

Prior, P. (1997) Literate activity and disciplinarity: the heterogeneous (re)production of American studies around a graduate seminar. *Mind, Culture and Activity*, 4, 4, 275-298.

Shayer, M. and Adey, P. (eds) (2002) *Learning Intelligence*. Buckingham: Open University Press.

Tomasello, M. (1999) *The Cultural Origins of Human Cognition*. Cambridge: Harvard University Press.

Vygotsky, L. S. (1978) Interaction between learning and development, in M. Cole, V. John-Steiner, S. Scribner and E. Souberman (eds and trans.) *Mind and Society* (pp 79-91). Cambridge, Massachusetts: Harvard University Press.

Wall, K. R. (2000) Observing non-verbal and verbal communication in small group work in primary science – a novel observational instrument. December 2000. *Poster presented at the Doctoral School Poster Conference*. Institute of Education, University of London.

Wall, K. R. (2001a) Pupils' communication and perceptions of group work in cognitive intervention activities. January 2001. A paper presented as a contribution to a symposium led by Professor Philip Adey, King's College London, on Cognitive Acceleration in Year 1 at the *Centenary Annual Conference of the British Psychological Society*. Glasgow.

Wall, K. R. (2001b) Does it matter where 5 year olds sit in a group? Pupil position and friendship in groups using gestural analysis. March 2001. *Learning for All – Psychology group open seminar series*. Institute of Education, University of London.

Wall, K. R. (2001c) Communication interactions between grouped 5-6 year olds in the primary classroom. September 2001: *Paper presented at the British Psychological Society Developmental and Education Sections' Joint Conference*. Worcester.

Wall, K. R. (2001d) Observing 5-6 year olds in the wild – integrating gestural and verbal communication: Current work and theoretical issues. October 2001. *Learning for All – Psychology group open seminar series*. Institute of Education, University of London.

Wall, K. R. (2002) Pupils' communication and perceptions of group work in cognitive intervention activities. In M. Shayer and P. Adey (eds) *Learning Intelligence* (Chapter 6, pp 80-97). Buckingham: Open University Press.

Wall, K. R. (2003) The use of gesture by young children and their teachers: a classroom based study of gestural behaviours in grouped tasks. *Presented as a Doctoral Research seminar paper. School of Psychology and Human Development*. Institute of Education, University of London.

Woolfolk, A. E. and Brooks, D. M. (1983) Nonverbal communication in teaching. *Review of Research in Education*, 10, 103-149. Washington: American Educational Research Association.