INTEGRATING CHAT AND ACTION RESEARCH

Gordon Wells
University of California, Santa Cruz

The question as to how Action Research (AR) is related to Cultural Historical Activity Theory (CHAT) is not answerable in categorical terms. Both CHAT and AR have been variously interpreted and much depends on the individual biographies of those who pronounce on their relationship. In this paper, therefore, I offer no more than my own answer to this question, based on my own research trajectory. In fact, neither of the above perspectives was influential in my initial research; nevertheless each has become central to the ways in which I now conceptualize and carry out my research.

As I shall explain in more detail below, following Vygotsky, CHAT treats theory and practice as dialectically related, with each informing and being informed by the other. This holds across the disciplines for, as Ursula Franklin, an eminent Canadian scientist, put it in introducing a multidisciplinary conference on “The Ecology of Knowledge” (Franklin, 1996), “Knowledge is created in the discourse between people doing things together.” Action research clearly fits this account, since one of its goals is to create and refine knowledge through processes that involve people in deliberately acting and reflecting discursively on their actions together. Thus, when educators carry out action research that aims to improve opportunities for learning in schools, their research can contribute to CHAT theory about the relationship between learning and development, as this is enacted in contemporary educational institutions.

My Early Research

Starting as a teacher turned applied linguist, in 1979 I embarked on a large longitudinal study designed to chart the language development of a representative sample of children during their pre-school years (Wells, 1985). Subsequently, I followed the progress of 32
of the original 128 children until the age of 10 years, comparing their early language experience with their progress during the first phase of schooling (Wells, 1986/2009). Throughout the study, recordings were made of the children’s spontaneous interaction, first at home, once every three months, using a remotely controlled timing device that audio recorded a short sample of whatever was happening at approximately 20 minute intervals throughout the day between 9 a.m. and 6 p.m., and subsequently at school, where a video camera was used to track the child under study. These recordings were then transcribed and analyzed for a wide range of linguistic and contextual features. There is not space here to describe the methods of analysis in detail but, in addition to creating a longitudinal account of each child’s gradual mastery of the pragmatic, semantic and grammatical systems of language, we also investigated the relationship between the complexity of the children’s utterances at each recording and that of the utterances that were addressed to them by their interlocutors. Several important findings emerged from the overall longitudinal study, which challenged some widely accepted beliefs:

1. Despite considerable variation in their rate of development, all the children followed essentially the same sequence with respect to: the functions for which they used language; the meanings that they attempted to communicate; and their mastery of the morphology and syntax of British English.

2. There was not a statistically significant relationship between the children’s overall rate of development and their rating on a scale of family background (social class).

3. The most significant predictor of rate of language development was the quality of conversation that the children experienced.

4. On entry to school, the quality of linguistic interaction that the children experienced in the classroom was inferior on all measures to that experienced at home; this was true for all children in the study, whatever their class of family background.

5. Progress in school was significantly related to the children’s knowledge of literacy (Clay, 1972) on entry to school and this was most strongly predicted by the frequency with which they had engaged in shared story reading; both these
measures were significantly correlated with class of family background.

As I reflected on these findings I realized that I needed to make some important changes in my approach to research. First, I felt the need for a more comprehensive theory of learning and development in order to better understand the role of interaction in learning. This I found in the writings of Vygotsky. And second, I needed to find an effective way of persuading teachers to consider the practical implications of these findings; this led me to explore the potential of action research.

Setting the Bristol Findings in a Wider Framework

I had become interested in some of Vygotsky’s ideas on first encountering them in Thought and Language (1962) before I began the Bristol study. But it was not until I was writing up the results of that research that I began to recognize the significance of Vygotsky’s overall theory of learning and development for an explanation of the findings summarized above. In particular, it was as I sought to understand the importance of the differences in conversational experience between those who were advanced in learning to talk and those who were developing more slowly that I came to see the explanatory value of the metaphor of “working in the zone of proximal development.” Not only did the rapidly developing children enjoy a greater quantity of conversation with family members but, more importantly, the quality of their conversational experience seemed more supportive of their learning. Some of the features that I intuitively felt to be beneficial can be seen in the following extracts.²

In the first example, Mark, aged 18 months, is looking out of the window at some birds in the garden.

Mark: ø a [look-at-that] . jubz [birds], Mummy

Mother: Mm

Mark: Jubz

Mother: [inviting Mark to extend his own meaning] What are
they doing?

*Mark:* Jubz bread [birds eating bread]

*Mother:* [extending *Mark's meaning*] Oh, look! they're eating the berries, aren't they?

*Mark:* Yeh

*Mother:* [extending and paraphrasing] That's their food. they have berries for dinner

*Mark:* Oh

This short sequence of conversation seems an almost ideal example of the way in which parents can most helpfully contribute to their children's early language development. In it we see how the mother first checks to make sure that she understands the child’s intention and then, in responding, adjusts her speech to take account of the child's capabilities and helps him to build a conversation with her about a topic that is clearly of interest to him, as it is one that he initiated. In her turns she encourages Mark to extend his initial topic and then takes what he contributes and extends it still further in a number of simple, related sentences that provide evidence for him as to how to express more fully what it is he has invited her to look at with him.

A bird is also the focus of the following episode. James, aged 3½, has been playing in the garden. His mother wants to get him to take his muddy shoes and socks off but, as he comes inside, he sees a bird.

*Mother:* There we are .. there - one slipper on

*James:* I can see a bird

*Mother:* A what, love?

*James:* See a bird

*Mother:* [whispering] Is there? outside?
James:  [pointing and whispering] Yes. see

[Both continue to whisper.]

Mother:  Is he eating anything?

James:  No

Mother:  Where?  oh yes. he's getting— do you know what he's doing?

James:  No

Mother:  He's going to the-the paper sack to try and pick out some pieces—
          Oh, he's got some food there. and I expect he'll pick out some pieces of
          thread from the sack to go and make his nest up underneath the roof,
          James .. wait a minute and I'll—

[James now wants to go out to see more closely, but at that moment the bird flies away.]

James:  That bird's gone

Mother:  [speaking at normal volume again] Has it gone now?

James:  Yeh

The Bristol database includes many examples of this kind, not all so
dramatic as this whispered accompaniment to their jointly focused attention, perhaps, but
all in their different ways helping the child to make fuller sense of an experience. It is in
this sort of spontaneous conversation, of course, that the child gradually comes to take on
the adult way of interpreting the world – not through deliberate and systematic
instruction, but through shared interest and involvement in the events that make up
everyday life (Halliday, 1975).

In the final example, Elizabeth, aged 4 years, is helping her mother clean the
house. Watching with interest as her mother shovels wood ash from the fireplace into a
bucket, she asks:

Elizabeth:  What are you doing that for?

Mother:  I’m gathering it up and putting it outside so that Daddy can put
it on the garden
Elizabeth: Why does he have to put it on the garden?
Mother: To make the compost right
Elizabeth: Does that make the garden grow?
Mother: Yes
Elizabeth: Why does it?
Mother: You know how I tell you that you have to eat different things like eggs and cabbage and rice pudding to make you grow into a big girl?
Elizabeth: Yes
Mother: Well, plants need different foods too. and ash is one of the things that’s good for them

In all three of these examples, the mother willingly responds to the child’s interest and provides information to explain the significance of what the child is seeing or hearing, even when, as in the second, this interrupts the mother’s plan. All show how the mother and child’s joint participation in the activity ensures that there is intersubjectivity of attention to what interests the child, which enables the mother to provide relevant information at the moment when the child is most able to appropriate it. In this way, each exemplifies the role of semiotic mediation in enabling the child both to extend his or her language repertoire and simultaneously to better understand the world in terms of the culture’s linguistic ways of “making sense” of it – “growing into the intellectual life of those around them,” as Vygotsky (1978, p.88) put it.

Interestingly, this brief quotation comes from one of Vygotsky’s expositions of the zone of proximal development (zpd), where he proposed that “the acquisition of language can provide a paradigm for the entire problem of the relation between learning and development” (1978, p.89). From my point of view, what was most helpful about this metaphorical construct of the zpd was the central role it gave to semiotic mediation in children’s development and its implicit rejection of the Chomskian theoretical explanation of language acquisition in terms of an innate knowledge of universal grammar in favor of a sociocultural theory of development “from the outside in” through
assisted learning in the context of artifact mediated joint activity.

While much of Vygotsky’s writing about the zone of proximal development focuses on the role of systematic instruction with respect to “scientific concepts,” it is important to emphasize that much assistance of value to the child is provided spontaneously in response to the child’s less than effective attempts to achieve a goal in which an adult or more “expert peer” is also involved. This form of just-in-time instruction is not pre-planned but is contingent on the other’s assessment of how best to help the child make progress in successfully completing the ongoing activity, whether this involves material action or communication – or, most frequently, a combination of both. In sum, when reviewing the Bristol data, what seemed to characterize the interactions which the more rapidly developing children experienced was their interlocutors’ willingness to attend to what the child was interested in and to contribute in ways intended to help them to act or understand more effectively.

The Transition to School

Starting school involves a challenging transition for children. Instead of one to one conversation with a parent or other caregiver – at school, at least part of the time, the child is just one of twenty-five or more children for whom the teacher is responsible. Opportunities for dyadic interaction are inevitably greatly reduced. However, much more problematic is the qualitative change that most children experience. Instead of the child’s interests and goals being the focus of attention when the teacher does engage with the child individually, it is almost always the adult who sets the agenda, asking questions that are designed to bring the child to the teacher’s predetermined answer. The following is a typical example.

Lee (age 5 ½ years) has found a conker (horse chestnut) and brought it to school to show his teacher.

Lee: I want to show you! Isn't it big?

Teacher: It is big, isn't it? What is it?

Lee: A conker

Teacher: Yes
Lee: Then that'll need opening up

Teacher: It needs opening up. what does it need opening up for?

Lee: 'Cos the seed's inside

Teacher: Yes, very good. what will the seed grow into?

Lee: A conker

Teacher: No, it won't grow into a conker. it'll grow into a sort of tree, won't it? can you remember the-

Lee: Horse chestnut

Teacher: Horse chestnut. good. put your conker on the nature table, then

In many ways, the teacher's intention here is praiseworthy – to help Lee extend his interest more reflectively, to make the connection between the conker and the tree that it came from and will grow into. But as the conversation progresses, Lee's topic is lost sight of as the teacher imposes her perspective through questions to which she, of course, already knows the answers. Under the constraints that she thus imposes, Lee's utterances decrease in length and complexity; from offering information about what he is planning to do with the conker, he is reduced to providing a simple labeling response to a question on a topic that he had not wanted to talk about at all.

The objection to this and to many other similar conversations that start with something in which the child is interested is not that teachers try to extend children's knowledge, but that they try so hard to do so that they never really discover what it is about the child's experience that he or she finds sufficiently interesting to want to share in the first place.

This trend was clearly apparent when 32 of the Bristol children’s experience of conversation with an adult at home just before starting school was compared with what occurred at school a few weeks later. At home, 64% of episodes of dyadic interaction were initiated by the child; at school the corresponding figure was 23%. At home, almost 13% of the child’s utterances were questions; at school, the proportion was 4% (and this figure rapidly decreased over the ensuing months). On the other hand, in a comparison of adult questions, while teachers asked more questions than parents (20% v. 14% of all utterances), at school a high proportion of these questions were for known information,
whereas at home only 2% had this function. However, most significant was the difference in the ways in which parents and teachers developed conversational exchanges with the child. At home, when they responded to the child, parents extended the child’s topic almost twice as often as they developed their own topic (34% v. 19%), whereas the proportions were reversed in the teachers’ responses (17% v. 39%). Taken together, this set of comparisons indicates very different patterns of interaction in the two settings. While parents tended to support the children’s attempts to communicate meanings that were of interest to them, teachers tended to be much more concerned to impose their own meaning intentions, often ignoring what the child was trying to communicate. Moreover, this was true for all the children considered individually; even for those children whose conversational experience at home was generally not very supportive, their experience at school was even less so.\(^3\)

It is against this background that the last of the major findings takes on its greatest significance. As noted above, it was the frequency with which the children had had stories read to them in the pre-school years that was the single best predictor of their school attainment at age 10. This, in itself, was not very surprising. Children who had been read to frequently at home came to school with a well-developed idea of the purposes served by written language and they scored high on Clay’s (1972) *Concepts about Print* assessment. Once in school, they typically learned to read and write without difficulty and, because they enjoyed both reading and writing, they were able to extend their interests through the medium of written language. By contrast, those who had not been read to at home had little sense of the power of written language and were typically both slower in learning to read and less likely to choose to read and write of their own accord.

However, this was not the end of the disparity. Both from the classroom observations we made and from the teachers’ assessments of the children’s attainments at successive ages, it was clear that it was their performance on literacy tasks that was accorded most value; oral ability was treated as of little significance because talk, in itself, was not recognized to be important as a mode of meaning making. Rarely, if ever, did I observe a genuine discussion, in which time and attention were given to what students had to say about a topic in which they were genuinely interested. As a result,
students who showed considerable verbal skill in conversation with their peers – often those from homes in which literacy was not highly valued – were hardly ever encouraged to make the potentially significant contributions of which they were capable to their classes’ intellectual activities.

These findings were, to say the least, disturbing. From the CHAT perspective that I had begun to adopt, it was apparent that the teachers I had observed over the five years of the follow-up study were not very successful in enabling their students to appropriate the skills, knowledge, and values of the wider culture, or to achieve their full potential as individuals. More specifically, in their teaching the teachers were using only a narrow range of means of semiotic mediation and, in their choice and organization of activities, they did not systematically provide opportunities for their students to receive assistance in their zones of proximal development. This is not to say that they were uncaring or professionally incompetent. On the contrary, for the most part they were obviously committed to the education of the children in their care. The problem, as I was coming to see it, was that their preparation and ongoing professional development was theoretically inappropriate.

**Becoming an Educational Researcher**

As an academic researcher, my first response was to attempt to bring about change by publicizing the findings of the Bristol Study through conference presentations and publication. However, it soon became apparent that this was unlikely to have the effect I hoped for. Even if the information I had to share reached a wide audience of educators, it would be unlikely, in itself, to lead to a change in practice. To be told what was wrong with the way they taught would only antagonize teachers – as I discovered through experience (Wells, 2009) – unless they themselves could imagine a better alternative. And this would require more than a set of theoretical principles.

Coincidentally, it was at this point in my career that I moved to the Ontario Institute for Studies in Education (now part of the University of Toronto). Since my new responsibilities included teaching practicing teachers for the M.Ed. degree, I realized I had the opportunity to explore different ways of influencing teachers. However, having
moved to a new country, my first task was to learn about these teachers and their beliefs and practices. In fact, the classrooms I visited were not very different from those that I had observed in Bristol, except in two respects. First, the population was much more ethnolinguistically diverse, with most schools serving a substantial proportion of children for whom English was not the language used at home. Indeed, some classrooms contained speakers of several different home languages, many of whom were still at various stages in the process of learning English.

However, a more important difference was that I was visiting these classrooms as a participant observer rather than as an impersonal researcher. And, as I talked with the teachers about what they were attempting to achieve and how they were trying to do so, I realized that my former stance was at best ineffective in bringing about change and, at worst, unethical. For not only had it restricted my access to important information about how the teachers I observed construed their practice but, by publicly criticizing what I judged to be unsatisfactory without giving the teachers a chance to respond, I was in fact exploiting their hospitality and giving nothing in return. If I wanted to use my research-based understanding of what I observed in order to bring about change, I would have to find a way of establishing a more collaborative relationship. In particular, I should seek to ensure that those who participated in my research, students as well as teachers, would personally benefit from their participation.

It was in this context that I began to undertake action research. Particularly influential in persuading me to make this change was Judith Newman’s work with teachers in Canada; her paper, “Learning to teach by uncovering our assumptions” (1987), suggested a means of bringing about change through joint exploration of issues of concern to practitioners. At the same time, as I learned more about activity theory, it seemed that this form of research was in line with Leontiev’s way of conceptualizing the relationship between understanding and action: “What is crucial is that mental reflection of the object world is not produced directly by external influences... but by processes through which the subject enters into practical contact with the object world” (Leontiev 1981, p. 49). In other words, we come to understand the world in which we live through the actions we carry out in the course of situated, culturally organized activities undertaken in collaboration with others and mediated by the discourse in which we plan,
coordinate and reflect on them. Thus, as I understood this thesis, if one wants to improve the learning opportunities that teachers provide for their students, it is not sufficient – or even very productive – to tell them how to act, out of the specific contexts in which they find themselves; rather, it is necessary to engage together with them in action and discourse in that situation in order to discover what action goals are appropriate to the “object” (i.e. goal) of the overall activity and by what operational means those goals can be achieved under the prevailing conditions. Moreover, such “action research” is a cyclical process (Carr & Kemmis, 1983), in which the object content of activity also develops, as can be seen in “the resulting development of the mental reflection that regulates [the participants’] activity in the object environment” (Leontiev, 1981, p. 49; see also Engeström, 1999).

In recent years, a number of classroom action-based projects have been carried out by university researchers in the form of what have come to be called “design experiments,” which Reinking and Bradley (2008) characterize as: “seeking to accomplish practical and useful educational goals” by “[using and developing] theory in the context of trying to engineer successful instructional interventions” (pp. 10-11). Typically, such projects are conducted as interventions in the classrooms of collaborating teachers on the basis of the researcher’s definition of an educational goal and a clear plan of how to achieve it. For this reason, Engeström (2007) criticizes this form of research as mere “refinement”: “The implication is that the researchers have somehow come up with a pretty good model which needs to be perfected in the field” (p. 369). However, this represents a rather narrow conception of design experiments for, as several researchers sympathetic to CHAT have emphasized, a significant goal of such experiments is to learn from the – often unexpected – ways in which the experiments unfold to construct new understandings of both theory and practice.

However, Engeström’s argument that such projects are less than fully collaborative, in the sense that all participants share agency in shaping and modifying the design, has more weight. In large part this is because of the perceived hierarchical power relationships between university and teacher researchers and between both these categories of participants and the students whose educational experiences they are attempting to improve. A major challenge to any truly collaborative form of action
research is therefore to find ways of overcoming – or at least mitigating – the power differential between the different categories of participant.

I have to acknowledge that my first attempts to achieve this goal were largely unsuccessful. In the first, supposedly collaborative, project I undertook, which was intended to gather data on children from different ethnolinguistic backgrounds in order to create better learning opportunities for them, the tasks assigned to the research assistants, who were not themselves practicing teachers, meant that they were more intent on observing than on participating. Not surprisingly, therefore, many of the teachers who agreed to participate were unconvinced that we genuinely wanted to collaborate with them in the interpretation of the data we were collecting and to share in the exploration of possible modifications to their practices. Indeed, some believed that our offer of collaboration was just a more devious way of evaluating them with a view to imposing changes in the traditional top-down manner.

However, some did take up the invitation to varying degrees and, by the end of the project, some half dozen were enthusiastically conducting their own classroom research and sharing what they discovered with their colleagues. A forthcoming meeting in Toronto of the International Reading Association led to the further step of forming a small group to offer a jointly prepared symposium on the importance of classroom inquiry.

Several important discoveries were made in this process. The first was the value of videorecording complete classroom lessons, transcribing the talk that occurred, and discussing episodes that were significant for the teacher’s inquiry. This, in turn, led to the recognition on all our parts of the positive changes that occurred when the students also engaged in inquiry with respect to curriculum content and were given choice as to which aspect of the class’s overarching topic they wished to explore in collaboration with a group of peers. From this insight emerged the first version of a model of an inquiry oriented curriculum, which emphasized the importance of student choice of topic for investigation (Wells & Chang-Wells, 1992). Equally important in stimulating our group’s collaborative knowledge building was the goal of presenting our work to an audience of fellow educators. Although never having written for publication before, several of the teacher members went on to publish accounts of their inquiries in various venues. Finally,
as a result of the conference symposium, I was invited by a nearby large school board to take part in a professional development project that focused on talk in the classroom; my task was to introduce teacher action research as the mediational means. In parallel, I began to offer a course on teacher inquiry in our M.Ed. program, in which CHAT provided the theoretical foundation.

From all these experiences, I arrived at a number of tentative principles for conducting collaborative action research. Of these, the most important for future research with teachers were to:

- Invite possible participants and include only those who freely volunteered to take a full part in the group’s activities;
- Attempt to minimize the power differential between university and school participants;
- Develop a shared theoretical perspective through reading and discussion;
- Negotiate a shared overall research focus but encourage participants to develop their own specific inquiries within it in relation to their needs and interests.

Not surprisingly, perhaps, these principles were closely related to those that I derived from the findings of my previous work on early language development. As in the earlier research, they were strongly influenced by Vygotsky’s characterization of working in the ZPD and they helped me to see more clearly the direction that my future collaborative research with teachers should take. However, before describing my attempt to put these principles into practice, I need to say more about the developments that had taken place in thinking about the role of language in the classroom.

The Need for A Dialogic Turn

In 1975, when the Bristol children were about to start their first year of school, a report commissioned by the British government was published under the title *A Language for Life* (Bullock, 1975). Its principle conclusions were summarized in paragraph 4.10:
(i) all genuine learning involves discovery, and it is as ridiculous to suppose that teaching begins and ends with 'instruction' as it is to suppose that 'learning by discovery' means leaving children to their own resources;

(ii) language has a heuristic function; that is to say a child can learn by talking and writing as certainly as he can by listening and reading;

(iii) to exploit the process of discovery through language in all its uses is the surest means of enabling a child to master his mother tongue.

Significantly, one of the authors of this report was James Britton, who was one of the first to draw on the work of Vygotsky to argue the case for an explicit focus on the role of language in education (Britton, 1970). However, as we found in our observations of the Bristol children’s primary schooling, while the principles enunciated in the Bullock Report were intuitively understood by many parents, they seemed to exert little influence in classrooms; and as Barnes (1976) concluded from his work in secondary schools, the Vygotskian ideas that inspired the above conclusions represented a hope for the future rather than a description of current practice. Nevertheless, the publication of the report did provide an impetus in the ensuing years for a growing body of research in Britain on “the language of the classroom,” including research by teachers under the auspices of the National Oracy Project (Norman, 1992).

 Particularly important in this context was Barnes’s emphasis on the distinction between “final draft” and “exploratory” talk, which he related to the interpersonal relationship that the teacher adopts to his or her students.

 If a teacher stresses the assessment function at the expense of the reply function, this will urge his pupils towards externally acceptable performances, rather than towards trying to relate new knowledge to old. … [but when] the teacher replies rather than assesses, [this] encourages pupils when they talk and write to bring out existing knowledge to be reshaped by new points of view being presented to them. (1976, p. 111)
A similar distinction was subsequently made in a different tradition by Lotman (1988), who, building on Bakhtin’s (1986) emphasis on the dialogic nature of all communication, contrasted two modes of text. In the first mode, which might be called “monologic,” the speaker or writer assumes no expectation of a rejoinder; all that is required is comprehension and acceptance. As Lotman explains, the monologic function is particularly important for passing on cultural meanings, “providing a common memory for the group,” thus preserving continuity and stability of beliefs and values within a culture. In the second mode, on the other hand, a text invites a response from the addressee’s position and thus functions as “a thinking device” to generate new meanings. (1988, pp. 35-37).

These distinctions provided a useful theoretical tool for the study of classroom talk and, by the early 1990s, a number of researchers had devised analytic schemes that made possible the systematic study of classroom interaction. What these studies showed was that, in the majority of classrooms, one particular pattern predominated, establishing a norm for interaction from which there were few departures. From beginning to end, lessons consisted of a succession of three-part exchanges, a teacher Initiation in the form of a question, a student Response, providing an answer, and a Follow-up move by the teacher, most frequently in the form of an Evaluation.4

Unfortunately, although useful for some instructional purposes, the I-R-E form of interaction severely constrains the opportunity for students to express their own ideas and to react to those of others, for the ‘text’ that is co-constructed through its use tends to be monologic, making it difficult for talk to emerge that is genuinely exploratory and that leads to the generation of new meanings. Furthermore, for students, the result of being subjected to this mode of discourse is that they come to see education as a matter of learning to regurgitate the answers they believe their teachers want to hear. As a result, they are kept in dependence on the teacher’s or textbook’s determination of what counts as valid knowledge and they do not learn to question received wisdom and to make decisions based on their own evaluation of the available evidence. In other words, they do not develop the disposition, necessary for responsible citizenship in the twenty-first century, to be lifelong learners who take the initiative in formulating and attempting to
solve problems, both independently and in collaboration with others.

Certainly, to have demonstrated the dominance of this I-R-E mode of classroom discourse that is focused on eliciting “correct” answers was a useful starting point. However, from an educational perspective, one of the problems with the large-scale studies of classroom practice that established the prevalence of this mode, which has been dubbed “the recitation script” Tharp and Gallimore (1988), is that the prevailing patterns that were identified tended to be seen as “normal” and therefore as to be accepted as well as expected. As a result, instead of challenging the negative consequences of the prevalence of this script, research efforts have tended to be concentrated on making small improvements to it, such as formulating better initiating questions, allowing more “wait time”, and improving the manner of evaluating student responses. However, while such modifications may lead to more effective uses of the IRE version of triadic dialogue – when such a format is appropriate for the task in hand – they do not begin to challenge the monologic premises that underlie this prevailing form of interaction. Yet, as Barnes pointed out more than thirty years ago, teaching and encouraging students to become more independent and, at the same time, collaborative thinkers and problem-solvers, requires a much more dialogic form of discourse. Thus, since only limited progress had been made in the intervening years, the question as to how to create the conditions that might support such a mode of meaning making became the underlying goal for my future research.

Developing Inquiring Communities in Education

As outlined earlier, my study of CHAT, together with my reflections on my initial attempts to engage in collaborative action research, had led me to some tentative principles for planning a further project. In conducting that earlier research I had also been struck by the apparent connection between the teachers’ own research and the student learning activities that they had investigated. At the heart of both seemed to be a sense of empowerment that came from being encouraged to ask their own questions and to try to make answers to them based on their own investigations. This hunch led me to formulate the question: Would engaging a group of teachers in collaborative inquiry lead
them to modify their classroom practices in ways that generated occasions for dialogic meaning making?

The impetus to embark on this project came from observing the effects of adopting this approach in my own teaching of a course in the summer vacation, when the teacher members of the class were freed from teaching responsibilities. To enable them to focus on learning rather than teaching, I selected the overarching theme of “time” and invited them to select some topic within this theme that they were interested in investigating. While each class member chose their own topic for inquiry, I encouraged them to try to find others with similar interests so that they could form small groups in which they could provide mutual support as well as challenge as they planned, carried out and prepared to present the results of their inquiries. The results of this strategy were exciting both for the students and for me. As we reflected on our experiences together, there was a growing sense on the part of many members that a modified version of the same approach could also work in their own classrooms.

While the topics that class members had chosen to investigate were spread across a wide disciplinary spectrum, some of the most successful in generating exploratory group talk were scientific in nature, in the sense that they engaged group members in trying to formulate questions that they believed they could answer by gathering empirical evidence and interpreting it in the light of their reading of possibly relevant theories. One such project that was particularly successful involved its members in trying to understand the “phases of the moon”, for which they devised their own observational instruments and systematically recorded their observations over the whole course of a lunar month (Wells, 1994).  

When planning the new project, therefore, the interest that I had observed most students discovered when they embarked on a scientific inquiry for which they could collect relevant empirical evidence was the major reason for the way in which the proposal was formulated. Our aim was to investigate the role of spoken discourse – talk – in the learning and teaching of science, in grades one through eight. Most of the teachers who volunteered to join the group had already carried out inquiries in their own classrooms as part of the M.Ed. program at the university; there they had also developed some familiarity with Vygotskian ideas about the mediating role of language in learning
and of the importance of learners receiving assistance in their zones of proximal
development. We thus had a shared theoretical orientation and some individual
experiences of classroom research. However, as the group expanded, the focus on talk in
science came to seem too narrow, since several group members were attempting to create
a more integrated curriculum and some also felt that the close relationship between
spoken and written language made it unnatural to focus on one to the exclusion of the
other. We had also come to realize that the quality of discourse depended on the extent of
the participants’ engagement in the topic under discussion. Therefore, attempts to change
the surface patterns of discourse would be unlikely to succeed without attention to the
underlying purposes the discourse was intended to achieve. So by the end of the second
year, at which point we were applying for a continuation of the funding, we both
broadened the scope of the project and defined a more precise focus: to collaborate in
coming to understand, in practice and in theory, how to create the conditions that
promoted sustained student engagement and a willingness to engage in discourse that
aimed at increasing understanding.

Space does not allow me to describe the many ways in which our work developed
over the course of the project, so I will focus on three particularly important events. The
first concerns the mode of operation of the project. Initially, the group consisted of five
teachers, two professors, and a full-time research officer. Since the funding for the project
had been obtained by the professors, who had had to set out and justify the goals of the
project and the means by which they would be attained, it was generally assumed – at
least initially – that they would take responsibility for the organization and direction of
the project. Nevertheless, this sat uneasily with the avowed intention to engage in shared
decision making and, despite agreement about the aims of the project, led to a feeling on
the part of the teacher members that their voices sometimes went unheard.

However, two actions taken early in the project were important, in more than
symbolic ways, in helping to bridge the school-university divide. The first was the
decision to have a rotating chairperson for our monthly meetings, with the agenda for
each meeting being constructed by the incoming chair on the basis of proposals received
from all members of the group. The second was the choice of a new name for the project,
voted on after an extended process of discussion over several meetings. The name finally
chosen, *The Developing Inquiring Communities in Education Project*, made clear the breadth of our concerns. It also emphasized our conviction that inquiry was not only relevant to learning in schools; it applied equally to university classrooms, to preservice and in-service teacher development and, most important, to the work of our own group. At the same time, therefore, we decided that, in addition to our classroom-based research, we should also investigate our own practice as a group of collaborating action researchers.

**Thinking Together in Speech and Writing**

From the beginning, we had used a group listserv as a supplement to our monthly meetings. Not only did this facilitate the coordination of activities but it also enabled more reflective discussion that, on some occasions, proved very significant for the directions taken in our work together. The following is a good example.

At our meeting in June 1995, after a year in which group members had pursued their own individual inquiries in relation to our common theme, it was proposed that, in the coming year, we should work on a shared topic. The minutes note that this proposal received enthusiastic endorsement by the group, and there was considerable interest in exploring "journal writing." By the September meeting, however, it seemed that the enthusiasm for focusing on journals had abated considerably. Nevertheless, starting on the evening of the meeting and continuing over the following weeks, a vigorous discussion ensued in the medium of e-mail. The initial contributions reemphasized the desire to find a common focus:

I think that our individual inquiries have been great, but there were many times last year when I really wished that we could discuss issues in more depth – both personally and via e-mail. While we are all well-read, thoughtful individuals and we contribute a great deal to each other's inquiries, I think there's a power to collaborative work that we haven't even begun to explore. . . . Is there a way that we can come up with a topic that is broad enough to include everyone's interests, but specific enough to allow us to: make our research plans together,
discuss details, share theoretical literature, and maybe come up with some group findings? (Martha, 21 Sept.)

Several messages followed, supporting Martha’s suggestion and a few days later, the discussion was significantly advanced by a two-part message from Linda, a teacher in an inner-city school. In the first part, she suggested we consider two specific questions and added her reasons for proposing them:

1. How is writing (or written discourse as some might wish to frame it) used as a tool for learning and/or thinking and/or understanding and/or social action in each of our classroom communities?
2. How would or could I systematically conduct an inquiry on an aspect of whatever my answer is to question 1?

I feel that if our contributions are to be significant, one aspect of our efforts could be reconceptualizing & reseeing practices and theory. Individually and as a group we are not only committed but thoughtful educators. What emerges from our responses to the two questions and the process will be, I bet, exciting because we have some very exciting & significant practices going on in all our classrooms as well as common patterns & trends because we share common learning-teaching beliefs & theories. Our practice is theory in action, and this will enable us to strike & identify common "plans." Last but not least, this process will enable our "plans" to emerge and be rooted in practice which in turn is subjected to joint inquiry, conversations & reflections. (27 Sept.)

In the second part, Linda described an event in her Grade 6/7 class that illustrated her suggestion:

I have noticed that [in class discussions] it was often the same few [students] who would participate enthusiastically while the rest sat & listened. Yet inside me I know that there is the possibility that the latter have things to say. . . . I conjectured that perhaps if writing is used as a tool for what I call "rehearsal
"thinking," would our oral discourse be one in which more will participate as well as more substantive? My conjecture, in part, is due to my beliefs in the value of writing and, in part, to experiences as a teacher & learner. So I decided to use writing as a tool for individual thinking before embarking on a class discussion. I asked my students to complete the following prompt "Science is . . ." in their learning logs. I also informed them that they would be asked to read what they wrote to the rest of the class. After hearing everybody's responses they would have the opportunity to add two sentences to their original responses.

The consequences were amazing. First the pool of ideas surprised me. They reflected some very solid understanding of what science is or is not but more significantly the follow-up discussion had everyone participating. They were responding to each other, debating & offering counter arguments or examples. The level of our oral discourse was indeed sophisticated verging on philosophical, for example, Marta asked, "Is language science?" What do I make out of all this?

It also provided the less confident, like some of my ESL kids, a chance to "see their own thinking" & therefore feel more confident in being able to "read out their thoughts" rather than having to respond not only spontaneously but at the turn-taking speed of oral discourse. Another is that writing slowed down one's thinking, making it more deliberate & intentional allowing one the "space" to be more thoughtful, making one's thinking visible for review & changes.

Very significantly, writing provided everyone a "same-time" turn & therefore increased dramatically the pool of knowledge which linear turn-taking in oral discourse does not. Also, my intention behind the provision of the opportunity to add two more sentences to one's own ideas, having-heard from others, is to model the recognition of how our knowledge is often coconstructed & that this is in fact valuable. (27 Sept.)

This example met with an enthusiastic reception. Consequently, building on the various suggestions that had been made, I prepared a first draft of an approach we
might take to the two questions that Linda had proposed. This plan was sketched in very general terms so that it could incorporate members' individual inquiries. At the same time it indicated a focus on writing, not as finished product, but as a tool to be used in some superordinate activity. It also indicated an expectation that action and talk would be intimately connected to the written text.

The plan was approved at the October meeting, and individual members outlined the ways in which they intended to put it into effect in the contexts of their own classrooms. Then, over the next few months, a major part of each of our monthly meetings was given over to individual members presenting reports on their investigations, often including video clips, examples of students' writing, and transcripts of extracts from discussion. In turn, these provoked wide-ranging discussion in our group, in which important insights were gained about the relationships between action, talk, and text, and connections were made to related activities in our different classrooms.  

Learning With and From Our Students

Another very important outcome of the discussions just referred to was a growing recognition of the ways in which students were responding to the changes that the teachers were making in their classrooms. The teachers had noticed that, by being given the opportunity to make choices about how to address the themes in terms of which the curriculum was presented to them, students were taking more responsibility for their own learning and, at the same time, becoming better able to work collaboratively and productively with peers on a shared topic. They also noticed that students were asking more and better questions, offering conjectures and spontaneously making connections across domains. This was apparent when individuals or groups of students presented the results of their inquiries in a whole class discussion; they had pertinent information that they were keen to share and an audience that was ready to listen and to respond, sometimes critically, in the light of what they had learned from their different but related inquiries.

Following a jointly taught science unit to grade 2 students, one teacher wrote about the insight she and her colleague had gained from their collaborative research
The change in us, as teachers, was reflected in our interactions with the children and in the changed climate of the classroom. Students' questions and knowledge were as valued in the learning process as those of the teachers. Consequently, the students were supported in their efforts to make sense of their world and were motivated to take risks to further their own understandings. Because of this act of being responsive, both to the students and to each other, the knowledge we constructed over the course of the unit was much deeper and more meaningful than we had anticipated. (quoted in Wells, 1999, p. 311)

In the last year of the project an event of a different kind occurred. One of the DICEP teachers, who had previously taught grade 8 in an K-8 elementary school was assigned to teach a grades 6 and 7 GATE class in a different school. In order to learn about her students, after a few days and then a week later, she asked them to write their reflections on “how the class is going”. On both occasions, one boy expressed his dissatisfaction with the amount of time that was being devoted to class discussion: “I feel like we’re not getting a lot of work done.” Although surprised and somewhat dismayed, the teacher decided to respond positively: she invited this student and some of his peers to join her in a co-investigation of how to make class discussions more productive. Over the following weeks, she videotaped class discussions, transcribed them, and made copies for the group members to read; then she met in the lunch hour with her co-researchers to analyze the data and to suggest changes that might improve their class discussions. Through several iterations of this process, all of which were audiotaped, the group made significant progress, both substantive and procedural. Recommended changes for class discussions were tried out and evaluated and group members developed their research skills. As she wrote:

My students are behaving as apprentice researchers. They make connections to their experiences and to each other in support of their developing theories. They identify themes and patterns across data. They honor the researcher behavior of
staying close to the data, citing specifics in support of their claims. They develop an ability to reflect on and critique data, even words they themselves have said (“I also disagreed with myself a couple of times,” says Eddie), when evidence fails to support their earlier claims.

Perhaps most important, there is considerable talk in all meetings of the strategies we have used in our analysis. This is beneficial not only because it makes it apparent that that the kids are choosing and using strategies but because, in making a strategy explicit, it is open to use and modification by others. In sharing our ideas, and our particular areas of strength and expertise, we demonstrate a dedication to collective, rather than individual, progress. (Hume, 2001, p. 158)

By responding to her student’s complaint as she did, Hume made the problem a focus of her own research. But, more significantly, invoking CHAT principles, she involved her students as collaborators in investigating their shared problem. When the other members of DICEP learned how successful this had been, they decided to make “co-researching with students” the focus of their proposal for further funding when the grant involving university participation came to an end. In this, they were successful and six members carried out inquiries with this focus, the reports of which were published in a special issue of *Networks* (2003).

**Developing Dialogue in the Classroom**

As will be recalled, my goal in embarking on the DICEP project was to explore how to create the conditions that would elicit and support a dialogic mode of learning and teaching. From my reading of Vygotsky, Bakhtin, Lotman, and of others who have developed their ideas, it was clear to me that, in addition to the relatively monologic mode of teacher or textbook exposition, there needs to be ample opportunity for collaborative knowledge building as teacher and students together explore the implications of new information and make connections with, and revise, what they already know – that is to say what they think they understand. Whether in writing, or
more probably initially in talk, this dialogic mode of meaning making is, in my view, essential for new information to lead to an increase in understanding. However, when learning-and-teaching is conducted largely according to the recitation script, with its dependence on triadic dialogue in which the teacher’s follow-up move is most often evaluative, there is little opportunity for such dialogue to develop. In the DICEP project, we put to the test the belief, which owed much to the work of Dewey (1938), that adopting an inquiry orientation to the content of the prescribed curriculum could generate occasions for dialogue, in which the teacher would act as a collaborative leader rather than primarily as an evaluator.

In the preceding sections, I have provided some indications that seemed to confirm our hypothesis. However, it was only at the end of the project that we began to carry out a systematic analysis of the videorecorded data we had collected. Having developed a discourse analytic scheme for the purpose, we coded all 45 episodes of whole class interaction that had been contributed to the database by nine teacher members who had participated in the study. By comparing observations made in the teachers’ classrooms early and late in their participation in the project, we found that the quality of interaction changed significantly over time: by comparison with the “early” recordings, in those categorized as “late”, teachers asked more open-ended questions, which invited a range of alternative opinions and conjectures; conversely, they asked fewer known answer questions; they also evaluated student contributions less frequently. Furthermore, in the late recordings, students initiated sequences of discussion much more frequently and teachers showed greater uptake of their contributions, either by building on them in their responses or by inviting further contributions on the topic raised in the student initiation. In all these ways, whole-class discussion became much more dialogic. Nevertheless, even in the late recordings the teachers still tended to retain overall control of the discussion, and its general organizational pattern continued to be that of triadic dialogue, albeit in the I-R-F mode. However, actually viewing and listening to the recorded discussions led to a very different impression of the typical quality of the interaction, which was often distinctly dialogic.

In attempting to solve this conundrum, we came to several important realizations. First, there is a significant difference between a teacher acting as organizer of the talk, on
the one hand, and on the other, acting as the “primary knower” (Berry, 1981), who feels
the need to be the evaluator of all student contributions. What we discovered was that, in
those later episodes that “felt” more dialogic, the teachers’ follow-up moves frequently
merely acknowledged (rather than evaluated) students’ contributions, or they summarized
one or more preceding contributions in order to provide focus for the ensuing discussion.
And when they initiated a new sequence it was frequently not by asking a question but by
inviting an initiation from a student who indicated they had something they wanted to
contribute. In other words, the teacher’s control was exercised in the interest of
maximizing the value of the discussion for all participants.

Second, as we set the recorded episodes in the larger context of the curriculum
units in which they occurred, it became apparent that the use of the triadic structure can
have very different ends in view, including that of promoting dialogue. Some time is
necessarily spent in organizing the social and material arrangements for different types of
activity and in describing the purpose and necessary procedures for those that are not
already familiar to students. These events, not surprisingly, are frequently dealt with
monologically. Various forms of direct instruction are also valuable for certain purposes,
such as exposition, checking on or extending comprehension of information in texts, and
reviewing previous lessons to ensure that key points are understood and remembered.
This sort of talk often occurs, in the moment, as “just-in-time” instruction. Thus, while
such episodes do not have the surface form of dialogue, it does not follow that the
curriculum unit as a whole is not dialogic in its overall orientation (Wells & Mejía Arauz,
2006).

In sum, what this analysis demonstrated was that, on the one hand, the attempt to
adopt an inquiry orientation to the curriculum did bring about a concomitant change in
the overall pattern of discourse in whole class discussions. On the other hand, it did not
change the tendency for teachers to retain control of the flow of discussion. But when
one considers the difficulty of keeping all twenty to thirty students in a class productively
engaged in a single discussion, this finding is not surprising. Overall, however, it was
clear that, by the late recordings, the teachers were successfully adopting a dialogic
stance. By this I mean an orientation to knowledge that recognizes that it is “created in
the discourse between people doing things together” (Franklin, 1996) and that “what is
known” can only come alive through acts of knowing, either in material activity or in discussion of its implications. And as the teachers themselves recognized, the changes in the forms that discourse took in their classrooms were brought about by the adoption of an inquiry orientation.

**Conclusion**

In describing what I think of as key stages in my research trajectory, I have tried to make three major points. The first is that, for me at least, the adoption of an “action” approach to research resulted from a conjunction of the findings from my earlier quantitative and descriptive research on children’s language development, on the one hand, and my encounter with and espousal of Vygotsky’s/CHAT theory of learning and development, on the other. Collaborative action research with practicing teachers seemed to be both a way of enacting CHAT theory and a possible method of bringing about the changes which I believed my earlier research had shown were necessary if all children were to benefit as fully as possible from their public education. At the same time, the findings from this research have enabled me to contribute to the continuing development of Cultural Historical Activity Theory.

Second, I have tried to show that action research involving theorists and practitioners can be truly collaborative, enabling all parties to contribute to the development of both theory and practice. In this respect, the principles tentatively set forth above (p. xx) have proved to be both feasible and effective in practice. This was clearly how my DICEP colleagues interpreted their experience of the project, as is apparent from one teacher member’s summary of our work together.

As teacher-researcher members of DICEP, we all agree that we have grown tremendously as a result of incorporating action research into our practice with the support of DICEP. And we have grown not just as practitioners of action research, but in our confidence as teachers, authors, and as conference speakers. We have found our voice both in DICEP and in the wider educational community, and have found a place from which to critically examine both theory and practice in current
Finally, as I hope to have shown, collaborative action research is not only a powerful method of instigating attempts to improve educational opportunities in particular cultural historical circumstances; it can also be seen as one model of the educational enterprise itself, as the example of Hume’s coinvestigation with her students makes clear. As Dewey (1916/1966) argued, to involve students in dialogic inquiry about matters that are of interest and concern to them in the present is the best way to prepare them to play an informed and responsible role in the wider society in which they will be the actors and decision makers.

References


language to learn. Portsmouth, NH, Heinemann; second edition, Bristol UK: Multilingual Matters.
1 Full details can be found in Wells (1985) and in Barnes, Gutfreund, Satterly and Wells (1983).

2 All the following examples are taken from The Meaning Makers (Wells, 2009).

3 A similar finding was reported by Tizard & Hughes (1984).

4 In triadic dialogue, the teacher typically takes the first and last turn in an exchange. In the first turn s/he Initiates the exchange and in the last turn provides a Follow-up to the student Response. In offering a Follow-up the teacher may choose the option to Evaluate the student response, thus producing the I-R-E form of the exchange. However, in the Follow-up move the teacher may equally choose to perform a variety of functions that take up and build on the student’s response. Particularly important among these options is the Follow-up Question that invites the student to amplify or develop his or her initial response. When the teacher chooses such a move the initial exchange opens up a more extended sequence of related exchanges to which other students may also contribute. The result is a much more dialogic form of interaction, in which students have the opportunity to offer their own opinions and to comment on those of others (Wells, 1999).

5 This project was sparked by a reading of Duckworth’s (1987) account of a similar project by teachers in her class.

6 All phases of this project were funded by the Spencer Foundation, whose generous and understanding support are gratefully acknowledged.

7 The preceding quotations from the email exchange are taken from my Introduction to Action, talk and text: Learning and teaching through inquiry (Wells, Ed. 2001), in which members of the group reported their inquiries.

8 Of the nine teachers who contributed to the database, three withdrew at the end of the first year; the recordings of these teachers were assigned to the ‘early’ group. Another three teachers, although participating for four or more years, only contributed recordings in the last year or two of the project; these were assigned to the ‘late’ group. The remaining three teachers contributed recording throughout the four or more years of their participation.