

Peer Tutoring in the Primary Classroom: A Sociocultural Interpretation of Classroom Interaction

ROGER BARNARD
University of Waikato

ABSTRACT: *In this paper, data collected from interaction between pupils in a mainstream intermediate classroom are interpreted from a sociocultural perspective. Extracts of conversations between classmates illustrate ways in which some pupils can scaffold the learning of their classmates, and specifically those who come from non-English speaking backgrounds. Some implications arising from the interpreted data are discussed in terms of the pedagogical relationships that may occur spontaneously among pupils, of the value of peer tutoring to both parties, and of the possibility of negative outcomes arising from peer tutoring relationships.*

KEYWORDS: *peer tutoring; scaffolding; interaction; NESB learners*

INTRODUCTION

A major educational tenet from a sociocultural perspective is that conceptual learning is not merely facilitated but actually *constructed* through language. There are other sorts of learning which do not rely so heavily on language; for example, primitive learning, such as the need to satisfy hunger or find shelter, may be acquired without speech. Likewise, practical skills such as cooking and carpentry might be largely acquired through a process of observation and imitation (although there is a natural human tendency to use language readily in such contexts). However, from a sociocultural perspective, language is essential to the formation of concepts: "education proceeds by the development of shared understanding" (Mercer, 1994, p. 90), and such shared understanding is manifest in dialogue between educational partners.

The intersubjective nature of dialogue has been neatly expressed by Ushakova (1994, p. 140):

Speech as a means of communication is a two-way process. Two partners speak at the same time, except that one speaks aloud and the other speaks to the self . . . Thought, along with internal and external speech, develops simultaneously.

Thus, shared understanding—the *co*-construction of meaning—occurs by the partners talking, and thinking, as one. The dialogic context most conducive to conceptual learning was, according to Vygotsky, the Zone of Proximal Development (ZPD): that is

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

In such an intersubjective dialogue, the learner is enabled to achieve a higher level of conceptual development than would be possible by his or her efforts alone. Vygotsky's formulation of the ZPD—originally coined shortly before his death in 1934—has stimulated much recent research and theoretical speculation in education contexts generally (Daniels, 1993; Edwards & Mercer, 1987; Maybin, Mercer, & Stierer, 1992; Mercer, 1995; Wertsch, 1985) and, more recently, in second language and teaching (Ellis, 1999; Lantolf, 2000; Lantolf & Appel, 1994; Levine, 1993).

Closely tied to the notion of the ZPD is Bruner's (1983) metaphor of scaffolding, which can be seen as illustrating the way by which the learner's understanding is co-constructed in dialogue with an expert. Originally, the notion of scaffolding was applied to playful interactions between parents or caregivers and infants (Wood, Bruner, & Ross, 1976), but has since been applied to formal learning contexts with both children (Cazden, 1988, 1992; McNaughton, 1995) and adults (Donato, 1994; Lerman, 1996; McArthur, Stasz, & Zmuidzinas, 1990). Over the years, there have been a range of interpretations of scaffolding, some of which extend the metaphor almost to the point where it has become so loose as to lose its impact. For the purpose of this article, the criteria for scaffolding may be summarised as follows: (a) The teacher or more able peer wishes the learner to develop a specific skill, concept, or understanding; (b) the learner succeeds in accomplishing the specific task with the help of the teacher (or more able peer), and not by his or her efforts alone; (c) the guidance is increased or reduced in response to the developing competence of the learner, and withdrawn when the learner shows evidence of the ability to function independently; and (d) the learner has achieved greater independent competence with subsequent, similar problems as a result of the scaffolding experience (Maybin et al., 1992; Mercer, 1995).

Reference has been made above to the notion that scaffolding within the ZPD may be effected not only by a teacher but also by a more able peer. The effectiveness of young peer tutors in second language acquisition has been explored in overseas studies by, among others, Flanigan (1991), Johnson (1994), and Willett (1995). In New Zealand, Glynn (1988) and, more recently, Griffiths (1997) have made some very practical points about planning and establishing peer tutoring systems for Non-English Speaking Background (NESB) learners, based upon earlier work by Medcalf and Glynn (1987). Similarly, van Hees (1997) and Barnard (1998) recommended the use of peers for support to NESB learners in primary classrooms. Kennedy and Dewar (1997) also cited teachers as arguing that, properly used, peer tutoring can be of mutual benefit to both parties:

Participants in the study . . . felt that peer tutoring was a good way of helping integrate the new NESB students into the classroom and of giving the students who act as tutors an important role - one which gives them a sense of pride and achievement in helping a fellow student, and which, as well, often enhances their own learning and achievement. (p. 131)

Peer tutoring may occur in the context of ordinary classroom discourse. Mercer, in his (1995) discussion of discourse among schoolchildren, identified three "modes of social thinking" which he identified from earlier research in which he had been involved (Maybin et al., 1992). The first is *disputational talk*, by which is meant exchanges marked by speech acts such as assertion, contradiction, challenge, counterassertion and rebuke. In this sort of talk, attitudes may be competitive rather than co-operative, postures defensive rather than consensual, and reasoning individualized and tacit rather than explicitly shared. Such talk tends not to display evidence of intersubjectivity and would not usually be conducive to scaffolding within ZPDs. Mercer's second mode, *cumulative talk*, is linguistically marked by repetition, confirmation, suggestion, the exchange of opinion, (dis)agreement and elaboration. Here, the participants may be seen to pool their collective information; in contrast to disputational talk, there is a sense of affective solidarity and trust, as well as acceptance of—rather than challenge to—ideas offered by partners. This form of social thinking provides the psychological framework for dialogue within the ZPD. The third mode of social thinking, *exploratory talk*, consists of statements, opinions and suggestions offered for joint consideration; these may be challenged, but alternative hypotheses and reformulations are also proposed. Mercer (1995, p. 104) considered that speech in this category is more indicative of learning being shared, rather than transmitted. Thus, exploratory talk may be manifest between dialogic partners of more equal status than is presupposed by the conventional expert and novice relationship within the ZPD.

METHOD: RESEARCH SETTING, PARTICIPANTS AND PROCEDURES

The case study was of a Year 7 class of an intermediate school in a New Zealand town. The class was observed over the period of a school year, and particular attention was paid to interactions between some NESB learners and their classmates (both English-speaking and NESB). Appropriate steps were taken to obtain the informed consent of all the pupils in the class and their parents. At the beginning of the year the broad aims of the project were explained to the pupils in the class, and this was followed by a letter of information and a consent form signed by each child and a parent or caregiver. In the case of NESB pupils, as each one arrived at school the mother and child were interviewed by a Mandarin-speaking research assistant (and myself) and then they were given a letter and consent form to sign. The interactions among pupils were recorded by lapel microphones attached to small cassette recorders, which the pupils kept in pockets or pencil cases.

The pupils in focus in this paper are two 11-year-old Taiwanese girls: "Jean" arrived in the class in May and spoke English reasonably well, but was initially very hesitant; "Alina" spoke no English at all on her arrival in mid-August, and communicated—with very rare exceptions—exclusively with Jean, and then invariably in Mandarin. By the time they arrived, the use of the cassette recorders to capture pupils' interactions was a well-established practice in the classroom. Like their classmates, they very soon ignored the presence of the microphones; the interactions that were recorded were natural and spontaneous. Sometimes as many as four cassette recorders were in operation in a class at any one time, and many thousands of interactions were thus recorded over the year. These interactions were transcribed verbatim and, through a process of constant comparative analysis, patterns emerged which indicated ways in which students interacted.

It is very important to recall that these NESB learners, and others, arrived at various times during the school year. By this time, the teacher had inducted the class into the "groundrules" for classroom interaction (such as bidding for turn, modes of groupwork, and moving around the class) and criteria for good performance (standards for written work, "research" projects, self-evaluation, etc.). To a very large extent, these NESB learners were entering a learning culture which—although perhaps superficially similar to that to which they had been accustomed in Taiwan—was underpinned by different values and beliefs.

RESULTS: ANALYSIS OF SOME INTERACTIONS

Of the many thousands of interactions recorded, only a very few have been chosen for discussion here. They have been selected not because they are necessarily typical of peer interactions or statistically frequent, but rather because they serve to illuminate some of the ways by which classroom peers can scaffold the learning of NESB pupils.

Extract A. Punctuation Task

This interaction occurred between Jean and two English-speaking girls (Tilly and Sally) in May—one week after Jean's arrival in class. The pupils were given the task of re-writing an unpunctuated text from an overhead transparency. The teacher spent about ten minutes explaining and eliciting examples and rules of punctuation, and then set the class to work.

01. Ti: (to Je) You have to write this down. You have to write it down, OK?
02. Je: Uh?
03. Ti: And punctuate it
04. Je: Puctu?>
05. Ti: And punctuate it
06. Je: I have to punctuate?
07. Sa: You have to go through it and put punctuation and put capital letters, full stops, where you think they should be
08. Ti: like that
09. Je: So we have to copy that down?
10. Sa: You write it down, and erm, you put all the full stops in it and>
11. Je: and the capital letters>
12. Sa: Yeah>
13. Je: OK. (starts to do so) Is that called punctul - punc-tuation?
14. Sa: Yes. Punctuation (Jean gets on with task – no further interaction).

Tilly assumed that Jean did not know what was expected. Without prompting, she told Jean what to do (01 and 03)—to copy and punctuate the text. This instruction may be seen as setting the overall goal of the task—and indicates Tilly's pedagogical intention. If this had been sufficient, no more elaborate help might have been needed. However, Jean's half-articulated question (04) may be seen as a signal for help. Her question (06) uncovered a conceptual gap—that she did not know what "punctuate" meant. Smartly picking up the implicit cue, a third girl—Sally—started to erect a scaffold by giving direct instructions and examples (07). This assistance was supported by Tilly providing a model (08) which Jean might have imitated. Jean's concept check (09) suggests growing, but still only partial, understanding. Sally built on this by starting to repeat her previous instruction (10)—retaining the scaffolding. Jean indicated her increasing understanding verbally—by anticipating and completing the phrase (11). This was reinforced by Sally's confirmation, "Yeah" (12). At this point, the scaffold could start to be dismantled and the task handed over to the learner. Jean's "OK" (13) may be seen to mark her takeover of the notion of punctuation, and this interpretation is reinforced by her starting to do the task. Her final question may be seen as a check that she had understood the basic concept, but also perhaps that she wished final, verbal confirmation. Sally provided this (14), and also gave a clear model of the pronunciation of the word, thereby removing the scaffold. From here, Jean worked by herself with no further help sought or offered.

The two English-speaking girls scaffolded Jean's learning—by explanation, exemplification, demonstration and modelling—so that she could carry out a specific task, which she would not have been able to do without their assistance, which was graduated according to Jean's growing understanding, and eventually withdrawn. It may also be inferred that Jean also acquired a more general competence within the area of Language Arts: "what the child can do with assistance today, she will be able to do by herself tomorrow" (Vygotsky, 1978, p. 87). The social mode of thinking displayed in this interaction can be described in Mercer's (1995, p. 104) terms as "cumulative talk", as the girls were repeating, confirming and elaborating each other's explanations – and thereby engaging in intersubjective dialogue.

Extract B. Vocabulary Tasks

The following interactions occurred in August—3 months after Jean's arrival. As usual she was sitting next to Tilly, who had by now become a good friend, mentor and confidante. After the teacher had given the class instructions, Jean raised her hand and the teacher approached the two girls:

- 01. T: ... Put up your hand if you have NOT got your worksheet
- 02. Je: Ms Wilkins! I was at ESOL while the class did the spelling test>
- 03. T: Ohh! That's why I've only got one sheet from you, not the other one. OK what I'm going to do, Jean, is, I'll give you this one. Cos this is where I think you are – OK - what level I think you're on. Erm. But if it works out not right, then we'll give you a little test and see - OK. So do that one for now, and you and - where's Alina gone?
- 04. Je: She's at ESOL
- 05. T: Oh she's gone to ESOL. OK. But you and Alina can work together when you need to. Right now, you and Tilly can. OK?
- 06. Je: Yeah. Thank you
- 07. T: Good girl. If you've got a problem and you find it's not right, you can come to me (walks away).

By now, Jean felt confident enough in the classroom to initiate (02) and sustain (04, 06) a brief interaction with the teacher. The teacher's suggestion to Jean (05) to work first with Tilly and then with Alina set the interactional frame for this lesson. The class were given various vocabulary tasks, according to their results on a pre-test. Jean was allocated (03) an easier set of tasks than Tilly, who was working at the highest level in the class. The rubric on Jean's tasksheet was:

- Write out the twelve [listed] words in alphabetical order commencing with 'ask'.
- Sort out the naming words (nouns) in this week's list. You should have eight down.
- How many words can you sensibly add the suffix 'ing' to? Write them down neatly. e.g. drink drinking.
- I want you to make a crossword using this week's list.

Jean immediately turned to Tilly for help:

08. Je: I don't know how to do it
 09. Ti: I'll help you - if you like
 10. Je: Yes - I would like
 11. Ti: reading aloud the rubric for first task). Write out>
 12. Je: You're on unit nine?
 13. Ti: Yeah -
 14. Je: Is that high or low?
 15. Ti: Erm fairly high....

This exchange marks Jean's continued acceptance of Tilly's status as the more able peer. The latter responded promptly and positively (09) to Jean's implicit, but evident, request for help (08) and, having received Jean's grateful confirmation (10), started to read the task instruction (11). Jean, however, interrupted her (12) to check Tilly's level in relation to her own. The interaction continued:

15. Ti: Erm fairly high. (quietly and rapidly reading aloud the rubric) Write out the, twelve words in alphabetical order, words commencing (checking worksheet) Twelve (pitch and volume raised) There's twelve, and you've got>
 16. Je: There's twelve
 17. Ti: (softly) What does that mean?
 18. Je: Oh, I know - I have to write these words in alpha-be-tical order
 19. Ti: No, I know that, but what does that mean 'commencing with ask'?
 20. Je: Starts with 'ask' ... (Tilly raises hand)
 21. Ti: Oh yeah....

Tilly checked what Jean had to do by reading aloud the instructions (15)—the low key and fairly rapid speed suggests that this was externalized private speech, quite probably assisting her own, as much as Jean's, cognitive processing. The shift in pitch and volume after "twelve" in this utterance seems to mark a transition from private to social thinking. Jean manifested her own mental participation by echoing her words (16). Tilly's question (17)—once again, possibly self-regulating private speech—allowed Jean an opportunity to indicate understanding of the task requirement,

manifest by a slight reformulation of the rubric. Tilly confirmed this understanding, but still seemed puzzled (19) by the instruction. Jean offered a possible solution by readily supplying a synonym (20)—evidence of her increasing linguistic competence and confidence. By this stage, it seems that the ZPD opened earlier (08) had been bridged, as Jean was ready and willing to start the task as a result of collaboration with a more able peer. However, the actual help given by Tilly was indirect; at no time did she in any discernible way scaffold Jean's learning. It may reasonably be inferred that Jean's verbal and nonverbal engagement in intersubjective dialogue stimulated her mental processing, even to the extent that she was more quickly able than Tilly to understand the requirement of the task. The interaction continued without a pause as the teacher approached:

21. Ti: Oh yeah>
 22. T: (approaching) Tilly?
 23. Ti: Oh, I was just gonna say - you know how this says 'commencing with ask' - that means just starting with 'ask'?
 24. T: Yes. So you've got to write out those words, putting them into alphabetical order, commencing - what's another name for commencing?
 25. Ti: Starting
 26. T: Yes, good. Starting with 'ask'. (To Jean) So, there's 'as'. OK? Cos it's the 'a' word. Right. The only one there that begins with 'a', being the first letter of the alphabet. OK?
 27. Je: Thank you
 28. T: OK. (reading Jean's list) 'Colour'. 'Fly'. You've got the idea. Good girl
 29. Je: Thank you.

In her usual thorough way, Tilly wished to check the task requirements and did so by offering to the teacher the meaning she and Jean had jointly constructed (23). The teacher, although confirming Tilly's hypothesis, responded by paraphrasing the worksheet instructions (24). She then checked the girls' understanding by a concept question: in itself a move towards scaffolding, as it was intended to lead the girls to work out the meaning for themselves. The teacher accepted Tilly's synonym (25), and then (26) raised the scaffold for Jean's benefit, and checked (28) and praised her work. This brief exchange was probably unnecessary for Jean's conceptual development, although she may have appreciated the teacher's confirmation of the understanding earlier constructed with Tilly. Two minutes later, having finished the first task, Jean interrupted Tilly's work:

30. Je: Tilly
 31. Ti: Yeah?
 32. Je: What does this mean?
 33. Ti: (putting aside her work) What does what mean?
 34. Je: (showing Ti her worksheet) This
 35. Ti: (Looking at sheet) Well, all of these - (reduced volume, lower pitch, increased speed) how many are there? (counting) five, ten, twelve - (volume etc up) you should have erm a couple of nouns
 36. Je: Er>
 37. Ti: Nouns are words that are er like names
 38. Je: Is it xxx - oh, yeah>
 39. Ti: OK>
 40. Je: Yep>
 41. Ti: You gotta pick up the ones that are nouns - er>

42. Je: Eight>
 43. Ti: And there are eight. Yeah
 45. Je: Yes. Thank you.

Another ZPD opened above when Jean sought clarification (32) of the instructions of the second task, which Tilly started to explain. Her embedded question and counting aloud (35), marked by rapidity and low pitch, seem to be examples of verbalized private speech guiding her own mental processing. Their externalization probably, although perhaps unintentionally, served to keep Jean apace. Thinking quickly, Tilly then offered (37) a definition of a noun, which Jean picked up, started to query and then appeared to accept (38). Tilly acknowledged (39) that Jean was following her thus far, a point which was instantly confirmed (40). Tilly then provided direct instruction to Jean by paraphrasing the worksheet rubric. Jean showed that she was in tune with Tilly (42) by interjecting with the number needed, which Tilly (43) amplified and accepted. Jean's final confirmation and thanks (45) appear to indicate that she had appropriated enough understanding to complete the task. In this exchange, the discourse—characterized by repetitions and confirmations—was clearly within the domain of cumulative talk. Even though Tilly was the more able partner, it is very likely that both girls were working with information intersubjectively (Mercer, 1995, p. 67) to co-construct the meaning of the task requirements. In this sense the dialogue moved closer towards Mercer's third category of social thinking, exploratory talk. The girls then continued with their respective tasks, but within a minute Jean again sought Tilly's help.

46. Je: Tilly - are these nouns?
 47. Ti: Hold on... (reading Jean's list to self) 'picture, money, plant, drink' (marked rise in pitch and volume, to Je) 'Drink' could be a noun, but it could also be a verb!
 48. Je: Yeah, but it is a noun and a verb, so 'drink' is a>
 49. Ti: Like 'nearly' is>
 50. Je: Is not>
 51. Ti: Wait, wait wait (looking at list) 'Guess' is. And 'colour' is. 'Visit' is. 'Drink'>
 52. Je: Yes, 'visit' is. Now>
 53. Ti: 'Picture' is
 54. Je: 'Ask' isn't. 'Money' is>
 55. Ti: is>
 56. Je: 'Plant' is>
 57. Ti: 'Plant' is
 58. Je: 'Nearly'>
 59. Ti: 'Nearly' is not
 60. Je: Is not? (sharp rise in pitch and intonation)
 61. Ti: Well, 'nearly' ... Yeah - I think it is, or it isn't. Cos>
 62. Je: I can only find - one two three four five six seven
 63. Ti: And 'trul', and then 'truly' is
 64. Je: Yeah. 'Killed' is not. 'Truly' is
 65. Ti: I mean 'killed' is not and 'truly' is
 66. Je: Yeah.... (gestures to Tilly to put her hand up to attract teacher)
 67. Ti: You put your hand up.
 68. Je: Oh, it's all right, I'll just work it out>

In this exchange, the girls can be seen to be clearly co-constructing understanding. Again, Tilly's externalized private speech (47) probably helped Jean to follow her thought processes—her attention being sharply focused by Tilly's final exclamation. She

showed her understanding by echoing (48), with modifications of syntax and intonation, Tilly's point about the word class of "drink". Her verbal mental processing was interrupted by Tilly's reference (49) to "nearly" and she immediately rejected the possibility (50) of it being a noun. This seemed too fast for Tilly, who needed to focus her own attention (51) on the list before making a judgement—she too externalizing her mental processing. The following rapid-fire exchange (52 - 58) is an example of cumulative talk, linguistically marked by contribution, repetition and confirmation. Although there was no elaboration, the girls were co-constructing understanding by sharing each other's ideas and *working* with the language. Jean firmly queried (60) Tilly's rejection of "nearly" as a noun, which caused the latter to think again, some doubt evident in her response (61). She was about to elaborate when Jean sidetracked her (62) by checking the number of nouns she had identified with Tilly's help. Finding that she was one short, Tilly (63) confidently offered "truly", a point which Jean accepted (64) by contrasting it with "killed", which she knew could not be a noun. Tilly's immediate repetition (65) indicated assent to Alina's formulation. Despite this verbal affirmation, Jean's brief silent reflection (66) may have led her to doubt the validity of the construction they had jointly made. She invited Tilly to ask the teacher, but was unwilling to do so herself when Tilly made the counter-suggestion (67). Her decision to work it out on her own (68) may show a degree of self-reliance or else some reluctance to trouble the teacher.

The above interactions in Extract B occurred over a period of about 20 minutes, and the girls alternated between individual and shared work for another 10 minutes or so. During this time, Jean asked and obtained Tilly's help to get started on both the third and fourth tasks. Although Jean constantly adopted the role of the less able partner, she was fluent and increasingly confident in initiating, sustaining and terminating interactions. Her close psychological affinity with Tilly easily enabled them to share their thoughts: the rapid, overlapping and telegraphic exchanges between them reveal the intersubjective frame of reference that underlay their cumulative talk. Tilly's tutelage consisted of a variety of direct and indirect verbal functions which enabled Jean to cope with the procedural and cognitive demands of the tasks; her conceptual understanding was manifest in both her nonverbal activity (that is, by completing the worksheet tasks) and her ongoing dialogue with Tilly.

Extract C. Vocabulary Tasks

The following interactions occurred very shortly afterwards in the same lesson. Alina had just come from a withdrawal English language class, and the teacher approached the girls. (Utterances in italics were spoken in Mandarin.)

01. T: Alina, do you know what to do?
02. Al: xxx (inaudible response)
03. T: Yes, you do. Good girl. How are you finding those words Alina, er I mean, Jean?
04. Je: Erm - not too good.
05. T: Not too hard? Not too easy? OK Good! (moves away to talk to another pupil)
06. Al: *What's this about?...*

Alina seemed unwilling or unable to admit ignorance to the teacher, who did not pursue the matter anyway. Not understanding what was required, Alina turned to Jean as the more able peer speaking, as always, in Mandarin:

06. Al: *What's this about?*
 07. Je: *It's on the second page. You have to write down all the nouns on the list*
 08. Al: *What?*
 09. Je: *The nouns. You look at that and write down all the nouns. There are eight nouns on that. And you have to find out>*
 10. Al: *Eight?*
 11. Je: *Yes, eight. You have to find out and write down.*

Jean's first instruction (07) seemed too laconic for Alina, so she reiterated and elaborated it (09, 11) and then helped her to start on the task—both girls using Alina's computerized translator. The confidence with which Jean guided Alina was in marked contrast to the diffidence she had shown half an hour earlier; this was further evidence of Jean's growing understanding and an indication of her consciousness in this context of being the more able peer. Two minutes later, Alina stopped working and again sought Jean's help:

12. Al: *What's this?*
 13. Je: *You don't know the meaning of (spelling aloud in English) A T E?*
 14. Al: *Is it a noun or verb?*
 15. Je: *It's grammar*
 16. Al: *Did you find out?*
 17. Je: *Do you think it's a noun or a verb ... I really don't know... (quietly, to herself?) probably it's a noun, or probably it's a verb. (pitch + volume up) You should find out from the translator. They have some examples and you can figure it out. ... If you check the translator it will tell you if it is a verb or not. I think we could check the noun first. 'Noun' means ming-su. If you look at the word 'n', that means noun.*

Jean apparently misunderstood the first question (12). Alina sought to clarify her point (13), but Jean's response (15) was so cryptic that Alina formulated yet another question. This perhaps gave Jean the impetus she needed to focus on her role as the more able partner. Her speech (17) moved from private speech to the social plane as she seemed to be verbalising her thought processes. Her advice to Alina (marked by heightened pitch and a slight increase in volume) was clearly expressed and authoritatively elaborated. The shift from "you" to "we" in the penultimate utterance suggests her willingness to collaborate with Alina in the work ahead, and indeed they set to work inaudibly together until Alina completed the first task. Jean's assistance was sought and provided in a similar way for the second vocabulary task, which Alina completed largely by herself. She showed her work to Jean, who checked it and then started her on the third task:

18. Je: *Did you check the eight by yourself?*
 19. Al: *Yes, I did*
 20. Je: *You should check it again - from the beginning. I told you before that if you see the little square and they write 'n' in it means it's a noun - not a verb. But you've already written it down. I don't think you should check that again. Oh, you see the second one, you've written that again - if you check that again it's useless ... Look at this. This is the one. (Al writes it down) Now let's look at number three. There are some words where*

you can put '-ing' at the end. And you have to write down all the words where you think you can write '-ing' on the end.

21. Al: Yes.

There is little evidence of collaborative talk between the Taiwanese girls in the above, or in subsequent, interactions; in her role as peer tutor, Jean transmitted to Alina the learning she had co-constructed with Tilly. She spoke firmly and authoritatively, and did not allow Alina much opportunity to contribute her own ideas. So, although relevant knowledge was transferred from "expert" to "novice" it cannot be said that Jean was actually scaffolding Alina's learning in the same way that her own had been by Tilly. What is remarkable is the reversal in one lesson of Jean's role from less to more able dialogic partner.

DISCUSSION

By its very nature, a case study cannot provide generalizations. The present paper does not claim that what occurred in this classroom is necessarily typical, although it does bear similarities with other studies of classroom discourse both in Britain (e.g., Bourne, 1992; Leung, 1993; Mercer, 1995) and in New Zealand (e.g., Cazden, 1992; McNaughton, 1995; Nuthall, 1997). However, it is hoped that what has been illustrated here might serve to illuminate similar contexts, and thus resonate with other educators. Readers may well of course have different interpretations of these interactions. Those which have been presented here are, as noted, merely a tiny fraction of the data which were collected and analyzed. The author has many other instances of peer scaffolding among all the learners in the classroom, both among boys and girls, native English-speaking and otherwise (Barnard, 2000).

The extracts presented above clearly show that a pedagogical relationship can emerge between young learners in a school classroom. Some pupils are able to apply a range of tutoring techniques to enhance the learning of their classmates. Like Wood et al.'s (1976) parents, these children might be pedagogically naive, but this does not invalidate the point that they might be able to operate strategically: it can be argued that strategies do not need to be consciously applied to be effective. It was also shown that understanding may be co-constructed by both partners through a combination of private and social speech, and that a cumulative mode of social thinking is conducive to peer tutoring in such relationships. As the relationship between dialogic partners becomes more equal, then the talk may move into Mercer's (1995) category of exploratory talk. However, it may be argued that it is difficult for NESB learners to engage fully in this mode of social thinking as it is linguistically (rather than psychologically) challenging for them to counter suggestions put forward by native English-speaking peers and propose alternative hypotheses and reformulations.

Scaffolding may be seen as an overall strategy encompassing other forms of help—such as direct instruction, modelling (see Cazden, 1992, pp. 103-110), and information conveyancing (see McNaughton, 1995, pp. 69-72). These tactics were in evidence in the above extracts. The extent to which scaffolding is needed, and provided, depends crucially on three factors. First, the width of the gap posited by the ZPD—that is, something that the learner cannot do by herself but could do with the

assistance of a more able partner; second, the intentionality, ability and willingness of the more able partner to provide sufficient and appropriate assistance—and, equally, of the less able partner to accept such guidance; third, the attainment of intersubjectivity between the participants so that learning is indeed *jointly* constructed, rather than merely transmitted from expert to novice. These factors were illustrated in most of the extracts above.

As noted in the introduction, effective scaffolding should enable the learner to understand and carry out specific tasks with help. It should also lead to a wider understanding, so that the learner achieves a more generalized competence within the discourse of learning. A microanalysis of recorded interactions might—and indeed, it is hoped that the above extracts do—show that learners are enabled to do specific tasks. However, it is necessary to consider their conceptual development over a longer period of time in order to satisfy this more stringent criterion. Within the scope of this paper it has not been possible to provide substantial evidence of such wider competence, but the author has reason to believe that this holds true. Over the months that Jean spent in the classroom such general competence was attained in a number of areas, and much of that growth can be attributed to the peer scaffolding provided by her classmates, especially Tilly. It may also be perceived in Jean's role-change from less to more able peer vis-à-vis Alina who also eventually showed signs—albeit limited—of more general competence.

The data lend confirmation to the value placed on peer tutoring for NESB learners by the teachers cited by Kennedy and Dewar (1997), and it is reasonable to infer from the data that the role of peer tutor may enhance the learning of both partners. First, sufficient evidence has been provided above to suggest that, under certain circumstances, a less able partner can benefit from peer tutoring. While scaffolding by a teacher is obviously helpful, classmates may at times be actually more effective because they are more "accessible" than the teacher. This accessibility is due to social equality and physical proximity—the opportunity to provide appropriate and amicable guidance and feedback at the time when most immediately needed. Second, on the principle of *docendo discimus* (we learn in teaching), the more able partner—by assisting the learning of another in close dialogue—may reinforce the content, and enhance the quality, of his or her own learning. Evidence of this was provided by the data—especially in the later exchanges between Tilly and Jean, where the process of working together with language facilitated the conceptual development of both girls. It may also be suggested that the intersubjective relationship achieved in this way made Tilly more sensitive to the learning process of other children and perhaps become an even more effective pedagogue. The data presented in this paper reflects findings from other studies conducted in New Zealand which report measurable gains for both tutors and tutees—such as those by Medcalf and Glynn (1987) on non-NESB peer tutoring in reading skills, and by Glynn, Berryman, O'Brien, and Bishop (2001) on Māori peer tutoring in writing skills.

However, there is also a danger that some of these relationships could become detrimental to either or both learners. In the first place, there is the simple issue of the quality of the conceptual information that peer tutors can provide; at worst, it could be case of the one-eyed leading the blind. To this is tied the fact that school children who

are untrained in peer tutoring can only scaffold the learning of their peers intuitively. Evidently some are better than others in this respect; Tilly might perhaps be considered a "born teacher", whereas Jean's skills in this area—as illustrated above—were perhaps more restricted. Moreover, for the less able partner, a form of instructional dependency might emerge with the consequent failure to take sufficient responsibility for his or her own learning. There was a tendency for this to happen with Jean in regard to Tilly; in some of the problem areas above it might be thought that she could have worked on her own without help, albeit perhaps more slowly. Clearly, Alina was instructionally dependent on Jean for many weeks and this was especially acute in their case because of their constant use of Mandarin. Given her minimal competence in English, mutual communication in her first language undoubtedly helped Alina to adjust to the learning culture of the New Zealand classroom. However, her exclusive bond with Jean meant that Alina was never seen to take any initiative to broaden her social, linguistic or conceptual boundaries. Finally, the more able learner may find that working closely with less able peers might interfere with, or even retard, his or her own classroom progress. With Tilly, this was never a problem; she was so capable of meeting and exceeding the classwork requirements placed upon her that acting as a peer tutor was likely to have only beneficial effects for both partners. With Jean, however, it was different. The demands constantly made on her time and intellectual energy by Alina may well have hindered her own social, cultural and conceptual development.

CONCLUSION

In the present circumstances of ever-increasing numbers of NESB learners in our schools, steps have to be taken to acculturate them to the learning culture in the mainstream classroom. The question of who can do this most effectively, however, is not easily answered. Qualified teachers of English as a Second Language, where they are employed in primary schools, have their work cut out developing NESB learners' linguistic competence; few of them have the opportunity to teach NESB learners for more than a few hours a week, let alone attend to individuals in the regular classroom. Their mainstream colleagues have to deal with the demands of 30 or so learners with ever more diverse needs and demands, and to expect them to cope with the linguistic and cultural challenges presented by NESB learners on top of their manifold other responsibilities is asking a great deal—even if they have had relevant pre-service or in-service professional development in this area. Another possibility is the use of teacher aides, who could be very helpful either by relieving mainstream teachers of clerical and other such work or by working directly with the NESB learners. However, they are largely untrained and grossly underpaid and it is not always easy to find culturally-sensitive people to work with NESB learners on such weak foundations.

The above interactions show that it is possible for peer tutors to enhance the learning of NESB learners. There is also a clear implication that NESB pupils immersed in the mainstream cannot be left entirely to their own devices, or to those of their more able peers. Therefore, if schools wish to use some of their pupils in this capacity, they need to plan, supervise and evaluate this work so that the benefits can

be maximized and the disadvantages minimized. This is an area where further investigation—especially action research projects evaluating the implementation of peer tutoring—is needed. There is also a need for cross-fertilization with other bilingual projects, such as those carried out for Māori and Pasifika learners under the aegis of groups like the Poutama Pounamu Education Research and Development Centre at the University of Waikato, and the Centre for Language and Languages, Pacific Islands Education, at the Auckland College of Education.

CORRESPONDENCE

Dr Roger C.G. Barnard, Department of General and Applied Linguistics, University of Waikato, Private Bag 3105, Hamilton, New Zealand.

E-mail: rbarnard@waikato.ac.nz

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