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Mentoring Conversations Designed to Promote Student Teacher Learning

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ABSTRACT *Concern has been expressed in recent research about the preoccupation by school-based mentors and student teachers with immediate issues of practical performance, rather than inquiry into, or expansion of, a rationale for that performance. This paper reports on a training programme in mentoring conversations that was designed to achieve the latter purpose. An analysis of 22 audio-taped transcripts of feedback conversations between mentors and their student teachers revealed that before training a common pattern was for mentors to give a great deal of advice about how to overcome undisclosed concerns about a student teacher's practice. After training, mentors more frequently disclosed their concerns, checked to see if their concerns were shared and engaged the student teachers' personal theories about their reasons for practising in the way they did before developing joint solutions. The implications for school-based teacher education are discussed in terms of the training requirements for practising professionals if they are to engage in mentoring conversations that are likely to promote their student teachers' professional development.*

Increasingly, research attention has focused on the quality of interactions between student teachers and school-based mentors as greater emphasis is given to the school-based component of teacher education programmes (Feiman-Nemser *et al.*, 1993; Hagger, 1997). The main concern identified in this research is the preoccupation on the part of both mentors and student teachers with immediate issues of practical performance, rather than inquiry into or expansion of a rationale for that performance (Edwards, 1995; Franke & Dahlgren, 1996). Given this concern, Feiman-Nemser *et al.* (1993) question whether it is appropriate to regard mentor teachers as teacher educators.

The difference in approach enacted by mentors and that considered desirable in the research literature reflects, to some extent, different theories of how best to educate pre-service teachers. In the former approach, the teaching undertaken by the student teachers and subsequent conversations with mentors are conceptualised as opportunities for student teachers to develop performance competence. Practice is the focus. Theory is not important. In the latter approach, more emphasis is placed on developing professional knowledge of theoretical principles that support performance and learning how these relate to the student teacher's own practice and its improvement (Franke & Dahlgren, 1996). In this paper, rather than reiterate others' justification for the latter approach, I address the issue of how it might occur in conversations between mentors and student teachers and report a study that goes some way towards developing desired qualities in those conversations.

The focus of this paper is on conversations between mentors and student teachers because these conversations are central to developing student teachers' cognitions that

underlie their professional knowledge and performance. Edwards (1995) proposes that the constant ‘zigzag’ of action and discussion with someone more expert about that action helps student teachers:

... translate their experiences into frames provided by public knowledge and to acquire the more powerful language frameworks so that they become insiders in the professional discourse and able to articulate it and keep it public and open to scrutiny rather than tacit or private. (Edwards, 1995, p. 598)

It is the unique opportunities that school-based mentors have to promote professional learning in this way that has led to the recent focus on the quality of their interactions with their student teachers.

The Mentors’ Task

The task we are asking of school-based mentors is particularly challenging because it requires the integration of two complex skills. First, we are asking them to articulate principles of teaching as they arise in practical contexts for the student teachers. The difficulty expert practitioners experience in articulating the intricacies of complex skills, such as teaching, are well recognised. Second, we are asking them to articulate that knowledge in ways that facilitate student teacher learning about their own practice and how to improve on it. The demands of this second task are not so well recognised and are the subject of this paper.

The theoretical origins of the interpersonal processes I have identified as facilitative of professional learning are based on the work of Argyris (1982), Argyris and Schon (1974) and Robinson (1993). The values underlying these processes include respect for the mentor as someone who brings expertise in teaching to the situation and respect for the student teacher as a learner about how to be effective, and the use of open sharing of valid information as the basis for conversation between the two. Each of these values has implications for the way in which the other is enacted. Respect for the student teacher as a learner, for example, requires the mentor to adopt Maynard and Furlong’s (1993) principle of co-inquiry. These authors propose a three tier model of mentoring, in which the final tier involves sharing and helping the student teachers to examine their practice on the basis of a ‘feel equal factor’ without fear of status differentials, with both learning from each other and exploring practice jointly. This value precludes mentors from using their expertise to define problems or their solutions unilaterally but rather requires them to check for shared agreement about contentious issues and to treat disagreements as points needing clarification.

Valid information requires mentors to articulate and provide data for any judgements they may make about a student teacher’s practice, to seek disconfirming data and to test the accuracy of their interpretation and thus the validity of their judgements. At the same time, it precludes recommendations, such as those of Watkins (1992), that conversations with student teachers be purely descriptive rather than evaluative, for to withhold evaluation is to limit the information available to the student teacher. Rather, it requires that the data and reasoning on which the evaluation is based to be carefully articulated so that either may be contested.

Training in mentoring conversations that encapsulated the above values was used as part of the mentor accreditation process in the University of Auckland Teacher Education programme in New Zealand. An analysis of transcripts between mentors and the student teachers before and after training indicated that it was successful in shifting

much of the mentors' talk from focusing on data-free judgements of the student teacher's performance with accompanying unilaterally determined advice, to a data-based exploration of the reasons for that performance and joint development of future teaching strategies.

The Training

The training occurred over five sessions. It focused primarily on developing the mentor's understanding of the theory of effective teaching underpinning the teacher education programme so that they could assist the student teachers to translate that theory into practice, articulating the values and strategies of mentoring conversations that are likely to promote student teacher learning, and outlining the stages through which such a conversation might progress.

The theory of teaching effectiveness underpinning the course was based on that of Berliner (1987) in which the teacher's task is primarily to provide opportunities for students to learn by promoting student engagement and success with significant lesson objectives. The strategies encompassing the values outlined above for mentoring conversations included:

- basing dialogue on observed data;
- sharing responsibility for identifying strengths and problems;
- discussing reasons for particular practices being strengths or problems;
- establishing the assumptions underlying the student teacher's practice;
- giving advice with reasons; and
- inquiring about the consequences of the advice.

In order to assist the mentors to translate the strategies into practice, they were provided with an outline of stages such a conversation might take. In the agenda setting stage, the mentors were advised to name the issues they wanted to raise, to invite dialogue from the student teacher, to offer support by sharing the responsibility for improvement and to check that the agenda was shared by the student teacher. The next stage involved disclosing and evaluating observations. Mentors were encouraged to summarise their observations and disclose their evaluations, ask for the student teachers' reactions, explore any differences and design ways to test them. Once agreement on any concerns had been reached, the next stages involved diagnosing the difficulties and working out a strategy for doing something different. Recommended closure was for the mentor to ask the student teacher to summarise what she or he had learned and to check for any outstanding issues.

During training, mentors were asked to analyse a previously recorded feedback conversation with a student teacher by assessing the extent to which they used the strategies within the phases. In addition, they used this conversation to analyse their personal theory of mentoring to assist them in understanding why they gave feedback in the way they did. For example, most mentors did not mention any concerns they had about the observed lesson unless the student teacher mentioned it first. A belief frequently underlying this strategy was that preserving good relationships with the student teacher precluded mentioning problems the student teachers did not identify for themselves and that learning was more powerful if problems were self-identified. Torn between not wanting to mention problems but wanting the student teachers to improve their practice, the mentors frequently gave advice designed to improve practice without identifying first of all what was problematic. The most frequent consequences

of such a strategy included little improvement in the student teachers' practice because they did not understand why the advice was being given, and frustration on the part of the mentor because the student teacher had not enacted the advice. This identification of the mentor's own personal theories had two purposes. One was to assist the mentors to identify features of their practice that were problematic and could be improved through skills in mentoring conversations; the other, to assist the mentors to help the student teachers to identify personal theories underlying their problematic practices. Following this analysis, the mentors were given an opportunity to practice a conversation that they anticipated would present them with difficulties.

Assessing the Impact of Training in Learning Conversations

The analysis of the mentors' skill in conducting learning conversations was based on 22 transcripts of conversations in which 11 mentors gave feedback to their student teachers following a classroom observation. The first transcript for each mentor was recorded prior to training with the second recorded after training. Mentors were asked to select a situation where they had concerns about a student teacher's practice because it is in this context they find most challenging. To be included in the final sample, the first conversation had to have been recorded prior to the first workshop on learning conversations. Both the original audio-tape and the transcript were provided by the mentors as part of their course requirements. Following each transcript student teachers were interviewed about their understanding of the mentors' concerns about their teaching and the advice they were given on how to improve. Follow-up observations determined the extent to which the advice was evident in subsequent practice.

The data typically used to identify how mentors interact with their student teachers are transcriptions of conversations from which themes are identified and illustrated with selected quotes of the mentors' voices (e.g. Feiman-Nemser *et al.*, 1993; Martin, 1997; Stanulis, 1995). An alternative approach is detailed coding of individual speech acts that are judged to be meaningful in terms of the particular context for the analysis (Georgakopoulou & Gourtsos, 1997). Neither methodology suited the purposes of this study. The first is not adequate to assess the effects of training because broad themes and selected quotes are not sufficiently precise to measure desired change. The focus of the second on individual speech acts has the potential to lose the holistic qualities that encapsulate the values of mutual respect and valid information in ways that promote learning. While specific practices are associated with learning conversations, such as inquiry into another's point of view, judgements cannot be made independently of the context of the conversation as a whole about whether a particular inquiry is loaded and manipulative or a genuine search for information. It is only when the responses of each participant to the inquiry are tracked through the conversation that this type of judgement can be made.

The rating scale adopted in this study attempts to capture the qualities considered critical to promoting student learning in the mentoring context through the use of six criteria. Brief descriptors for the criteria used in the rating scale are contained in the Appendix with the reasons for their selection elaborated below. The criteria were revised several times as a result of a piloting process in which the author and an independent rater separately rated transcripts that failed to meet the requirements for inclusion in the final sample. Once the criteria were established, additional transcripts were independently rated 0, 1 or 2 on each criterion according to whether the strategy was absent, partially present or fully present. An interrater reliability of > 0.8 was

achieved between the author and the independent rater on four transcripts that included 24 separate ratings. In the three cases of discrepancy in the ratings the difference was only one point, that is, between 0 and 1, or 1 and 2. The independent rater then rated the 22 transcripts used in the analysis. They were identifiable by a coded number only and randomly ordered.

Criteria Used to Judge the Quality of the Learning Conversation

The following criteria were selected to reflect those aspects of the mentoring conversation that encapsulated the values of mutual respect and valid information in ways likely to promote student teacher learning. They are outlined in some detail to both justify their use and elaborate how the values and strategies outlined above translate into practice.

Criterion 1: concerns clearly identified. The first criterion used in the rating scale was for the mentor to clearly state the concerns they wished to discuss at the outset of the conversation. Framing this criterion in this way is controversial because it is more common for such a conversation to begin with a self-analysis by the student teacher (Franke & Dahlgren, 1996) and a focus on the positive (Feiman-Nemser *et al.*, 1993). While self-analysis and specific positive feedback are highly compatible with the values and strategies of an effective mentoring conversation, this criterion was selected to reflect that aspect of the conversation mentors find most difficult. Their preference for adopting a supportive role (Martin, 1997; Zanting *et al.*, 1998) frequently leads to avoidance of what is problematic. As a result, the potential for the mentor's expertise to promote student teacher learning may be unrealised because the mentor does not state what is of greatest concern to them.

One strategy in this situation is for the mentor to bury advice about how to improve practice that he or she has privately defined as problematic in a series of questions. The mentor in the following transcript believed that her role was to guide rather than to dictate. She was caught in a dilemma, however, because she believed that she had valuable advice to offer the student teacher but could not give it directly because she would appear dictatorial. She began her feedback on her observation of a physical education lesson like this:

M: You've blown the whistle, what would you expect the children to do? What would you say at the start of the lesson? You could say to them, 'Okay, during this lesson I'll be using a whistle as a signal'. The signal will mean to do what?

ST: Oh, stand still, keep quiet.

M: Mmm. Yes, just simply that the minute the whistle goes?

ST: Look and listen

M: Yes, you need to be ...

ST: Completely still.

M: Would you want them to bob down?

ST: Yes, I think so.

When reflecting on this conversation, the mentor decided that her questions were in fact dictatorial because they 'guided [the student teacher] to the answer I wanted her to come up with'.

After training, the mentor began her feedback to a different student teacher about

another physical education lesson with a clearer statement of concern that was a recurring theme in most of the student teacher's lessons:

M: When you're taking a lesson with the whole class and there are children on the edge, most of the class is paying attention, but there are children who are out there on the edge, on the periphery, and you don't seem to see their behaviour and what's going on. Am I right about that?

By stating her concern and checking with the student teacher, she set up conditions for developing a shared definition of the problem and the possibility for a joint solution.

Criterion 2: examples used to illustrate evaluations. To meet the second criterion the mentors must give data and/or relevant examples to illustrate their evaluations. This criterion is designed to promote a shared understanding of the reasons for the mentor's evaluations which, in turn, enables them to be challenged or agreed to by the student teacher. In the absence of data, student teachers can experience difficulty connecting the mentor's evaluative statements to their own practice because they recall and evaluate classroom events differently from their mentors (Gonzalez & Carter, 1996). For example, in the second transcript about the physical education lesson which took place after training, the mentor continued:

M: Most of the class were watching, but there were three boys at the back, Y was one of them, who were just the whole time mucking around talking and not paying attention at all. And what I was worried about was when they came to use the beam they wouldn't know what to do and then a safety issue would come up.

ST: Right, exactly.

M: Okay. At the end of that demonstration you asked 'Did everyone hear and understand?' And no one put a hand up. So you took it that everyone had understood and yet those three obviously would not, from me watching them, they did not know what to do. So then we follow on to the vault and this time there were three different children, A, B, and C, who all the time were talking, mucking around, sort of nudging each other and they wouldn't have been able to follow those instructions ... So at any time while those demonstrations were going on were you aware of children not paying attention?

ST: Yes, yes. I'd noticed that there were a group of children sort of not paying much attention and talking, but they were amongst a group that were not actually participating in P.E. at all and at first glance, I suppose what happened is, I looked at first glance and thought oh, they're the people on the sideline anyway and didn't worry about it and it wasn't until I looked back a second time that I realised that A and B were in that group and they should be with the others paying attention.

By providing this data and checking if the student teacher agreed with the observations, the mentor and student teacher both identified what was problematic and could proceed with determining what to do about it.

Criterion 3: implications for improvement identified. The third criterion used to judge the quality of mentor-student teacher conversations was the extent to which mentors justified and discussed their evaluations in terms of implications for student learning opportunities and/or outcomes on particular objectives (Berliner, 1987). For example,

one mentor commended her student teacher by saying, 'I liked the way you structured the activities around the objectives from the curriculum and when you checked the students work, you used these objectives to guide you. They did really well'. This criterion was included for two reasons. The first was to provide an external theoretically informed reference for the evaluation of practice and the second was to assist the student teacher to make connections between the theory underpinning the university programme and it how it translated into practice.

Criterion 4. The fourth criterion required the mentors to check if their concerns were shared by the student teacher before giving advice on how to improve. Zanting *et al.* (1998) suggest that student teachers are more likely to benefit from the mentor's expertise if the advice offered matches the current concerns of the student teacher. The mentor's question in the physical education example above demonstrated that both were aware that students on the periphery were not paying attention.

Included in this criterion was a requirement that any disagreements about the validity of the mentor's concerns were welcomed and further investigation about how those differences might be resolved invited. The student teacher agreed with the mentor in the above transcript so this part of the criterion was not relevant. Another example from a different mentor concerned the noise level in the classroom during the student teacher's lesson. The mentor thought that it had bordered on chaos. When she raised the matter with the student teacher, she was surprised at the reply.

ST: The noise level was fine for me, the children were busy and having lots of fun.

M: I think there are two issues here. Yes. One is that noise affects us in different ways. The other is whether or not the children are learning. I like the classroom to be quieter than you do but that's not the real issue. What's more important, the real issue, is what's happening for their learning. You said that they were busy, and they were, but how do you know they were learning what you wanted them to learn?

ST: Well it seemed to me that they were doing what they should have been doing. One group finished. The others were getting there.

M: Okay. What I'd like to do is to work out a bit more carefully is how we could decide if they were learning what they were supposed to be learning, or maybe they were just engaged in noisy busy work that wasn't achieving what you had planned.

Criterion 5: engaging personal theories of teaching. To meet the requirements of the fifth criterion, the mentor must engage the student teachers' personal theory, or in other words, discuss the student teachers' reasons for practising in the way they do. Such engagement is important for two reasons. The first is to assist the student teachers to develop their personal theories of teaching in professionally defensible ways. Through this public discourse, student teachers develop an ability to articulate their understanding of the relationship between the context and their practice in ways that keep it open to professional scrutiny (Edwards, 1995). The second reason is more pragmatic in that a shared understanding of the student teacher's personal theory should lead to more effective problem-solving. The lack of coherence between a mentor's mental representations of an event and that of a student teacher (Westerman, 1991) indicates that inquiry into the knowledge and assumptions that guide the student teacher's practice

would enable the mentor to interpret the event from the student teacher's perspective and provide more useful advice.

Through such engagement with the student teacher's reasoning after the second physical education lesson, the mentor discovered that her belief that the student teacher did not notice the students on the periphery was not the problem. The mentor believed that the problem was caused by the student teacher focusing on the students immediately in front of her. She discovered that the student teacher did see the off-task students on the periphery but ignored them because she did not know how to deal with their behaviour. She finally discovered why the advice she had given so often was ignored by the student teacher.

M: ... It was use of what is called a roving eye, you know, looking around to see what else was happening. So why do you think you sort of, you just sort of, you're looking at a smaller group in front of you each time?

ST: Umm. It's not always the case that I don't see the other students, sometimes I see them and I'm not really sure what's the best strategy to get them back on-task. I mean for the example in that P.E. lesson, I mean I knew that A and B were off-task and because they were actually separated from the other group I could actually physically move them in as a strategy to try and get them on-task. But when they were actually sitting there and continued talking, I wasn't really sure what to do because I didn't want to keep stopping the demonstration because we were short on time. I didn't want to mess it up for everybody else just because one or two people are spoiling it.

M: Okay. To me that sounds really interesting and I can really understand where you are coming from. So you're looking at the importance of the timing and keeping the lesson going.

ST: Yeah.

M: And the fact that most of the children were listening and so you were happy with that?

ST: Yeah.

M: But you were aware that there were a few ...?

ST: Yeah, and they are often the same few in the different lessons that I take that are off-task.

M: Definitely. What does concern me is the thing you said that sometimes you do see them and then you choose to ignore it because you're not too sure of how to get them back on-task.

ST: Yeah, yeah that's what I want to do. I want to learn some more strategies to get them back on-task.

Prior to training, mentors often failed to check if their concerns were shared or to engage the student teacher's personal theories (Criteria 4 and 5) because the way they conceptualised the problem-solving process rendered such processes redundant. They assumed the validity of their own diagnosis of the problem and the usefulness of their advice. Their job was to find ways for the student teacher to volunteer the mentor's diagnosis of the problem, usually through asking questions, and then teach some techniques to solve the problem. As one mentor mused when reflecting on her pre-training transcript:

I asked the student teacher to highlight things that went well and then asked him some questions that would guide his reflection. I kept asking until he saw

that he had not managed the group well. It took quite a few questions. Then I gave him some advice on how he could be more specific with his instructions and more assertive in the management of the lesson. I didn't even think about whether he agreed with me or what he thought about the difficulties he was having.

Criterion 6: development of a shared action plan. The final criterion used to judge the quality of the learning conversation was the development of a shared action plan. To meet this criterion, the action plan had to be based on the agreed diagnosis of the problem and jointly developed with potential barriers to implementation discussed and resolved. After establishing the cause of the student teacher's problem in the physical education lesson, the mentor continued:

M: Okay, so in another P.E. lesson if you see them again and you feel that if you had some strategies of what to do then you wouldn't ignore that behaviour, you would do something about it.

ST: I'd definitely do something about it.

M: Okay, so let's look at a specific example then, so like, the children, tell me again where you had seen that they aren't paying attention, but you weren't too sure what to do.

The student teacher then provided details of the off-task student behaviour and together they developed a range of possible strategies for dealing with it.

Impact of the Training

The ratings of the two sets of transcripts (see Table I) indicated that the mentors as a group made significant shifts in their use of each criterion in their feedback conversations with their student teachers (Wilcoxon Matched Pairs, $p < 0.005$). The greatest shifts were evident on the first, fifth and sixth criteria, that of stating concerns clearly at the outset, engaging the student teacher's personal theories and developing a shared action plan with the student teacher.

The low pre-training scores on the first criterion of clearly stating concerns is not surprising because those giving feedback are often encouraged to begin such conversations with a self-analysis on the part of the student teacher (Franke & Dahlgren, 1996). Initially mentors expressed a reluctance to state concerns for fear of impacting negatively on their relationship with their student teachers. Several expressed surprise that a statement of concern accompanied by data had a positive rather than negative impact. One mentor expressed it this way:

The damaging relationship consequences that I feared had not resulted, and in fact, the student teacher was happy to accept suggestions and criticisms as she saw this an opportunity to grow as a teacher. Moreover, because the student teacher felt comfortable in the relationship, this meant that she was willing to take ideas and practical strategies on board, which resulted in increased learning opportunities for her. She said that she did not feel threatened by the data or the consequent discussion.

Prior to training, only three student teachers indicated that they were clear about the mentors' concerns. Apparent acceptance of the concern by the student teachers,

TABLE I. Pre-training and post-training scores*

Criterion	Sum of scores for 11 subjects	
	Pre-training	Post-training
Concerns clearly stated at the outset	5	20
Data and examples are used to illustrate concerns and evaluations	12	20
Evaluations are justified and discussed in terms of implications for student learning opportunities	9	17
Mentor establishes if the concern is shared before giving advice—disagreements welcomed as data	8	17
Mentor engages student teacher's personal theory	9	21
Mentor develops a shared action plan with student teacher	4	17

* Each transcript was rated 0, 1 or 2 depending on whether the criterion was absent, partially present or fully present (see Appendix 1). Maximum score = 22. Minimum score = 0.

however, did not necessarily mean understanding. The mentors themselves were surprised at this lack of understanding, but as one reflected,

A lot of words were spoken but not a lot was said. I had hoped that the student teacher would recognise areas that she needed to improve on and come away from our conversation with techniques that she could put into place in further teaching experiences. This was not the case because I did not make it clear to her the problems I had noticed with her teaching practice.

In the follow-up interviews after the mentor training all student teachers were aware of their mentors' concerns. One indicated that she was

... a little taken aback by the data on off-task behaviour, but it was important for me to understand what was happening so I could do something about it.

The low pre-training scores on Criteria 3, 4 and 5 reflected a common pattern in which identification of some difficulty by the student teacher was immediately followed with advice from the mentor about how to overcome it. This pattern is consistent with the well-documented preoccupation by mentors and student teachers with immediate issues of practical performance (Edwards, 1995; Feiman-Nemser *et al.*, 1993; Franke & Dahlgren, 1996) rather than inquiry into or expansion of a rationale for that performance demanded by these three criteria.

While significant improvement was evident on all three criteria following training, the relatively low scores for basing evaluations on student learning opportunities is of concern. In the absence of this external reference, the conversation between the mentor and student teacher has the potential to become self-referential and focused on performance, rather than externally referenced to the impact of the teaching.

The relatively low score on Criterion 4 of establishing if the concern is shared is also problematic. If mentors take on the role of identifying concerns without checking if

those concerns are shared and negotiating the meaning of any disagreement, then the value of respecting the student teacher's views is violated. For the two mentors who scored zero on both transcripts on this criterion, developing shared responsibility appeared to be very difficult.

The high post-training scores on Criterion 6, engaging the student teacher's personal theory, was reflected in the mentors' consistent identification that this was the information they found most helpful when assisting their student teachers. As one explained,

Our conversation revealed the student [teacher's] dilemma as a reluctance to interrupt the learning of the small group to monitor off-taskers. This discussion gave me a real understanding of what she was thinking and I could relate to her dilemma. It gave me a grounding which I then discussed later as to how she could work towards creating a balance between these areas ... To me the greatest success was gaining an insight into areas of the student teachers' personal theory.

The very low pre-training ratings on the final criterion, that of developing shared action plans, were surprising given that many mentors perceived their role as one of helping the student teacher to improve their practice. Although some mentors failed to develop any action plan with their student teachers, more commonly the low ratings reflected an interaction in which the mentors provided a great deal of advice about what to do next, but failed to ascertain if the student teacher believed it would help them to overcome their difficulties. A common outcome under these circumstances was for the mentors to feel frustrated that despite their well-intentioned advice the student teachers failed to adopt it in their practice. Classroom observations indicated that only two student teachers successfully implemented some of their mentors' advice. For the remainder, the advice was either poorly implemented or not evident in their practice because they did not understand it. As one student teacher expressed it,

I was nervous not to try because [my mentor] had told me to, but I was nervous to try it because I didn't really understand it. I thought it was risky but I had to do it.

Conclusions

University-based teacher educators have reacted in different ways to the greater involvement of school-based mentors in teacher education. One reaction is to perceive mentor involvement as an inevitable downgrading of teacher education to an apprenticeship for technical training. The data reported in this paper prior to training and in other research (Edwards, 1995; Feiman-Nemser *et al.*, 1993; Franke & Dahlgren, 1996) indicate that, in the absence of any other intervention, this scenario is likely as mentors and their student teachers focus on immediate issues of student teacher performance.

The second reaction is to welcome the unique opportunities mentors have to socialise and enskill student teachers in a demanding profession, but to recognise that expertise in teaching in itself is not sufficient to be an effective teacher educator. This approach requires some humility on the part of both university-based and school-based educators as they recognise that each has something to contribute to teacher education and to learn from the other. Both parties must acknowledge that school placements are more than an opportunity for student teachers to practise those things taught by the

university (Elliott & Calderhead, 1994) and must commit themselves to making such placements professionally as well as technically demanding. To do so, however, requires a high level of skill that cannot be assumed. This skill involves the articulation of professional knowledge in the practice context in ways that facilitate student teacher learning about their practice, the rationale underlying it and how to improve it. Greater expertise in teaching does not mean that mentors can safely assume the validity of their diagnosis of the student teacher's difficulties and the most appropriate ways to overcome them. Rather, their professional expertise must be used to inform jointly analysed problems and their solutions.

The challenge for the university is to respect the unique opportunity that mentors have to promote the student teacher's professional learning and to provide the conditions under which mentors can develop this expertise. This challenge requires the university educators to be explicit about what is meant by expressions such as 'inquiry into and expansion of a rationale for professional practice' and to demonstrate how such expressions can be translated into specific practices. The data from this paper indicate that mentors are able to improve the quality of their conversations with their student teachers in ways that are likely to enhance the professional learning of the student teachers if they are given the training in how to do so.

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Appendix 1

Criteria used for rating the quality of learning conversations between mentors and student teachers

Criteria	Reasons for rating
Concerns clearly stated at the outset	0 = Concern(s) never clearly stated. 1 = Concern(s) gradually emerge during the conversation. Clearly stated at some point. 2 = Concern(s) clearly stated at the outset.
Data and examples are used to illustrate concerns and evaluations	0 = no data/examples given. 1 = Data/examples given but concern/evaluation itself not clearly stated, or data/examples given when student teachers show confusion. 2 = Data/examples used to illustrate concerns and evaluations.
Evaluations are justified and discussed in terms of implications for student learning opportunities &/or outcomes	0 = Evaluations focus on teacher style rather than implications for student learning. 1 = Implications of evaluations for student learning opportunities &/or outcomes are implied rather than explicitly stated. 2 = Evaluations are justified and discussed in terms of implications for student learning opportunities &/or outcomes.
Mentor establishes if the concern is shared before giving advice—disagreements are welcomed as data	0 = Mentor fails to establish if the concern is shared, ignores ST's alternative evaluations. 1 = Some attempt to determine if evaluation shared. Disagreements acknowledged but not explored. 2 = Mentor establishes if the concern is shared before giving advice—any disagreements are welcomed as data and implications explored.
Mentor engages student teacher's personal theory	0 = Mentor fails to ask about or explore ST's personal theory and reasons for practising in the way they do. 1 = Mentor inquires about and explores the ST's personal theory and reasons for practising in the way they do but fails to use this in developing solutions to problematic practices. 2 = Mentor engages with ST's personal theory and treats this as data for developing effective solutions.
Mentor develops a shared action plan with student teacher	0 = no action plan evident, or action plan in form of the mentor giving advice without checking if ST can implement it. 1 = Action plan developed, but mainly from mentor with some checking with ST. 2 = Action plan jointly developed with both ST's and mentor's personal theories forming the basis for that plan.