CO-LEARNING PARTNERSHIP: A WAY TO TEACHER DEVELOPMENT

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The aim of this study was to explore teachers' learning in their classrooms by trying to create a co-learning relationship between teachers and a teacher educator. The study was conducted with three mathematics teachers in classrooms in Pakistan. Data was collected through maintaining field notes from the classroom observations, audio-recording conversations in pre and post observations and writing comments in reflective journals. The preliminary analysis uncovered issues of practicality and limitations of a co-learning relationship in teacher development in a real classroom context. A major question arose about the extent of equality in working together.

INTRODUCTION

The research reported here was carried out as a part of my doctoral study in the context of developing teaching in Pakistani schools. I worked as both teacher educator and researcher with three in-service mathematics secondary school teachers, who had resumed teaching after attending a two-month educational course at a university in Pakistan. The focus of my collaborative work with the teachers was to support them in developing their teaching as well as to investigate my own learning through the creation of a co-learning partnership. This paper suggests that in supporting a process of learning for both partners (teacher and teacher educator) there were issues relating to differences in knowledge and status between the partners leading to a power imbalance.

THEORETICAL PERSPECTIVE

Wagner first used the term 'co-learning' as a more interactive social approach for the educational research process, when he stated

In a co-learning agreement, researchers and practitioners are both participants in processes of education and systems of schooling. Both are engaged in action and reflection. By working together, each might learn something more about the world of the other. Of equal importance, however, each may learn something more about his or her world and it connection to institutions of schooling. (Wagner, 1997, P. 16)

The essential feature of the co-learning agreement is that all the partners are co-learners-responsible for change or development in their respective roles. Jaworski (2000) extended the co-learning idea to the relationship between teacher and teacher educator, as well as teacher and researcher. Examining the interaction between the partners, under the co- learning agreement, she stated that the consequences of shifting roles (as co-learners) could be a growth of knowledge, although the educator and teachers would have different experiences, expectations and philosophical perspectives. However, the question remained about the extent of equality in making

decisions about such partnership and in acceptance of responsibilities of learning. In my position in which the teachers knew me as a teacher educator or an instructor of the university, or a doctoral research student, it was likely that the teachers would not recognise me as a learner in their context but an authority of knowledge or a problem solver. How could I establish a power balance agreement and environment of learning, where both participants could accept and recognise some kind of equality in the learning process?

FINDINGS

The findings presented in this paper are from one of the teachers' (Sahib) planning, teaching and evaluating a topic, with the teacher educator (myself) at his school. I shall use one lesson to show aspects of the learning in the developing partnership.

Planning together:

For this particular lesson, Sahib's focus of teaching was enabling students to solve equations in algebra by the textbook method, though he aimed also to involve the students to participate actively in their learning. It was not clear to me how Sahib would achieve this goal by the textbook method he described. I inquired about other methods of teaching equations from his experiences of learning of the topic. He recalled an activity involving a function machine that he had learned at the university, but he felt that it would be too advanced for the students at the moment because they might get confused with the terms of 'input', 'output' and 'function' of a machine. I asked him what other ways he might have of approaching the topic and achieving students' participation. He then suggested another idea of 'finding a hidden number' that could motivate the students to learn equations as well as guide them to learn a method to find unknowns in equations. He reasoned that as the children deduced the correct number, they would discover also a method to solve the equation and he could then teach the exercise given in the book for solving equations.

Teaching the lesson:

I was a participant observer, while Sahib was teaching the lesson. I maintained detailed field notes, and highlighted the issues significant to me in the teacher's teaching. Two issues appeared important.

1) Tension between the teacher's new expectations and the students' behaviour:

> In the lesson, Sahib told a story about a hidden number and wrote it symbolically on the board (? +5=6). He asked the students to find the hidden number in the box to get six, and they gave the correct answer. The teacher gave many similar examples and got answers (numbers) from the students. He then asked students to explain their mathematical thinking in deducing their answers but the students gave no response. Sahib offered them encouragement but did not succeed in getting them to explain.

In my view, the tension occurred because the teacher had introduced a new expectation. Students were familiar with giving answers, but not with explaining their

thinking. They were not confident enough to express their thinking in words. The teacher also appeared to be in a rush; he was pushing the students to speak by using encouraging comments but not allowing them to take time to think and organise thinking into words.

2) Tension between the teacher's new role and prior identity:

However, the teacher then changed his strategy and called the students to the board to express their thinking. Below I present a part of the conversation between the teacher and a student, in regard to the student's expression of thinking on the board and the teacher's response to it.

Teacher:	Somebody has thought of a number, multiplied it by three, subtracted one and got five. Tell me the number he has thought of. (The teacher also wrote on the board, ? *3 -1=5
Student:	Two
Teacher:	How did you find it? (The teacher called that child to the board and asked him to write his method.
The student wrote on the board: 2*3=6 -1 =5 [1] The teacher encouraged the child to explain his thinking in words (as well symbols), but the student was silent. He also asked other students to explain in words what their friend wrote on the board. There was no response.	
The teacher then told the student: First, you added one to five and you got six on the other side. Then you divided six by three to get two.	

Working on the blackboard the student multiplied three by two first, getting six, and then subtracted one to get five; while Sahib explained the student's symbolic representation in another way. The teacher's interpretation might have affected the student's level of confidence; because after that example, none of the students offered their thinking process either verbally or in writing. For example, the teacher then gave another example of x * 4 -3 =5 and asked for the answer. One of the children said it was two but none of them then expressed a method to get the answer (symbolically on the board or verbally). In my view, the student had his own way of thinking but the teacher was not really trying to understand the student's way of thinking. Explicitly Sahib wanted the students to explore methods of solving equations themselves, but implicitly he had imposed his own method of solving equations. The reason could be a tension between reconciling new approaches to his teaching with his traditional approaches based on the text book.

Evaluating teaching:

In the feedback session when I asked Sahib about his reflection on the lesson, he reacted he was not very happy about the lesson. In Sahib's opinion, it was a very time consuming method to involve students and expect them to share their thinking. He said that if he taught the same lesson traditionally he would have finished the exercise

of the textbook. In my view, Sahib appeared frustrated because he thought that he could not achieve the students' level of participation as he had expected. I encouraged him to analyse positive aspects of his teaching with respect to his previous method of teaching and he then talked about further possibilities and outcomes of his effort to teach in new ways. He criticised the traditional method of teaching, as he said

> For example, the child (during the lesson) was standing [2] and thinking. He took time to think about the process himself. It does not happen in a traditional way of teaching. We do not give them chance to think for themselves. A teacher himself solves and tells them the method.

He stressed the importance of flexibility in lesson planning during the teaching,

> You saw I changed my planning during the lesson. It was difficult for the students to express their thinking verbally so I called them to the board. I also wanted them to discover a method of solving equations but then I explained it.

Sahib acknowledged possibilities and tensions in achieving a new way of students' learning; he talked about lack of environmental support in the school,

> The major problem is time and also motivation. Nobody encourages teachers' thinking about providing students with thinking time. The thinking time has value in long-term learning outcomes. I think, as they will get familiar with this way of teaching they will get more confidence.

Sahib also realised that it was an unrealistic expectation to achieve his goal immediately, as the students needed time and experiences of learning through new ways on a regular basis. He attributed the students' difficulty in expressing their thinking to a traditional mode of teaching which had not encouraged students' thinking, explanation and self-confidence. However, the following issue regarding a tension between the teacher educator's expectation and the teacher's behaviour arose.

Sahib demonstrated a critical stance in analysing different factors that affected his success as a result of my questions and positive reception of his frustration. However, while teaching the lesson he had rephrased the student' answer according to his own method, which seemed to be different from what the child had presented. This was an important issue for me as a teacher educator relating to the teacher's understanding of his new role. I asked him about his different way of expressing what the student had written. Sahib reasoned that he wanted to teach a proper method. I wanted him to analyse this issue beyond the justification he made. He appeared uncomfortable with my further questions. I stopped then by saying that he could think later and share his writing with me. However, he concluded his learning of our working together in the following way:

> I cannot teach everyday according to the method I used today. I have to complete the syllabus. If I give more time for thinking then the problem of written work will arise.

DISCUSSION:

The above findings have pointed towards aspects of both the teacher's and the teacher educator's learning. The teacher learned about his teaching whereas the teacher educator learned about the roles in a co-learning partnership. I see the following aspects of this learning:

Sahib's translating new ideas: In planning the lesson, Sahib was conscious of the school expectations, the students' needs and difficulties as well as his focus of teaching of solving equations. He considered all of them and adopted alternative ways to improve the quality of teaching and students' interaction and new possibilities of teaching occurred for him. In my view there were two factors involved in his learning: (a) my presence encouraged the teacher's recalling and reviewing of his new experiences at the university, (b) his presence at the school caused him to be realistic about his new teaching in order to reshape his learning according to the school limitations.

Sahib's moving to and fro (New and previous teaching): What I found fascinating in Sahib's description in the feedback session was a contrast between his various perspectives of the lesson. In the beginning of his talk, he assessed the students' learning on the basis of their lack of response, and appeared frustrated. Then he acquired a critical stance of talking about valuing students' processes of thinking, which encouraged his confidence in his new practice. Sahib also seemed to be struggling between new ideas about students' learning, e.g. valuing students thinking time, while worrying about a system, e.g. lack of support and encouragement, that does not support such ideas for the teachers in the school. It could be said here that the teacher was trying to adjust his new pratice or modify the previous one through reflecting on their limitations.

Teacher educator's learning: I experienced the value of my positive responses to Sahib's teaching in motivating the teacher's attitude, as well as a negative impact of pushing the teacher to explore the issues significant to me. I realised from his conversation that Sahib himself needed time to resolve tensions of his teaching and a positive reinforcement in order to gain confidence of his teaching at the initial stage of practising change. The question remains, was it fair to widen the teacher's perspective according to my own way of thinking, or was it my responsibility to do so?

CONCLUSION:

I conclude that a concept of equal acceptance of responsibilities and power was difficult to achieve in a short period of research. I made a deliberate effort to build confidence in sharing concerns and capabilities and in promoting development of respective roles. The commitment to be a learner encouraged the teacher educator to make an effort to reduce unseen imposition on her part. The responsibility of the teacher to be a learner at the school increased his confidence to choose his agenda, set limits and act accordingly. It could be said that the co-learning partnership supported

the teacher in exploring practical venues of developing teaching and identifying issues of practice leading to reducing a threat to self-esteem. Consequently I say that the power relationship exists in terms of status, knowledge and understanding of issues between the partners' respective roles, the responsibilities evolve as the relationship grows and needs emerge.

Notes:

[1] The way it appears in writing is mathematically wrong (since 2 *3 is not equal to 6-1) however, the child was clear in thinking while writing. He first multiplied and wrote the answer and then subtracted one from the product and got the result.

[2] One of the norms of a classroom is that a student should stands when the teacher asks him or her for an answer.

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