

CHAPTER 11

The Tutor Role: A Neglected Variable in the Implementation of Problem-Based Learning

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The implementation of problem-based learning involves quite a few restructuring activities. First, the way the subject matter is presented has to be reconstructed: It should be organized in a multidisciplinary, thematic, and integrated way (Barrows, 1985). Second, a new instructional approach has to be carried through: Students will have to work in small groups, analyzing problems and formulating their own learning goals, and study, independently of teachers, to a high degree (Schmidt, 1983). Third, the role of the teacher must be changed. The traditional view that instruction should take place through an active teaching role by one person only is given up. In problem-based learning, teachers

lose a great deal of their authority. Preparing teaching materials, teaching students, and assessing their progress, educational activities usually done by one person, become the responsibility of a team of faculty members appointed for each unit of subject matter. Because one of the main objectives of problem-based learning is to increase students' autonomy and control over their own learning processes, teachers are not expected to continuously direct and control students with respect to what they have to study and how.

Teachers should be aware that students may desire or need more autonomy and may well be able to proceed in a self-directed manner. Teachers should see themselves as guides rather than directors in learning. Their task is to facilitate the students' learning process. From the above, it becomes clear that teachers take a key position in the implementation of problem-based learning. They are in the first place expected to have a positive attitude toward the innovation. Further, they have to produce new kinds of curriculum material. And, last but not least, they must be willing to accept a different system of role relationships—among organizational members on the one hand, and between organizational members and students on the other.

According to Fullan and Pomfret (1977), the main problem with any educational innovation lies in the organizational changes that have to be carried through, and in particular those concerning role relationships. This means that successful implementation involves the resocialization of key actors. In their classic review, "Research on Curriculum and Instruction Implementation," Fullan and Pomfret (1977) state four strategies that can be used for the resocialization of key actors in an educational innovation: in-service training, resource support (time, materials, etc.), feedback mechanisms, and participation in decision making. Generally, innovators only use one or two of these strategies to change the attitudes and behaviors of the key actors in an educational organization. Fullan and Pomfret stress strongly that a close integration of these four strategies in the long run is more efficient to obtain the expected goals of an educational innovation.

In this chapter we describe the way the Maastricht Medical Faculty uses these strategies to resocialize its faculty staff for the teaching roles they have to fulfill. Attention is paid in particular to the role of the tutor, because his position can be seen as "the backbone of problem-based learning" (Barrows, 1985). This is also recognized by the Maastricht Faculty of Medicine. Some evalua-

tion data are presented concerning faculty's use of these four strategies. On the basis of these data, suggestions are formulated to improve a more effective use of these strategies. We start with a description of the characteristics of the Maastricht tutor role and the way new faculty are trained for it. Next, attention will be paid to the faculty's policy on matters as resource support, feedback mechanisms, and tutors' participation in decision making with respect to the tutor role. Subsequently, data is presented pertaining to the way tutors perceive their role after having experienced it in practice. Finally, some alternatives will be given for a more extensive resocialization program.

THE MAASTRICHT TUTOR

The first four curriculum years of the Maastricht curriculum are subdivided into 6-week periods, called block periods, each of which has its own specific subject matter. For each block, students are allocated to discussion groups of 8 to 10 persons, and meet twice a week for 2-hour small-group tutorials. These meetings are chaired by one of the students in the group and are for the purposes of analysis of problems offered by the teaching staff, and for formulating relevant learning goals and exchanging newly found information. The process of analyzing and synthesizing information, as well as the responsibility for efficient collaboration, is primarily in the hands of the students. The role of the tutor is mainly determined by the conception that students should be self-directed and teacher-independent in their learning, and be cooperative learners among themselves.

This different approach to the student's role in the teaching-learning process inevitably affects the nature of a tutor's contributions. Instead of autonomously transmitting information and directing what students should learn and how, the tutor acts as a guide, facilitating the learning process and stimulating cooperative behavior in the small-group tutorials. The tutor must allow students to decide for themselves what information might be important for them to study, and what sources would be most suitable.

In Maastricht, the three main components of this guiding role are the following. First, the tutor should stimulate the students' learning processes. This can be done in two ways. In the first place, the tutor should see to it that students proceed methodically in analyzing and synthesizing information. During the

tention is concentrated on the climate in which learning has to take place. It should breathe an atmosphere of trust and nondefensiveness, in order to make trainees feel free in their behaviors and to prevent their feeling inhibited from thinking aloud or from becoming annoyed with feedback from fellow participants.

Tutor training has the following format. The workshop lasts 2 days, during which trainees are allocated to small groups of 8 to 10 persons. Each group is guided by a faculty member who is an experienced tutor. He is called a tutor trainer. During the training, participants work on the same problems as are offered to students. Sometimes problems from other Maastricht faculties are used—for example, from the Faculty of Law—in order to put the trainees into a freshman's position. Each participant fulfills in turn, and several times, the role of chairman and that of tutor of the discussion group. The fellow participants and the tutor trainer analyze the course of events after each exercise, give feedback, and make suggestions for alternatives. Videotapes, handouts, observation schemes, and a manual written especially for this workshop (Schmidt & Bouhuijs, 1980) provide the background information used during the training. Table 11.1 shows the overall design of the tutor training.

As the reader may have noticed, the format in Table 11.1 is

TABLE 11.1 Design of the Tutor-Training Workshop (Format 1983–1984)

	<i>Topic of training</i>	<i>Brief description</i>	<i>Instructional methods</i>
First day			
9.00	Introduction: goals, working method; getting acquainted; teaching experiences		
9.30	The role of a tutor in problem-based learning: three opinions	Three styles for a tutor to (non) facilitate group learning	Video tape discussion
10.15	Chairing a discussion	Functional leadership in a small-group tutorial	Simulations, exercises, (video) feedback

TABLE 11.1 Design of the Tutor-Training Workshop (Format 1983–1984) (Continued)

	<i>Topic of training</i>	<i>Brief description</i>	<i>Instructional methods</i>
12.30	(Lunch)		
13.30	Facilitating the learning process	Analysing different types of assignments Stimulating methodological learning Posing stimulating questions	Simulations, discussions, (video) feedback
17.00	Wrapup		
Second day			
9.00	Facilitating the learning process (continued)		
11.00	Facilitating the group process	Developmental processes in small groups Evaluating the interaction in a discussion group	Simulations, exercises, discussion
12.30	(Lunch)		
13.30	Facilitating the group process	Giving and receiving feedback Incidents in groups: how to handle them	Simulations, video tape, discussions, (video) feedback
16.30	Program evaluation		
17.00	Departure		

that of 1984. The tutor-training program has run for a number of years now, during which its format has undergone minor changes time and again in response to the evaluative remarks of participants. In 1980, the workshop was rather focused on videotapes that showed examples of satisfactorily functioning tutors, whereas in 1985 participants observed a small tutorial group in

action, guided student groups invited to participate in the tutor training, carry on discussion with them about their experiences with tutors in real-life situations, and have the opportunity to take the positions of both students and tutor within their own group of participants.

PROGRAM EVALUATION OF TUTOR TRAINING

Since 1979, the year in which the Faculty Development Program officially started, nearly 500 new faculty members have participated in the workshops. Initially, evaluation took place by means of open-ended questions, the outcomes of which indicated that nearly all participants were satisfied with the way they were introduced to problem-based learning and the tutor role.

Since April 1982, the workshop has been evaluated by means of a questionnaire consisting mainly of questions of the Likert type, which means that respondents can strongly disagree (1), disagree (2), be neutral (3), agree (4), or strongly agree (5) with respect to the content of each item. The questionnaire also contains three open-ended questions asking trainers to write down any strong or weak points in the program and to make suggestions for improvement. Participants rate several aspects of the tutor training on items of this questionnaire. The results of this program evaluation are used by the Faculty Development project for several purposes. It serves as a means of accountability toward the faculty, especially the educational committee, and the information acquired by the program evaluation is used by the tutor trainers as feedback about the effectiveness of the training. The results of the evaluation are also used to improve the design of the workshop.

The content of the questionnaire focuses on perceptions about design (for example, item 3: "There was enough variation during the workshop") and about the effectiveness of the workshop (for example, item 11: "The objective: Being master of the different phases of the strategy of 'The Seven Jumps' is realized"). The questionnaire is filled in by the participants at the end of the workshop. Table 11.2 gives an overview of the results of 12 workshops organized from April 1982 to June 1985, in which 18 groups of 8 to 10 participants took part. Data analysis is restricted to means and standard deviations.

As can be seen from Table 11.2, the training conditions are generally judged positively. The differences among the evaluation

TABLE 11.2 Means and Standard Deviations of Tutor Training Workshop, April 1982–June 1985 ($N = 161$)

	<i>N</i>	<i>X</i>	<i>SD</i>
Training conditions			
1. Pleasant working atmosphere	156	4.2	0.7
2. Enough room for participants' contributions	155	4.5	0.6
3. Enough variation during the workshop	155	3.9	0.8
4. Quality of tutor trainers	145	4.1	0.6
5. Sufficient time available for the training	144	3.6	0.9
6. Right level of training	156	3.0	0.3
7. Right pace of training	156	3.0	0.5
General impression of the tutor role			
8. The objective "Getting a clear idea of the tutor role" is realized	161	4.0	0.8
9. The objective "Becoming aware of the formal aspects of the Maastricht tutor role" is realized	158	3.5	0.9
Facilitating students' learning process			
10. The objective "Having knowledge of the different strategies a tutorial group can follow for the different formats of assignments" is realized	161	3.6	0.7
11. The objective "Being master of the different phases of the strategy of "The Seven Jump" is realized	161	3.7	0.8
12. The objective "Being master of the tutor skill: asking stimulating questions" is realized	158	3.5	0.9
Facilitating students' group process			
13. The following objectives "Being master of the tutor skills: Chairing a discussion Evaluating/Giving feedback Controlling the group-process" have been realized	146	3.6	0.9
	158	3.8	0.7
	160	3.7	0.8
Need for follow-up			
14. After some time, follow-up meetings are necessary	154	3.8	1.0
15. More tutor-training workshops are necessary	154	3.1	1.2

further professionalization. By way of a first step to fill this gap, members of the Faculty Development Project have since offered 1983 possibilities for follow-up sessions for more experienced as well as less experienced tutors.

Feedback Mechanisms

Feedback mechanisms "are supposed to function as means of identifying problems during implementation, in order to provide support for addressing such problems" (Zaltman et al., 1973, cited in Fullan & Pomfret, 1977). The medical faculty has developed two feedback instruments to assess tutors' performances. First, all tutors are judged by the students of their discussion group after each block period. Evaluation forms have been designed by members of the Project Group of Program Evaluation, who inform tutors of the results immediately after the block is over (Gijsselaers & Schmidt, 1985). Overall data concerning all tutors in a certain block are sent to the block coordinator. Second, during a block period, students and tutors hold meetings with the block coordinator in which they can inform the coordinator and each other about problems that have arisen during the small-group tutorial sessions. It is the block coordinator's responsibility to inform the curriculum committee of severe problems. The Curriculum Committee will then take action.

Tutor's Participation in Decision Making

The faculty's policy with respect to the performance and development of the tutor role is at present based on what Fullan and Pomfret (1977) describe as "the managerial perspective." The managerial perspective assumes that the resocialization of key actors in an educational innovation is crucial for a successful implementation of that innovation. The key actors, from this perspective, are not, however, seen as codecidors but as advisors. This means that they are to be retrained and provided with information about the way they have to perform their roles. Seen from this viewpoint, implementation is more a matter of getting key actors to adhere to previously identified characteristics (Fullan & Pomfret, 1977, p. 379). Such a top-down change model, however, often evokes serious resistance to these role changes when it does not take into account key actors' attitudes toward the innovation in general and their role performance in particular.

To gain insight into the way the Maastricht key actors—the tutors—experience their contributions to the decision-making process regarding the tutor role, Moust and de Grave, in 1984, interviewed 28 faculty members about their opinions in connection with the tutor role, problems encountered while tutoring, the tutor training, and need for follow-up. Faculty members were selected in a stratified way: One person was invited from each department that fulfilled tutor obligations in the Maastricht medical faculty. Fourteen faculty members who were trained before the start of the Faculty Development Program, participated in the interviews. Their opinions, however, did not differ significantly from those of the tutors who were trained after 1979. Table 11.4 shows the scientific background and experience of the tutors interviewed. Although nearly all tutors favored small-group learning, the interviews also revealed that most of these tutors had a lot of criticism of the way they had to perform the tutor role at that time.

Table 11.5 shows the various opinions obtained regarding the items about learning in small groups and the way tutors had to perform their role. The main problem the tutors put forward was how to bring in one's expertise during a small-group session. Only eight tutors said they had no difficulty in purposely not directing the discussion and not dispensing information. The others had serious problems with keeping their knowledge to themselves and with the indirect way they had to contribute to the students' learning process. Seven tutors reported that they regu-

TABLE 11.4 Scientific Background and Experience of Tutors Interviewed

<i>N</i>	<i>Scientific background</i>
12	Physicians
8	Biomedical scientists
7	Behavioral scientists
<i>Tutor experience</i>	
<i>n</i>	<i>Number of times functioned as a tutor</i>
8	< 4
8	4-6
6	7-9
6	> 9

TABLE 11.5 Tutor's Opinions of Small-Group Learning and the Tutor Role

<i>Item 1: Tutors' opinions on small-group learning as a component of problem-based learning</i>	
6	Very positive
13	Positive
9	Neutral
1	Very negative
<i>Item 2: Tutors' opinions on the tutor role in problem-based learning</i>	
2	Very positive
4	Positive
12	Neutral
8	Negative
1	Very negative

larly gave short lectures in the small-group tutorial sessions, or repeatedly corrected students' opinions with respect to the topic at hand. Nearly all tutors were dissatisfied with what one of them described as "that passive role, sitting back in my chair, following silently a discussion between students, only intervening when something is going wrong."

Some tutors commented on their role as follows:

It is the Maastricht ideology that prescribes that you not show off your expertise. That is very frustrating. While you know the answer, the students are trying to find it in a very inefficient way. That is a waste of time and energy.

You have to create a learning climate in which you can correct again and again nonsensical remarks without punishing students. That is very difficult. How can I dose my expertise in such a way that students can learn from what I know.

Most of the time I find it very difficult to keep my expertise on the subject to myself. I think I want to show off my knowledge too early. I find it hard to keep silent when the discussion moves in the wrong direction.

These tutors expressed a wish to be more perceptible. They wanted to be seen by students as able teachers and scientists.

CONCLUSIONS AND SOME ALTERNATIVES FOR A MORE EXTENSIVE RESOCIALIZATION PROGRAM

Innovations in medical education, such as problem-based learning, are characterized by their complexity and multidimensionality. To learn more about the process of innovation, there is a need for case studies, which focus on several aspects of the innovations.

In this paper we present such a case study of the activities undertaken by the Faculty of Medicine in Maastricht with respect to the resocialization of the key actors in the educational domain: the tutors. We examined the approach of the faculty concerning the availability, the use, and effectiveness of four strategies, mentioned by Fullan and Pomfret (1977), that could be helpful to promote tutors' resocialization.

The heart of the tutor role is the changed perspective on the teaching-learning process. Instead of autonomously transmitting information on the subject matter at hand and directing what and how students should learn, the Maastricht tutor has to act as a guide. By facilitating the learning process of the students and by stimulating cooperative learning in their small-group tutorials, students should become self-directed learners who feel responsible for their own learning.

We can summarize the results of the resocialization efforts as follows: The first strategy, in-service training, is used by the faculty, and there is also empirical evidence about the effectiveness of this strategy. Program-evaluation data indicate some influences of the training activities on behaviors and attitudes of the tutors. Concerning the second and third strategies used to influence the role behavior of the tutors, namely, resource support and frequent feedback to tutors about their teaching behaviors, we can conclude that the faculty do not use them as optimally as possible. The facilities to train for these new roles (for example by tutor guidance that involves tutors observing each other in the classroom and discussing their contributions to the learning process of the students immediately after the small-group tutorial sessions) are very poor. There is nearly no time or place or audiovisual equipment to support the professionalization of this teaching role. The faculty also do not use the comments that students have written on the program-evaluation sheets after each block period, for tenure purposes of faculty members.

Therefore, every tutor has the freedom to ignore the feedback students have regarding his or her performance as a tutor. With respect to the last strategy, the participation of tutors in the decision-making process regarding the way they are to fill in their teaching roles, we can conclude that the faculty handles more or less a top-down strategy. However, there are in informal discussions opposing views about what is the best way for the guiding role of the tutors to be performed. Furthermore, the requirements the faculty uses at this moment are very clear. The interviews with faculty members, however, give an indication of their feelings of misgivings with respect to the tutor role.

Nearly all tutors interviewed endorsed (and still do) the problem-based learning approach and the system of small-tutorial groups in broad outline. Many of them, however, harbor doubts about the way they are expected to teach students. They would like to have more control over students' learning. They feel a need to direct what materials students should consult and to transmit knowledge they have as professional experts. Their experiences as tutors seem to clash with the definition of the tutor role as it has been laid down by the faculty board. This tension may have severe consequences for future activities with respect to the problem-based curriculum as a whole and for students' learning in particular. If no structural measures are taken, tutors' motivations for teaching may decrease, as well as their participation during the innovation, planning, and execution of new elements in the curriculum. The faculty will then find itself confronted with a small group of enthusiastic "believers," who have to cope with the uncooperativeness of a large group of dispirited colleagues. Students will find themselves in the hopeless situation in which the way they are taught depends on the arbitrariness of their tutor. One moment they will be taught in a more or less traditional way and the other they will be expected to proceed according to the principles of problem-based learning. Underachievement of students could be a consequence.

To prevent an extreme situation like the one depicted above, the faculty could at short notice take the following steps. First, the tutor training should be extended. Follow-up sessions, after the tutors have gained some experience, are indispensable. In these reunions, tutors' concerns with respect to their role should take a central position. Special training sessions should be initiated that focus on the different "stages of concerns" and "the level of use of the new educational approach" (van den Berg & Vandenberghe, 1981). Second, the influence of the existing feedback

mechanisms should be extended. Students' ratings of tutors' performances should play a part in decision making with respect to such matters as promotion, tenure, or retention, provided that courses are available for the improvement of teaching skills. Hence, the present resource support system should be elaborated to stimulate tutors' professionalization with respect to these skills. Next, attention should be paid to the way faculty communicate and cooperate with each other. An organizational climate that stresses supporting, open, and warm relationships between its members, has, according to van den Berg & Vandenberghe (1981) a large positive impact on the improvement of teaching and learning conditions, as well as on the willingness to participate in the implementation of an educational innovation.

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