

## Faculty Development Program in Dokuz Eylul School of Medicine: In the process of curriculum change from traditional to PBL

Berna Musal\* Hakan Abacioglu<sup>§</sup> Oguz Dicle<sup>¶</sup> Elif Akalin\*\* Sülen Sarioglu<sup>§§</sup> Adil Esen<sup>¶¶</sup>

\*Professor, Chair of Medical Education Department, Dokuz Eylul School of Medicine, Izmir, Turkey

<sup>§</sup>Professor, Department of Microbiology, Dokuz Eylul School of Medicine, Izmir, Turkey

<sup>¶</sup>Professor, Department of Radiology, Vice Dean of Dokuz Eylul School of Medicine, Izmir, Turkey

\*\* Associate Professor, Department of Physical Therapy & Rehabilitation, Dokuz Eylul School of Medicine, Izmir, Turkey

<sup>§§</sup>Professor, Department of Pathology, Dokuz Eylul School of Medicine, Izmir, Turkey

<sup>¶¶</sup>Professor, Department of Urology, Dokuz Eylul School of Medicine, Izmir, Turkey

**Abstract: Introduction:** In Dokuz Eylul School of Medicine (DESM) a faculty development program is being carried out by the "Trainers' Training Committee". DESM made a fundamental change in its curriculum from traditional to Problem-based Learning (PBL) in 1997. This was the first implementation of a PBL curriculum in Turkey. Faculty development activities were initiated in the same year. This paper describes the faculty development activities with a special emphasis on PBL courses.

**Program description:** Between 1997-2000 27 four-day long PBL courses were held for 343 participants. The curriculum consisted of PBL philosophy, PBL steps, role of the tutor and students in PBL process, effective case design, assessment principles and group dynamics. PBL simulations enabled the participants to play the roles of both tutors and students.

**Process evaluation:** At the end of the program most of the participants stated that length of the program, content, training methods and the course organization was appropriate. The majority of the participants (89.5%) found the program very useful. PBL steps, PBL practices and PBL philosophy were found as the most useful sessions.

**Discussion:** These courses gave medical staff the opportunity to develop their understanding of PBL methodology and theory. PBL courses and continuous educational activities such as weekly tutor meetings are being held and new courses on advanced tutoring skills are being planned for the near future in DESM.

**Key words:** Faculty development program, PBL, medical education

In medical education there is a potential conflict between the desire to provide a broad educational experience and the necessity of ensuring a sound technical training for doctors. There is a growing consensus that it is necessary for medical teachers to be trained in educational methods as well as have sound technical training.<sup>1</sup> An effective faculty development program may well be the most essential component leading to the success of any educational innovation.<sup>2,3</sup> To address this challenge, medical schools such as McMaster, New Mexico, Maastricht, Southern Illinois, Harvard, Liverpool and Dalhousie which made curriculum revisions from traditional to student-centered PBL curriculum, have implemented

staff development activities.<sup>2,4,5,6,7</sup> Following these enterprising models, Dokuz Eylul School of Medicine (DESM) made a fundamental change in its curriculum from traditional to PBL in 1997-1998 academic year. DESM is the first medical school in Turkey to implement a PBL curriculum.

The roles of the teacher in PBL differ from that of traditional education. Faculty members take on a variety of roles in a PBL curriculum. These include tutor, trainer in skills training program, assessor, lecturer, case writer, and a member or coordinator of educational committees.<sup>8,9</sup>

The educational development of medical faculty members is an integral part of the curriculum reform.<sup>3</sup> The process of a curriculum reform intensifies the necessity for medical teachers to have a formal training in teaching methods and educational theory. Therefore, at the beginning of the curriculum reform experts from different countries were invited to DESM to provide seminars and workshops on curriculum development and analysis, PBL philosophy, the role of the teachers in PBL, educational methods and theories.

Dr. Steward P. Mennin from New Mexico contributed with lectures and PBL demonstrations to faculty members. Some faculty members visited Liverpool, Dundee and New Mexico to observe the implementation of the PBL program. One of the authors of the present paper (B.M) began and completed Master of Health Profession Education Program in Maastricht University. In April 1997, a faculty development program was organized as two courses; "Basic Training Skills Course", and "PBL Course". This paper aims to describe the organization and the results of DESM's faculty development program with a special emphasis on the PBL course.

Teachers first attended Basic Training Skills Course then participated in PBL course before they can fulfill a tutoring role. The Basic Training Skills Course covers active learning principles, creating positive learning climate, using interactive methods, facilitating small group activities, using audio-visual aids, demonstration and coaching, assessment principles and methods, group dynamics, and interactive lecture practices. Between 1997 and 2000, 406 teachers, 37% of who were from other medical faculties attended Basic Training Skills Course. Nearly 90% of the teachers at DESM attended this course. During the same period the total number of PBL course participants was 343, 84% of whom were from DESM. Each course lasted four days. There were 26 Basic Training Skills Course and 27 PBL Course cycles during this period. The implementation of these courses was carried out by the "Trainers' Training Committee".

The authors of the present paper who are from different departments having experience and knowledge about educational methods and theory are also members of this committee. The Trainers' Training Committee members have also provided continuous educational activities such as small group practices and discussion sessions during weekly tutor meetings and counseling services.

## Description of PBL Courses

Each four-day course addressed a group of 14-16 faculty members. At the beginning of the course program participants were asked to express their expectations and trainers reached a consensus between expectations and course objectives. The participants were asked about what they foresaw as benefits of each session. A pre-course questionnaire was given to participants to provide information on the course content and to determine the participants' knowledge level.

At the end of each day, participants and trainers evaluated the course content and process. PBL courses topics consisted of PBL philosophy, PBL steps, role of the tutor and student in PBL process, case design, assessment principles, PBL methods, and group dynamics. The trainers' experiences and observations as well as relevant literature on tutor training programs at universities were used to determine course content, educational methods and course schedule.<sup>2,4,5,6,7,10</sup>

The first two days of the program were intended to familiarize participants with PBL philosophy, group dynamics, principles of effective case design using interactive methods such as discussions, small group activities and video demonstrations. During the remaining two days, participants were divided into two groups for simulated tutorials. During the morning session, members of one group took turns tutoring while the other group had student role. In the afternoon, the groups switched roles. Two different cases were used for PBL simulations. Participants received their tutor copies regarding the case for tutoring role, the day before the practice. Trainers determined tutoring practice time of each trainee. Each session was divided to 78 shifts among the trainees for the tutoring role. Trainers observing the tutorial session from outside the PBL group gave counseling and feedback to each trainee before and after his/her tutoring role.

After each session, trainees who had two different roles as tutor and students shared their feelings and observations on the process. Trainers gave feedback to group and evaluated the process regarding educational method and group dynamics. In the morning session of the last day, participants observed actual tutorial of first, second or third-year students. In the afternoon they carried out second session of each case as explained before. At the end of the last day, participants gave oral and written feedback on the benefits as well as the positive and negative aspects of the course. They evaluated benefits of each session

**Table 1**  
**Opinions of the participants about program**

Sessions	Opinions at the beginning of the program regarding foreseen benefits (%)*			Opinions at the end of the program regarding benefits (%)**		
	Useless	Useful	Very useful	Useless	Useful	Very useful
PBL philosophy	12.2	21.5	66.2	0.6	18.4	81.0
PBL steps	5.9	15.9	78.2	0.6	14.5	84.9
Group dynamics	4.3	12.9	82.8	0.0	24.8	75.2
Case design	5.0	14.4	80.5	1.3	31.0	67.7
Assessment	1.9	10.6	87.5	5.2	40.4	54.4
PBL practices	3.4	11.9	84.7	0.3	19.1	80.6
General contribution				0.0	9.4	90.6

\*n : 320

\*\*n: 310

using three categories: useless, useful and very useful. To improve their confidence and respect confidentially participants were told to omit their names from the questionnaire. The main constraint of the present paper is its study design which does not allow statistical comparisons of the initial and final opinions of participants.

Participants used a 5 point scale (min: 1 point, max:5 point) to describe their contentment levels regarding training materials, communication with trainers, attainment of the course objectives, fulfillment of individual expectations and course organization.

considered as the most useful sessions of the program while PBL philosophy was viewed as the least useful session. Table 1 also presents feedback from the participants regarding benefits of each session of the course program. Most of the participants (90.6%) found the program very useful. PBL steps, PBL practices and PBL philosophy were found to be the most useful sessions. Assessment principles were found as the least useful session.

Table 2 presents the participants' ratings of training materials, communication with trainers, attainment of the objectives, fulfillment of individual expectations and course organization. The ratings

**Table 2**  
**Means of the scores given by the participants to some course matter**

	Means
Attainment of the objectives	4.61±0.53
Fulfillment of individual expectations	4.42±0.62
Training materials	4.56±0.59
Communication with trainers	4.84±0.47
Course organization	4.81±0.46

### Process Evaluation

Table 1 displays the participants' opinions regarding foreseen benefits of each session of the course program as stated at the beginning of the course. Assessment principles and PBL practices were con-

given by participants averaged between 4.42 and 4.84 of a five point scale. Participants gave the highest ratings to communication with trainers and course organization. Eighty-four percent of the participants stated that length of the course program was appropriate. Twelve percent of the participants felt it was too short and 4% felt it was too long.

## Discussion

The development of the staff is one of the most important challenges in the process of curriculum reform. Structured courses as described in this paper can give the medical staff the opportunity to develop in educational methods and theory. In DESM, many participants' view on medical education had become student-centered with Basic Training Skills Courses.<sup>11</sup> PBL courses led the participants to gain knowledge on PBL philosophy, PBL principles and steps, case design, some clues on group dynamics and assessment principles in PBL.

In the introductory course of the University of Liverpool, the majority of participants reported that they had come to learn more about PBL, the role of tutor in PBL or progress on the new curriculum.<sup>6</sup> Although at the beginning of the PBL Course program of DESM the topic of PBL philosophy was rated by the participants as the least useful session, at the end of the program PBL steps, philosophy and practices were found as the most useful sessions. It is likely that at the beginning of the course, participants assumed they already gained sufficient knowledge through different workshops and seminars during the curriculum development process, but discussing and working PBL made them realize their lack of knowledge.

The topic of assessment principles and methods in PBL was rated as the least useful part of the course. Assessment principles, student and tutor rating scales were introduced in this session. Most of the participants expressed their needs for a longer discussion of this topic due to difficulties in understanding and interpretation of some items of rating scales. Taking participants' feedback into consideration Evaluation Committee arranged additional seminars on assessment principles and methods.

In PBL practice sessions, participants role-played both as students and tutors during the last two days of the course. This was similar to the role-playing experiences using in McMaster University's orientation workshop.<sup>5</sup> It is difficult to develop standard approaches to resolve problems arising in the functioning of a group. There are however some basic principles that can be derived from the actions of a tutor encountering with problems in a tutorial.<sup>5</sup> These principles were discussed and shared with participants after each PBL practice session.

This program also assisted faculty members in preparing themselves for a variety of educational roles such as tutoring and case writing.

Evaluation of faculty development program is difficult, because there are many extraneous variables. This makes it difficult to attribute changes to the program.<sup>10</sup> In DESM, tutors are being evaluated during their tutoring period by observations and students' ratings. Since PBL course is a prerequisite for all tutors, no data is available on faculty's performance prior to PBL course.

At the end of the course most of the participants stated that they had a sound understanding of PBL rationale and tutor's and student's role in PBL. The felt however they needed more practice to master some of the required tutoring skills.

A comprehensive faculty development program includes professional development, organizational development, educational scholarship and leadership.<sup>12</sup> In DESM, PBL courses and continuous education activities such as weekly tutor meetings, observations and counseling service are being carried out and new courses on leadership development and advanced tutoring skills are being planned for the near future.

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### **Correspondence**

Berna Musal  
Dokuz Eylül School of Medicine  
Medical Education Department  
35340, Inciralti, Izmir, Turkey.  
e-mail: [bmusal@deu.edu.tr](mailto:bmusal@deu.edu.tr)