

A Study of PhD Students' Perspectives Concerning Pedagogic Training in Doctoral Program

Farnaz Zahedi Avval¹,
Fahimeh Pourhaji², Masoud
Youssefi^{2,3}, Fatemeh
Pourhaji⁴, Seyed Isaac
Hashemy^{5,6}

¹Department of
Biochemistry, School of
Medicine, Mashhad
University of Medical
Sciences, Mashhad, Iran.

²Educational Development
Office, School of Medicine,
Mashhad University of
Medical Science, Mashhad,
Iran.

³Department of
Microbiology and Virology,
School of Medicine,
Mashhad University of
Medical Science, Mashhad,
Iran.

⁴Faculty of Health, Mashhad
University of Medical
Sciences, Mashhad, Iran

⁵Addiction Research Center
, Faculty of Medicine,
Mashhad University of
Medical Sciences, Mashhad,
Iran.

⁶Department of
Biochemistry, School of
Medicine, Pardis daneshgah,
Azadi square,
Mashhad,
Iran.

Tell: 0511-8002366
Email:
hashemy@mums.ac.ir

Background: Many PhD students will continue their academic career as university lecturers; therefore they should be familiar with presentation skills. Most universities around the world offer postgraduate pedagogic courses in their PhD curriculums, while such courses are not included in most Iranian PhD programs. Thus at the Education Development Office of Mashhad Medical School, we offered the pedagogic courses for PhD students and thereafter the viewpoints of these students about such courses in the PhD training programs were assessed.

Methods: Thirty two PhD students attended the "pedagogic skills" course held at School of Medicine of Mashhad University of Medical Sciences in 2012. The students were divided in three smaller groups for workshops presented by experts in educational development office. At the end of each workshop, students' points of view were evaluated using a questionnaire prepared based on Likert rating scale.

Results: The majority of respondents (96.87%) have evaluated the importance of pedagogic workshops as high to very high levels. The relationship of the pedagogic training and their future career was assessed as high to very high by 93.75% ($p < 0.01$). Also, according to most PhD students (93.75%), the addition of such courses to PhD program was highly beneficial ($p < 0.01$). Students (68.75%) stated that the topics discussed in this pedagogic training were new to them and they agreed to participate in further pedagogic trainings in future (87.5%).

Conclusion: The pedagogic courses should be considered of high importance, and accordingly should be included in PhD training curriculums of the universities. This strategy will result in training more successful lecturers and will help to promote education at the universities which is an ultimate goal of the educational systems.

Keywords: Education, Pedagogic Courses, PhD Students

بررسی دیدگاه دانشجویان دکتری تخصصی درباره لزوم آموزش روش تدریس در این دوره

مقدمه: یکی از اهداف دوره دکتری تخصصی (PhD) تربیت مدرسین دانشگاهها است، لذا دانشجویان مقطع PhD باید با فن ارائه مطالب آشنا باشند. بسیاری از دانشگاههای دنیا، دوره های روش تدریس را جهت دانشجویان PhD ارائه می کنند، در حالی که چنین برنامه هایی در دانشگاههای ما وجود ندارد. لذا گروه توسعه آموزش دانشکده پزشکی مشهد دوره فشرده آموزش روش تدریس را برای دانشجویان PhD ارائه کرد و پس از پایان دوره نظر این دانشجویان در مورد برگزاری چنین دوره هایی را جویا شد.

روش کار: پژوهش حاضر تحلیلی بوده و جامعه مورد پژوهش ۳۲ نفر از دانشجویان PhD دانشکده پزشکی مشهد در سال ۱۳۹۱ بودند. سه کارگاه روش تدریس ارائه شد و سپس، دیدگاه دانشجویان در مورد ارائه دوره روش تدریس در قالب پرسشنامه مورد ارزیابی قرار گرفت. روایی پرسشنامه توسط افراد صاحب نظر و پایایی آن با انجام Test-Retest مطالعه مقدماتی و محاسبه ضریب آلفای کرانباخ تایید گردید. سپس داده ها تجزیه و تحلیل گردید.

یافته ها: ۹۶.۸۷ درصد دانشجویان گذراندن کارگاه "روش تدریس" را به میزان زیاد یا بسیار زیاد ضروری می دانند و ۹۳.۷۵ درصد آنان ارتباط این کارگاه را با آینده حرفه ای خود زیاد یا بسیار زیاد ارزیابی نمودند ($p < 0.01$). همچنین، ۹۳.۷۵ درصد دانشجویان افزودن اینگونه دوره ها را به برنامه آموزشی دوران PhD در حد زیاد یا بسیار زیاد مفید می دانستند ($p < 0.01$).

نتیجه گیری: براساس این مطالعه توصیه می شود ویژگیهای اثربخش کارگاه آموزش روش تدریس از دیدگاه دانشجویان PhD مورد توجه قرار گرفته و تدوین برنامه های جامع روش تدریس جهت این دانشجویان در دستور کار دانشگاهها قرار گیرد تا هدف نهایی که ارتقا سطح آموزش در دانشگاهها است تسهیل گردد.

واژگان کلیدی: آموزش، روش تدریس، دانشجویان دکتری

درباره نظره طلاب تخصصی فی لزوم تعلیم أسلوب التدریس فی التخصص.

المقدمه: إحدى أهداف الدورة التخصصية (phd) هو تربية مدرسين للجامعات. لذا يجب ان يكون طالب مقطع الـ phd ملم بـفن القاء الدروس و هناك الكثير من الجامعات في العالم تعطى دورات كيفية التدريس لطلاب الـ phd. و لم يكن هناك في جامعاتنا هكذا دورات. من اجل هذا عمدت مجموعة توسعة التعليم في كلية الطب في جامعه مشهد للعلوم الطبية على اجراء دورات مكثفه في هذا المجال وتم اخذ آراء الطلاب في النرياه.

أسلوب العمل: إن هذه الدراسة تحليلية و عدد المشتركين هو ۳۲ شخص من طلاب الـ phd في كلية الطب في جامعه مشهد للعلوم الطبية. تم اجراء ثلاث مؤتمرات اسلوب التعليم و بعد ذلك تم تقصي آراء الطلاب و تم استخدام استمارات لهذا الامر قد تم تأييدها من قبل المتخصصين المعنيين و أيضاً باستخدام Retest-Test و محاسبه ضريب ألفا كرناخ.

النتائج: ۹۶.۸۷٪ من الطلاب اعتبرن اجراء هذه المؤتمرات ضرورية او حتى مافوقه الضرورية و ۹۳.۷۵٪ منهم اعتبرن لها ارتباط كبير و اكبر من كبير في مستقبلهم العلمي و أيضاً ۹۳.۷۵٪ اعتبرن اضافه هذه البرامج في البرامج التعليمية في دوره (phd) مفيده جداً ($p < 0.01$).

الاستنتاج: نوصي بناً على ما حصل من هذه الدراسة تدوين برامج ترمي الى تعليم اساليب التدريس من قبل القيمين في المجالات حتى يتم الحصول على الفايده النرياه و هو رفع المستوى التعليمي في الجامعة.

الكلمات الرئيسية: التعليم ، أسلوب التدریس ، طلاب الدكتوراه.

پی ایچ ڈی کے طلباء کو تدریسی روشوں کی تعلیم کی ضرورت.

بیک گراؤنڈ: پی ایچ ڈی یعنی ڈاکٹریٹ کے کورس کا مقصد یونیورسٹیوں کے لئے مدرسین کی ٹریننگ کرنا ہے۔ دنیا میں بہت سی یونیورسٹیاں پی ایچ ڈی کے طلباء کو تدریسی روشوں کی تعلیم دیتی ہیں لیکن ایران کی یونیورسٹیوں میں اس قسم کا کوئی پروگرام نہیں ہے جس کے پیش نظر مشہد میڈیکل کالج نے پی ایچ ڈی کے طلباء کے لئے تدریس کا کریش کورس رکھا اور اس کورس کے بعد طلباء سے اس کے بارے میں ان کی نظر جاننے کی کوشش کی۔

روش: دوپہار گیارہ میں یہ تحقیق مشہد میڈیکل کالج میں انجام دی گئی۔ اس تحقیق میں پی ایچ ڈی کے بتیس طلباء نے شرکت کی۔ تحقیق کے لئے طلباء کی نظر جاننے کی غرض سے انہیں سوالنامے ڈئے گئے۔ ماہرین نے سوالناموں کی توثیق کی تھی۔

نتیجے: اسٹھ فیصد طلباء تدریسی روشوں کی ورک شاپ کو نہایت ضروری قرار دیا جبکہ باسٹھ فیصد طلباء نے کہا کہ اس طرح کی ورک شاپ انہیں پیشہ ورانہ طریقے سے مزید ماہر بنانے میں مدد دے گی۔ اسٹھ فیصد طلباء نے اس طرح کی کلاسوں کو نہایت مفید قرار دیا ہے۔ سفارش: اس تحقیق کی اساس پر یہ سفارش کی جاتی ہے کہ ڈاکٹریٹ کے طلباء نے تدریسی روشوں کی تعلیم کی ورک شاپ کو نہایت مفید قرار دیا ہے لہذا تدریسی سرگرمیوں کو بہتر بنانے کے لئے ان طلباء کو ان روشوں سے آشنا کرنا نہایت ضروری لگتا ہے کیونکہ یونیورسٹیوں کا بنیادی هدف اچھی تعلیم دینا ہے۔

کلیدی الفاظ: پی ایچ ڈی، تدریسی روشیں، یونیورسٹیاں، تعلیم۔

INTRODUCTION

One of the goals of PhD training is to educate and provide the next generation of university lecturers. Many PhD students will continue their academic career as lecturers, though; they receive no or at least little training about their future job as lecturers. It seems logical that these students should learn presentation skills during their education. In addition to their role as teachers, PhD students are required to participate in several seminars or congresses and in many cases they should present their research findings in international scientific meetings. Therefore, they should be familiar with presentation skills. PhD students at many universities all around the world, pass pedagogic courses during their PhD training, while there are no such programs in our PhD education curricula.

Teaching is a two-way process, during which learner and educator influence on each other (1). Effective teaching relies on all teacher behaviors that lead to better learning and educational purposes (2). Training students in different aspects of science, research, and culture is a very important issue and planning for an appropriate performance of this task is one of the most crucial missions of universities. One of the major problems of education in universities is lack of effective teaching criteria. Providing education guidance and discussions on how and why these patterns can be effective teaching methods, can be offered in pedagogic workshops or courses.

In the teaching process, teaching and learning are interdependent. Thus, the effectiveness of teaching is simultaneously related to student and educator factors. Indeed, with regard to the views of students and teachers on effective teaching, better learning can be achieved (3). Teachers and education professionals have stated many components are involved in education including learner characteristics, lecturer, education environment, media, educational planning and mode of assessment (4-5). Studies have indicated that medical students' view of the characteristics of an effective teacher includes: having a good relationship with students, being considered as a positive role model, encouraging and organizing the educational activities (3).

Many hours of interaction between lecturers and students can be changed into an impressive environment for both. This requires teachers to learn specific rules of teaching skills that are obtained from theory and research. Meanwhile, in addition to PhD students, university instructors also need to update their knowledge on how to teach, because new ideas in the field of medical education are continuously presented by pedagogy scientists. In fact, with advancements in science, and emerging new educational theories, teaching and learning styles are evolving. Therefore the professional activities of any teacher should be updated in accordance with such advances (6-7). Such changes in teaching methods in various fields of medical sciences have been suggested by several studies (8-9). With regard to the relationship between the quality of teaching and learning outcomes for students, improving educational skills has been incorporated into faculty

development and accreditation programs (10). This study aimed to determine the views of PhD students about the need for pedagogic skills training. To analyze the need for "teaching to teach" programs, Educational Development Office (EDO) of Medical School at Mashhad University of Medical Sciences, offered pedagogic skills workshops for PhD students. After this educational intervention, the students' viewpoints about requirement of such programs in their educational curriculum were evaluated using a questionnaire.

METHODS

The study was conducted at Mashhad University of Medical Sciences in 2012. Thirty two PhD students participated in the study and were selected purposively, of which 19 were male and 13 were female. The students were from different departments including anatomy, physiology, pharmacology, biophysics, microbiology, and immunology.

The students were divided into three groups. Workshops of "pedagogic skills" were held in the format of lecture, teamwork, group discussions, practical demo, and role modeling in three consecutive periods. In the beginning of each workshop students were provided with the principles of general pedagogy, thereafter they were divided into small groups (2-3 students in each group) and they were asked to prepare a short presentation. Next, each group representative presented a short lecture and the audience gave their comments or feedbacks. Finally at the end of each workshop, students' points of views were evaluated using a questionnaire prepared based on Likert rating scale. Questionnaire's validity was reviewed and confirmed by experts at the Educational Development Office of Mashhad Medical School. The questions were designed to assess doctoral students' opinions about the importance, necessity, novelty and possible professional applications of such workshops or courses for PhD students.

The questionnaire did not include any name or title of the responder to prevent any possible bias. The questionnaires were distributed at the end of each workshop and the participants were asked to fulfill the questionnaire. Thereafter the students' viewpoints about each variable were defined as percentages. The data was then demonstrated in a table as frequency distributions of variables.

RESULTS

The results are shown in Table 1. As indicated in the table, the majority of respondents (96.87%) have evaluated the importance of pedagogic workshop as high to very high levels. Most respondents assessed the relationship of pedagogic skills with their future career up to high to very high (93.75%) ($p < 0.01$). Participants generally believed that the pedagogic training is beneficial for them and should be officially incorporated into the PhD curriculum (93.75%) ($p < 0.01$). According to the majority of the students (68.75%), the topics discussed in this pedagogic training were new, and they received such trainings for the first time. They agreed to attend further advanced courses on pedagogic trainings in future (87.5%).

Table 1. The perspectives of PhD students about pedagogy workshops and courses.

	Very high n (%)	High n (%)	Moderate n (%)	Low n (%)	Very low
Importance of pedagogy for doctoral students	22 (68.75)	9 (28.12)	1 (3.12)	-	-
Educational needs	7 (21.87)	19 (59.37)	6 (18.75)	-	-
Relation to their professional future	20 (62.5)	10 (31.25)	2 (6.25)	-	-
Agree with the addition of pedagogy course to PhD curricula	22 (68.75)	8 (25)	2 (6.25)	-	-
Novelty of teaching workshops	4 (12.5)	18 (56.25)	9 (28.12)	1 (3.12)	-
Agree with attending workshops on teaching methods in the future	22 (68.75)	6 (18.75)	3 (9.37)	1 (3.12)	-

DISCUSSION

This study was designed and conducted to determine the view of doctoral students about the need for pedagogic skills training in their educational program. Although these students generally had teaching experience at universities, the majority of them stated that pedagogic skills trainings were new for them, and they had not received such trainings elsewhere in their official education. Therefore such pedagogic trainings play an important role in enhancing their teaching skills.

During the workshop, PhD students learned the characteristics of effective teaching, teaching and learning process, and some pedagogic skills. These skills included how to prepare a pedagogic-approved powerpoint presentation, how to prevent common mistakes in powerpoint presentations, how to attract students to the topic, how to communicate effectively with the students (use of eye contact, body language, gestures, tone, pause, and also use of rhetorical questions or story telling method), how to manage the class, and how to face with unexpected situations like low attention students.

These are the skills that distinguish a prospering teacher from unsuccessful colleagues. The students stated that the topics discussed in the pedagogic training were new for them and they received such trainings for the first time. The fact that most of these students had teaching experience reveals that many university lecturers start their career without previous knowledge about how to teach. In this study doctoral students believed that pedagogic trainings should be considered as one of their educational needs. Such trainings are mandatory for doctoral students in many prestigious universities. Education in universities should be designed based on the professional needs of learners. Due to their future career as university lecturers such trainings are in line with a professional-based education. In this study, most students expressed that for more effectiveness, such trainings should constantly be held and they should regularly receive such trainings. 68.8% of them agreed to participate complementary workshops in the future.

Some studies has highlighted the need for teaching methods courses for medical residents due to their teaching roles and responsibilities (11-12). Current residency programs also lack the education of effective teaching strategies,

supervision and leading undergraduate students; while residents have the responsibility of clinical training for medical students. These residents often take the responsibility of teaching and educating without formal training and without adequate resources to develop their tuition skills. This may lead to serious educational imperfection in clinical training (13). In addition to teaching skills, the pedagogic programs should also enhance leading, managing, relationship skills as well as teamwork capacities in a learning environment. In such positive educational atmosphere, students develop their creative thinking, which leads to a successful and effective learning outcomes (14).

Pedagogy training for PhD students improves their teaching skills, which results in higher self confidence to perform their academic career as lecturers. This ultimately leads to improved learning outcomes and academic performance of their undergraduate students. Improved teaching skills can lead to a creative environment for educators and learners and will effectively lead to better educational achievements (15). As a beneficial policy in the universities, the PhD students' role as educators should be considered of high importance and they should receive constantly planned training courses on pedagogic skills. Indeed in many universities pedagogic training has been considered as a "must learn" for doctoral students and such trainings have been incorporated into their official curriculum.

The drawback of the study was the limited number of responders. The greater number of participants and preferably from other universities might strengthen the investigation, however due to the limited number of PhD students we were unable to include greater number of participants. For this reason we suggest performing such studies in other universities with more doctoral students involved in the investigation. Due to the teaching responsibilities of the medical residents, it is recommendable to conduct such studies with medical residents as well.

To summarize, according to the results of this study, we recommend that the universities plan for comprehensive programs to offer such courses for their doctoral students. Due to its importance and applications pedagogic skills education should be added to the PhD curricula. This strategy promotes education in universities which is the ultimate goal of the educational system.

REFERENCES

1. Safavi A. General methods and techniques of teaching. Tehran: Moaser; 2008. [In Persian].
2. Fariba Asgari HMM. Comparing characteristics of an effective teaching from teachers' and students' point of view. Guilan University of Medical Sciences strides in development of medical education 2010; 1(7): 26-33. [In Persian].
3. Salehi S, Hassan Zahrayi R, Ghazavi Z, Amini P, Ziaei S. The characteristics of effective clinical teachers as perceived by nursing faculty and students. Iranian journal of medical education 2004; 4(1): 37-44. [In Persian].
4. Amini AVS, Mohammadi B. Survey of effective factors on learning motivation of clinical students and suggesting the appropriate methods for reinforcement the learning motivation from the viewpoints of nursing and midwifery faculty. Iranian journal of medical education 2002; 2: 1-10. [In Persian].
5. Hiner RNS. Generalizability of multidimensional student ratings of university instruction across courses and teaching. Res Higher Educ 2001; 42(4): 377.
6. Kowalczyk N. Review of teaching methods and critical thinking skills. Radiol Technol 2011; 83(2): 120-32.
7. Boet S, Sharma S, Goldman J, Reeves S. An overview of methods article de synthese: La recherche en éducation médicale: Un aperçu des méthodes. Can J Anesth 2012; 59: 159-70. [In French].
8. Ironside PM. Creating a research base for nursing education: An interpretive review of conventional, critical, feminist, postmodern, and phenomenologic pedagogies. Adv Nurs Sci 2001; 23(3): 72.
9. Hendricson WD. Changes in educational methodologies in predoctoral dental education: Finding the perfect intersection. J Dent Educ 2012; 76(1): 118-41.
10. Stern DT, Williams BC, Gill A, Gruppen LD, Woolliscroft JO, Grum CM. Is there a relationship between attending physicians' and residents' teaching skills and students' examination scores? Acad Med 2000; 75(11): 1144.
10. Wipf JE, Orlander JD, Anderson JJ. The effect of a teaching skills course on interns' and students' evaluations of their resident--teachers. Acad Med 1999; 74(8): 938.
11. Dunnington GL, DaRosa D. A prospective randomized trial of a residents-as-teachers training program. Acad Med 1998; 73(6): 696.
12. Edwards JC, Kissling GE, Brannan JR, Plauche W, Marier RL. Study of teaching residents how to teach. Acad Med 1988; 63(8): 603.
13. Martin C. Review perspective: To what end communication? Developing a conceptual framework for communication in medical education. Acad Med 2011; 86(12):1566-70.
14. Al Odhayani A, Ratnapalan S. Teaching communication skills. Can Fam Phys 2011; 57(10): 1216-8.