

Medical Faculty Members' Teaching Competencies and Factors Affecting It

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Background: Faculty members are the main sources of universities. Determination and promotion of their competencies lead to the overall performance promotion of universities. Faculty members' teaching competencies have the greatest role in the improvement of education, research and universities social services quality. Therefore, in order to investigate this issue more carefully, this study aimed to determine the level of teaching competency in medical faculty members and factors affecting it.

Methods: This applied research is a descriptive cross-sectional study that was done by stratified probability sampling with 160 medical faculty members as subjects (32 basic science faculty members, 128 clinical science faculty members) in Mashhad University of Medical Sciences, solar year 1390. Selected items from Alabama University teaching competency self assessment instrument was used as the questionnaire. The data were analyzed with the software SPSS 11.0.

Results: The median score of teaching competency was 92.0 with the minimum score of 39.0 and maximum score of 112.0; there was no significant difference between basic and clinical faculty members' competencies score ($p=0/05$). The most powerful competency was the classroom management, and students performance evaluation had the lowest score. There was a significant difference between teaching competency scores depending on academic degree ($p=0/009$), adult education competencies ($p=0/02$), and marriage ($p=0/03$).

Conclusions: Because of the key role of faculty members in educational system, with the revision of educational plans and policies; we can promote the teaching competencies of teachers.

Keywords: Competency, Teaching Competency, Faculty Member

توانمندیهای تدریس اعضای هیات علمی دانشکده پزشکی و عوامل موثر بر آن

زمینه و هدف: با توجه به اینکه اعضای هیات علمی، یکی از اصلی ترین عناصر دانشگاهها به شمار می روند؛ تعیین و ارتقای توانمندی های آنان موجب ارتقای عملکرد کلی دانشگاه می شود. توانمندی های تدریس اعضای هیات علمی بزرگترین نقش را در بهبود کیفیت آموزش، پژوهش و خدمات اجتماعی دانشگاهها ایفا می کنند. لذا به منظور بررسی دقیقتر این موضوع پژوهش حاضر با هدف تعیین توانمندیهای تدریس اعضای هیات علمی دانشکده پزشکی و عوامل موثر بر آن انجام شد.

روش: این پژوهش کاربردی یک مطالعه توصیفی مقطعی می باشد که در دانشکده پزشکی یکی از دانشگاههای علوم پزشکی با نمونه گیری احتمالی طبقه ای انجام پذیرفت. ۱۶۰ نفر (۳۲ نفر علوم پایه و ۱۲۸ نفر بالینی) از اعضای هیات علمی در مطالعه وارد شدند. در این پژوهش از پرسشنامه ای که منتخبی از عبارات پرسشنامه خودسنجی توانمندی تدریس دانشگاه آلاباما بود، استفاده شد. داده ها با نرم افزار spss 11 مورد تجزیه تحلیل قرار گرفت.

یافته ها: میانگین نمره توانمندیهای تدریس اعضای هیات علمی ۹۲/۰ و حداکثر نمره ۱۱۲/۰ و حداقل نمره ۳۹/۰ بود. تفاوت معنی داری بین نمره توانمندیهای تدریس در دو گروه علوم پایه و بالینی مشاهده نشد ($p=0/05$). مدیریت کلاس درس، با بیشترین نمره توانمندی تدریس غالب بود و سنجش عملکرد دانشجویان کمترین نمره را به خود اختصاص داد. تفاوت معنی داری بین نمره توانمندی تدریس دو گروه بر حسب درجه علمی ($p=0/009$)، آموزش توانمندیهای تدریس ($p=0/02$) و تاهل ($p=0/03$) وجود داشت.

نتیجه گیری: به دلیل نقش کلیدی اعضای هیات علمی در سیستم آموزش با تجدید نظر در برنامه ها و سیاستهای آموزشی می توان به ارتقای توانمندیهای مدرسان پرداخت.

واژه های کلیدی: توانمندی، توانمندی تدریس، عضو هیات علمی

الکلیات التدریسیة لأعضاء الریثیة العلییة لكلیة الطب والعوامل المؤثرة علیها

الخلفية والموقف: بما ان أعضاء الریثیة العلییة تعتبر من العناصر الجامعیة الریثیة فان تنامي وارتقاء قدراتهم تساهم في ارتفاع سطح الجامعة بشكل عام. ان القدرات التدریسیة لأعضاء الریثیة العلییة تلعب الدور الأكبر في ارتفاع كیفیت التعلیم والتحفیق والخدمات الاجتماعیة للجامعات. لهذا ولدراسة الموضوع بشكل اوف. فان هذا البحث تم لتعیین القدرات التعلیمیة والعوامل المؤثرة علیها لأعضاء هیئة التعلیم لكلیة الطب.

الاسلوب: هذا التحقیق العلی هو دراسة توصیفیة مقطعیة قد جرت باخذ عینات طبقاتیة احتمالیة فی احدى کلیات الطب لاهدی جامعات العلوم الطبیة. ففی هذا البحث تم الاستعانة ب ۱۶۰ شخص (۳۲ شخص من العلوم الاساسیة و ۱۲۸ شخص من العلوم السریریة) من أعضاء الریثیة العلییة. كما انه تم استخدام استمارة ذات عبارات منتخبة من استمارة التقییم الذاتي لجامعة الاباما من هیئت العبارات. وقد تم تحلیل البیانات باستخدام برنامج spss 11

النتائج: متوسط درجات القدرات العلییة لأعضاء الریثیة العلییة ۹۲.۰ وكان الحد الاقصى للدرجات ۱۱۲.۰ والحد الاذنی من الدرجات ۳۹.۰. ولم یلاحظ فروق ذات دلالة احصائیة بین درجات كفاءة التدریس فی كل من العلوم الاساسیة والسریریة ($p=0,05$) ادارة الفصل الدراسي كان له اعلى درجة فی قدرات التدریس و هیئت ان العطف الاقل نصیباً من الدرجات كان لقیاس الاداء الطلابی. الاختلافات هامه بین المجموعتین من هیئت القدرة التدریسیة بحسب الدرجة ($p=0,009$) تعلیم ممرات التدریس ($p=0,02$) والعائل الاجتماعیة ($p=0,03$)

الاستنتاج: وبسبب الدور الریثی لأعضاء هیئة التدریس فی النظام التعلیمی. فانه من الممكن تجدید النظر فی البرامج والسیاسات التعلیمیة التیمة لتحسین وارتقاء ممرات التدریس.

الكلمات الریثیة: القدرات، القدرات التدریسیة، عضو الریثیة العلییة.

ایکڈمیک کونسل کے اراکین کی توانائیاں اور ان پر مختلف اسباب کے اثرات

بیک گراؤنڈ: کسی بھی علمی مرکز کی ایکڈمیک کونسل کے اراکین اس مرکز کی ریڈ کی ہڈی ہوتے ہیں لہذا ان کی علمی توانائیوں کا تعین اور اس میں پیشرفت لانے سے پوری یونیورسٹی کی علمی سطح میں ترقی آتی ہے۔ یونیورسٹیوں کی ایکڈمیک کونسلوں کی علمی اور تدریسی توانائیوں میں اضافہ کرنے سے تعلیم اچھی ہوتی ہے تحقیقاتی میں بھی پیشرفت آتی ہے اور یونیورسٹیوں میں عمدہ سہولتیں میسر آتی ہیں۔ لہذا اس مسئلے کا باریک بینی سے جائزہ لینے کے لئے یہ تحقیق انجام دی ہے اور یہ دیکھنے کی کوشش کی ہے کہ وہ کونسے عوامل ہیں جو ایکڈمیک کونسلوں پر اثر انداز ہوتے ہیں۔

روش: اس تحقیق میں جو کہ ایک توصیفی اور عملی کام ہے ایک میڈیکل یونیورسٹی میں ایک سو ساٹھ افراد کو جو کہ ایکڈمیک کونسل کے رکن تھے اس تحقیق میں شریک کیا گیا۔ تحقیق میں شامل افراد کو ایک سوالنامہ دیا گیا جس میں سلف اسسٹمنٹ اور اپنی توانائیوں کو استعمال کرنے کے بارے میں سوالات تھے۔ ان سوالوں کا تجزیہ ایس پی ایس ایس گیارہ سافت ویئر سے کیا گیا۔ یہاں جو فارم استعمال کیا گیا وہ امریکہ کی آلا بامایونیورسٹی کے فارم کے ماڈل پر بنایا گیا تھا۔

نتائج: ایکڈمیک کونسلوں کے اراکین کی تدریسی توانائیوں کے بارے میں اوسط نمبر بانوے فیصد تھے جبکہ زیادہ سے زیادہ نمبر ایک سو بارہ تھے۔ کم سے کم نمبر انتالیس فیصد تھے۔ تدریسی امور میں کلاس پر کنٹرول کافی نمایاں تھا اس کو سب سے زیادہ نمبر ملے تھے۔

سفاارش: ایکڈمیک کونسلوں کے کلیدی کردار کے پیش نظر نصابوں میں تبدیلیاں لاکر ان کونسلوں کی علمی اور تدریسی صلاحیتوں میں اضافہ کیا جاسکتا ہے۔

کلیدی الفاظ: توانائیوں، تدریسی، علمی۔

INTRODUCTION

Higher education institutions, particularly universities that train manpower for the health and medical education influence the economic, social, cultural, political sectors of the community (1,2). So we can say that, one of the components of successful communities, is the success of universities; therefore changing and improving the structures, systems, processes and methods of the classical education and research can be useful (3). According to evidences, faculty members are the greatest resources of universities and trainers of manpower in health, treatment and medical education organization (4,5). Improving their teaching competency leads to promote the overall performance of the universities and students. Faculty members' teaching abilities play an important role in improving the quality of education, research, and social services of universities. Faculty members at universities have three main functions: teaching, doing research, and management. Special competencies and capabilities are required to perform these tasks (6). Competence means using technical and communication skills, knowledge, reasoning, emotions and values in the environment wisely and constantly (8, 7). Teaching competencies are the set of knowledge, attitudes, and skills with which the teacher can help students' development physically, mentally, emotionally, socially and spiritually. Determination of teaching abilities in educational institutions are based on the type of their attitude to human and educational system (10, 9).

American Medical Education Committee knows the process of achieving the educational performance capabilities as the part of accreditation (11). In Iran in recent years, the necessity of competency has been felt (12).

Experiences show that; despite the fact that graduates have enough scientific and theoretical bases, these individuals don't have well performances and skills in workplace and graduates' inabilities have been seen in different fields such as: Deployment of theoretical issues in practice, problem solving, performing Psycho-motor skills. Checking the capabilities of teachers and factors associated with these capabilities; may give the solution of this problem (Why graduates have difficulty in applying the theoretical issues?) to the educational managers (-7).

Teaching is a conscious activity that is done based on specific objectives and conditions with regard to student learning to make changes. In fact, effective teaching should encourage students to dynamic learning. In the past; it was thought that if a person knows something, it can be transmitted to others. It means that, having something to teach was the teaching condition. But today; many educational experts believe that although scientific expertise or master teachers are required, but just being dominant on the subject for teaching is not enough; other conditions such as psychological knowledge and teaching abilities also are also needed (13, 14).

A study was done in 2010 by Hamdan, et al. in Malaysia on teaching capabilities of instructors. The aim of this study was to determine the abilities of teachers in teaching skills, effectiveness, professionalism characteristics, and class control. Finally, this study emphasized that the instructors

have to increase their abilities in class control and management, and educational study emphasized that the instructors have to increase their abilities in class control and management, and educational programs planning (15). We can say that among many ways of assessments, the best way to assess the teaching competency may be self assessment. Because, whenever the teacher himself assesses teaching competencies, he will accept mistakes better (-16). Regarding the concerns of educational managers in quality education and increasing teachers' abilities; and the problem of recognizing poor educational effectiveness, academic failure, and low academic performance by teachers themselves ; and according to the sensitive role of faculty members in educational context of the university; this research aimed to determine the level of teaching competencies and its influencing factors.

METHODS

This applied research is a descriptive cross-sectional study that was done by stratified probability sampling with 160 medical faculty members as subjects (32 basic science faculty members, 128 clinical science faculty members) in Mashhad University of Medical Sciences, solar year 1390.

Teaching ability assessment was done through teaching competency self assessment inventory. This inventory was a selection of Alabama's teaching competency self assessment instrument which was translated, edited, and validated with more than 10 specialists in education and research issue. Also pilot study was done with 30 subjects except research participants. Its validity and reliability was evaluated with Cronbach's alpha coefficient. Its reliability coefficient was 0.86, and its internal validity of factors was 0.7. This questionnaire is a compressed form of the competencies that was used in Alabama's university instrument. The scale includes demographic characteristics and 29 items and each item is presented in four incremental levels numbered from 1 to 4, when the person is dissatisfied with his performance and should do more to improve their performance (1=unsatisfactory), when the function can be modified to reach an acceptable level (2=needs improvement), when the Performance in some cases require more work but overall acceptable (3=area of strength), when the person is completely satisfied with his performance (4=demonstrates excellence).

RESULTS

From 160 faculty members of the study, there were 32 of basic science (20.0%) and 128 of clinical science (80.0%). 34 persons (22.0%) were female and others male. Most of the faculty members (35 people) were under the age group of 40-30 years (48.2 %). 146 persons (91.2%) were married and 14 persons (8.8 %) were single. 154 persons (96.2%) were satisfied with their jobs and others were unsatisfied. 159 persons (99.4 %) were interested in their jobs, and 1 (0.6%) was not interested. 93 of the faculty members (58.0%) participated in this study were assistant professors. 125 of them (78.0%) were working 31-40 hours a week, 80 of them (50.0%) were employed formally. 110 persons (69.2%) had last degree of Doctorate and Board. 144 persons (90.0%) had graduated from State University. 76 of

them (49.4 %) had 10 years or under 10 years of experience. In response to the teaching capabilities training option 67 persons (42.0%) signed "yes" and others "no".

According to the level of medical faculty members' teaching competency; descriptive statistics median, minimum and maximum were used. According to Table (1) teaching competencies were described in eight areas. Results showed that the median score of teaching competency was 92.0 with the minimum of 39.0 and maximum of 112.0. With the comparing of scores using the Mann-Whitney test there was no significant difference between the competencies of the two groups ($p = 0.05$). Totally, in any of the areas of teaching competencies in both basic science and clinical science, no significant differences were observed. Although in some areas of teaching competencies; scores of basic sciences were more than clinical sciences.

The most powerful competency is one with the highest score. Comparing the percentage of competencies scores with Friedman nonparametric test showed that teaching competency scores in medical faculty members from highest to lowest are: classroom management, presentation of organized instruction, communication, performance of professional responsibilities, positive learning climate, preparation for instruction, professional development and leadership, and assessment of student performance. Then; the most powerful competency was classroom management.

According to the research side findings, regarding the "Comparison of teaching competencies of faculty members based on personal characteristics" using non-parametric tests; Mann-Whitney and Kruskal – Wallis, significant differences between the scores of two groups

based on scientific degree ($0.009 = p$), education of teaching abilities ($0.02 = p$), and marriage ($0.03 = p$) were found.

DISCUSSION

In this study the determination of the faculty members' teaching competencies, were done from their own assessment. Classroom management was the most dominant teaching competency and other teaching abilities, which had lower grades, should be upgraded. According to the results of the descriptive study by Hamdan, et al. (2010) in Malaysia, teachers must promote their teaching competencies in classroom management and educational planning (15).

In a descriptive study in 1387 called "master features of a powerful competent teacher from the perspective of the Martyr Sadoughi Yazd University of Medical Sciences students" the results showed that the ability to communicate, teaching experience and general knowledge in teaching, criticism, creativity and good appearance, given the essential concepts, presented in a logical order, and teaching materials in plain language are the most important features of a powerful teacher (17,18,19). According to this study "communication" was an important teaching competency from the students' perspective. In the research of Jules and, Kutnick titled "students' views about the good professor" also this competency had priority (20). In the present study the ability to communicate is in third place. And it is better to strengthen and improve this competency and other competencies. Holy Qur'an in Surah Rahman verse 33 says: "A group of jinns and humans, if you go out from the sides of the heavens and the earth, going out, but you

Table 1. Description of subject's teaching competency					
Teaching competencies	Basic sciences	Clinic sciences	Total	Man-withney	
	Median(min-max)	Median(min-max)	Median(min-max)	P Value	z
Preparation for instruction	9.5(6-12)	9(4-12)	9(4-12)	0.06	1.9
Presentation of organized instruction	20(8-24)	20(7-24)	20(7-24)	0.21	1.3
Assessment of student performance	11(8-16)	11(5-16)	11(5-16)	0.06	1.8
Classroom management	7(3-8)	7(2-8)	7(2-8)	0.8	0.3
Positive learning climate	13.5(7-16)	13(5-16)	13(5-16)	0.06	1.9
Communication	7(3-8)	7(2-8)	7(2-8)	0.9	0.14
Professional development and leadership	9(5-12)	8(4-12)	9(4-12)	0.2	1.4
Performance of professional responsibilities	17.5(5-20)	16(5-20)	17(5-20)	0.4	0.8
Total	95(48-111)	91(39-112)	92(39-112)	0.05	2

cannot go out without having the power", Imam Ali (peace be upon him) believes that the way of getting this power is science (21). Obviously, improving the education system is in getting competencies.

According to social cognitive theory of Albert Bandura, individuals' beliefs or judgments of their capabilities have an impact on duties and responsibilities performance. Human learning and performance is affected by cognitive trends, emotional, and emotions, expectations, beliefs and values. The human is a creature that affects his life events. Man is influenced by psychological factors and actively affects his work motivation and behavior. Bandura says, "people are quite aware that what do the tasks and skills to perform their duties, but most of the times are not successful in implementing the appropriate skills" (22,23). We concluded that self assessment is a very suitable method. It can be said that such a research is a great help for teachers understanding their capabilities. Thus strengthening the abilities of faculty members due to their key role in the education system is noteworthy (24). As this study was done to determine the competencies of faculty members, therefore, appropriate educational

programs to promote the abilities of faculty members is recommended. Limitations of this study were setting appointment with faculty members due to their busy schedule, pointing of some faculty members to impracticality of such studies and uselessness of the results. This is the problem that educational planners and managers should think about it. Using only one tool (self-assessment questionnaire) to assess the teaching competencies, this defect may be due to a small jurisdiction of researcher is negligible.

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REFERENCES

1. Azizi N. Challenges and failures assessments of university education in humanities, based on the students' reflection. *Journal of higher education* 2008; 1(2): 1-29. [Persian].
2. Ul Hassan M, Zafar Yaqub M. Strategic role of human resource development as boundary spanner. *European journal of economics- finance and administrative sciences* [serial on the internet] 2010;19; Available at: <http://www.eurojournals.com>.
3. Akhavan Sarraf AR, Nilforoosh Zadeh M. Dimensions of globalization of higher education. *Growth technology magazine* 2008; 17: 56-62. [Persian].
4. Hassan M, Zafar Yaqub M. Strategic role of human resource development as boundary spanner. *European journal of economics-finance and administrative sciences* 2010; 19: 146-54.
5. Ghofrany M B. Mission of higher education in the New World and the Islamic Iran. *Regional Seminar on Higher Education in the next century*. Tehran: 1997: 27-29 February. [Persian].
6. Karimi Moonaghi H, Mohammad Hoseinzadeh M, Binaghi T, Akbari Lake M. A practical guide to effective clinical teaching. 1st ed. Mashhad: Mashhad University of Medical Sciences; 2011: 100-25 [Persian].
7. Parsa-Yekta Z. Comments about the clinical competencies of nursing students and their achievement level. *Nursing research* 2006; 1(3): 14-7. [Persian].
8. Shabani H. Educational skills (teaching methods and techniques). Tehran: Samt publication: 2005. [Persian].
9. Maleki H. Teacher professional competence. 2nd ed. Tehran: Madrese; 2001: 75-12 [Persian].
10. Marashi SM. In search of competence and educational roles of teachers. *Proceedings of the 4th conference on teacher education*. 1st volume. Tehran; Tarbiyat publication: 1995. [Persian].
11. Potts JR. Graduate medical education. *University of Texas, health science center at Houston. GME Committee* 2007; 1(31): 14-30.
12. Memarian R, Salsali M, Vanaki Z, Ahmadi F, Hajizadeh E. Effective clinical competence achievement factors in nursing. *Journal of Zanjan University of Medical Sciences* 2006; 14(56): 40-9. [Persian].
13. Karimi-Moonaghi H, Dabbaghi F, Oskouie SF, Vehvilainen-Julkunen K, Binaghi T. Teaching style in clinical nursing education: A qualitative study of Iranian nursing teachers' experiences. *Nurse education in practice* 2010; 10: 8-12. [Persian].
14. Asefzadeh S, Asefzadeh M. The most important abilities of the professors on the faculty of medicine, Qazvin University of medical sciences. *Green journal. Journal of research center of Shiraz University of medical sciences*. 2006; Volume 6; 12-13. [Persian].
15. Hamdan AR, Ghafar MN, Ting LHL. Teaching competency testing among Malaysian school teachers. *Eur J Soc Sci* 2010; 12 (4): 610-17.
16. Seif AA. Measurement, assessment and educational evaluation. 4th ed. Tehran: Dooran; 2004: 200-10 [Persian].
17. Mazloomi-Mahmoodabad SS, Rahaie Z, Ehrampoosh MH. Features of a powerful master from the Yazd Sadoughi Martyr medical school students' perspective. *Hormozgan medical journal* 2010; 14(3): 226-33. [Persian].
18. Salehi A, Imaniye MH, Nejabat M, Saber M. Green journal. *Journal of research center of Shiraz University of medical sciences*. 2009; Volume 6: 3-5. [Persian].
19. Amini M, Khosravi Khorashad A, Sima H R, Shakeri M T, Movaffaghi Z, The Effect of Teaching Patient-Physician Communication on the Competency of Undergraduate Medical Students. *Future Of Medical Education Journal* 2011;1(1): 8-10.
20. Kutnick P, Jules V. Pupils' perceptions of good a good teacher. *Br J Educ Pschol* 1993; 63: 400-13.
21. Mu'tazili IAA. Nahj-al-balaghe description. Layeghi Gh. (translator). Tehran: Neyestan; 2009: 319. [Persian].
22. Bandura A. Cultivate self-efficacy for personal and organizational effectiveness. In: Locke EA. (editor). *Handbook of principles of organization behavior*. Oxford, UK: Blackwell; 2005: 22-100.
23. Shariatmadari A. principles and philosophy of education. 20th ed. Amir Kabir publication: 2005. [Persian].
24. Tafazoli M, Hosseini S, Aghamohammadian Sharbaf H, Makarem A, Ebrahimzadeh S. A Study of relationship between emotional intelligence and clinical performance in training field in Midwifery students of Nursing and Midwifery School. *Future of Medical Education Journal* 2012; 2(2): 14-16.