

Process of Scholarship of Teaching Has Been Successful in Mashhad University of Medical Sciences

Background: Medical Education has dramatically evolved in the past decades, and scholarly behaviors have gained popularity. In this study, scholarship-of-teaching activities from Mashhad University of Medical Sciences (MUMS) were evaluated for the first time in this country.

Methods: Data related to all applicants who were nominated for promotion to associate and full professor positions were studied retrospectively from 2009 to 2011. All scores had been approved by MUMS scholarship committee.

Results: In total, 85 teaching faculty members received scholarship score including 77% male (77%). Majority was from medical (61%) and dentistry (27%) faculties and mainly promoted to associate professor position (78%). Mean age of the promoted faculty members from faculty of Pharmacy was significantly lower. Most scores were obtained from preparing and implementation of L&CP (41%) and implementation of new educational methods (30%). The time elapsed from starting the scholarship evaluation program was significantly correlated with total score ($r=0.245$, Sig. 0.025) and implementation of new educational methods.

Conclusions: Setting of a minimum mandatory score for scholarly teaching has been effective and should be stressed in future.

Keywords: Scholarly teaching, Evaluation, Faculty member

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إن الأبحاث العلمية في مجال التعليم كانت موفقه في جامعه مشهد للعلوم الطبيه

التمهيد و الهدف: نرى تطوراً ملحوظاً في الآونة الاخيره في مجال التعليم الطبي و هناك رغبه نحو اساليب الابحاث العلميه في مجال التعليم. لقد تم تحليل الفعاليات في مجال الابحاث العلميه التي اجريت في مجال التعليم في هذه الدراره

الأسلوب: ان المطبات كانت ترتبط به كل الاساتذه الذين تقدموا بطلبات ارتقاء من سنه 2009 الى 2011. لقد تم تأييد العلامات من قبل الجريه العلميه في الجامعه .

النتائج: 85 شخص به الرتبته العلميه يستملون على 77% من الرجال و الغالبية من كليه الطب (81%) و كليه طب الاسنان 27% حصلوا على درجه ارتقاء (78%). كان هناك نتيجه بارزه من حيث تدرج مستوى سن الذين حصلوا على درجه ارتقاء في كليه الصيدله. اعلى درجه امتياز كانت ناتجه عن اسلوب التحضير و اجرا الدروس التعليميه (84%) و اجرا اساليب جديده في مجال التعليم 30%. كان هناك ارتباط واضح بين المده الزمينه من بدياه اجرا هذا التحليل مع نسبتته كسب مجموع الامتيازات (41%) = /0.245 Sig. = /0.025

الاستنتاج: كان هناك تأثير واضح لوضع (حداقل العلامه) في تقييم الابحاث العلميه في مجال التعليم و يجب ان نلاحظ هذه النقطه في المستقبل.

الكلمات الرئيسية: البحث العلمى في مجال التعليم، تقييم، اعضاء الرتبته العلميه

مشهد يونيورسٹی آف میڈیکل سائنسس میں طب کے تعلیمی نصاب کے بارے میں تحقیقات

بیک گراؤنڈ: گذشتہ دہائیوں میں طبی تعلیم میں کافی تبدیلیاں اور پیشرفت آتی ہے اور طبی نصابوں کے بارے میں تحقیقات کو بڑی مقبولیت حاصل ہوتی ہے۔ اس تحقیق میں مشهد یونیورسٹی آف میڈیکل سائنسس میں پہلی مرتبہ طبی نصاب کے بارے میں انجام دی جانے والی تحقیقات کا جائزہ لیا گیا ہے۔

روش: پروفیسر شپ اور اسوسی ایٹ پروفیسر شپ کی اسامیوں پر ترقی دئے جانے والے افراد کو جو ڈیٹا دوہزار نو سے دو ہزار گیارہ تک دیا گیا تھا اس کا جائزہ مشهد یونیورسٹی آف میڈیکل سائنسس کے اساتذہ نے لیا تھا اور اسکے علمی و سائنسی معیار کی تائید کی تھی۔

نتیجے: اکیڈمیک کونسل کے اٹھاسی اراکین میں ستر فیصد مرد تھے جن میں اکثریت کا تعلق طبی فیکلٹی اور ڈنٹل فیکلٹی سے تھا۔ ڈنٹل فیکلٹی سے ستائیس فیصد افراد کا تعلق تھا۔ ان افراد میں سے زیادہ تر کو اسوسی ایٹ پروفیسر شپ کی ترقی دی گئی تھی۔ فارماسیوٹیکلز فیکلٹی کے افراد کی اوسط عمر قدرے کم تھی۔ سب سے زیادہ نمبر نصاب کی تیاری اور تعلیم کی نئی روشوں پر عمل درآمد کرنے کے ضمن میں ملے ہیں۔

سفارشات: نصاب کے بارے میں تحقیقات کے لئے کم از کم ضروری نمرلانا لازمی قرار دینا مفید واقع ہوا ہے اور اس پر تاکید کی جانی چاہیے۔

کلیدی الفاظ: نصابی تحقیقات، اساتذہ، ترقی، پروفیسر، اسوسی ایٹ پروفیسر۔

فرآیند دانش پژوهی آموزشی در دانشگاه علوم پزشکی مشهد موفق بوده است

زمینه و هدف: آموزش پزشکی به طور چشمگیری در دهه های گذشته تکامل یافته و رفتارهای دانش پژوهی محبوبیت یافته اند. در این مطالعه، فعالیت های دانش پژوهی آموزشی در دانشگاه علوم پزشکی مشهد، برای اولین بار در این کشور مورد بررسی قرار گرفت.

روش: داده های مربوط به تمام متقاضیانی که در جهت ارتقاء به سمت دانشیاری و استاد معرفی شده بودند به صورت گذشته نگر، از 2009 به 2011 مورد مطالعه قرار گرفت. تمام نمرات توسط کمیته دانش پژوهی آموزشی دانشگاه تایید شدند

یافته ها: در مجموع، 85 نفر از اعضای هیئت علمی شامل 77% مرد که اکثریت آنها از دانشکده پزشکی (81%) و دندانپزشکی (27%) بودند و عمدتاً به مرتبه دانشیاری (78%) ارتقا یافتند. متوسط سن ارتقا یافتگان دانشکده داروسازی به صورت معنی داری پایینتر بود. بیشترین امتیاز تهبیه و اجرای طرح درس و دوره (41%) و اجرای روش های جدید آموزشی (30%) به دست آمده بود. زمان سپری شده از شروع برنامه ارزیابی به صورت معنی داری با امتیاز کل کسب شده ($r=0.245$, $Sig.=0.025$) و اجرای روش های جدید آموزشی در ارتباط است.

نتیجه گیری: تعیین حداقل نمره اجباری برای دانش پژوهی آموزشی موثر بوده است و باید در آینده مورد تاکید قرار گیرد.

واژه های کلیدی: دانش پژوهی آموزشی، ارزیابی، عضو هیات علمی

Medical Education has dramatically evolved in the past decades. In this transition, education has been influenced by research and services over time in a bilateral process. Many attempts have been made to articulate and conceptualize this dynamism for a greater good of education. Scholarship behaviors have been at the heart of advancing education for many years (1).

To evaluate scholarship projects, six standards should be met including clear goals, adequate preparation, appropriate methods, significant results, effective presentation, and reflective critique (2). These standards have made the educational research and the medical education provision more objective (3-5). Medical schools and institutions, however, have made their own interpretations of scholarship and expanded it (6-13).

The recent revision of "Promotion Regulation" of the faculty teaching members published by the Ministry of Health and Medical Education in 2009 has set a minimum mandatory scores from scholarship of teaching (14). This was subsequently omitted and added again within the past two years. As many faculty members were not familiar with this subject, some adjustments including equivalents were presented to facilitate achieving these minimum scores. Curriculum development, planning and executing course plans and lesson plans, production of educational multimedia and e-learning are among these amendments (15).

In this study, we have evaluated the result of the scholarship of teaching activities presented to the scholarship board committee of Mashhad University of Medical Sciences (MUMS) in the past 3 years. As far as we know, this is the first attempts of this kind in this country.

Data related to all applicants who were nominated for promotion to associate and full professor positions were studied retrospectively from 2009 to 2011. All scores had been approved by MUMS scholarship committee. Permission to conduct this study was obtained from Education Development Centre, Mashad University of Medical Sciences.

Age, gender, faculty, position, time elapsed from starting scholarship evaluation process were studied.

Teaching scholarship determinants were classified into eight subcategories including (1) developing national educational standards and curricula, (2) preparing and implementation of lesson & course plans (L&CP), (3) revision and implementation of L&CP, (4) implementation of new educational methods, (5) Designing and implementation of new student assessment methods, (6) Designing and implementation of educational plans, (7) revision and implementation of educational plans, and (8) other items. Total scholarship score was calculated by adding these eight scores.

Further details related to the variables making each subcategory were not studied due to the extent of existing variables as well as low frequency of each variable.

SPSS version 11.5 was used for statistical process.

RESULTS

Socio-demographic

In total, 85 teaching faculty members were received scholarship score in this period including 65 male (77%). Among them, 64 (78%) were promoted to associate professor position (3 missing). Majority of subjects were from Medical (52, 61%) and Dentistry (23, 27%) faculties.

The mean (SD, Min-Max) age was 45.8 (6.9, 34-64) years, the time elapsed from starting scholarship process was 19.0 (10.5, 8-35) months, and majority were male (77%).

Age, gender, time elapsed from starting the program, related faculties of members and total and subcategories scores are summarized in table 1.

The mean age of the promoted faculty members from faculty of Pharmacy 40.6 (36.8-44.4) was significantly lower than faculties Medicine and Dentistry 47.2 (45.3-49.1) and 44.2 (41.0-47.5) respectively ($P=0.038$) (Figure 1).

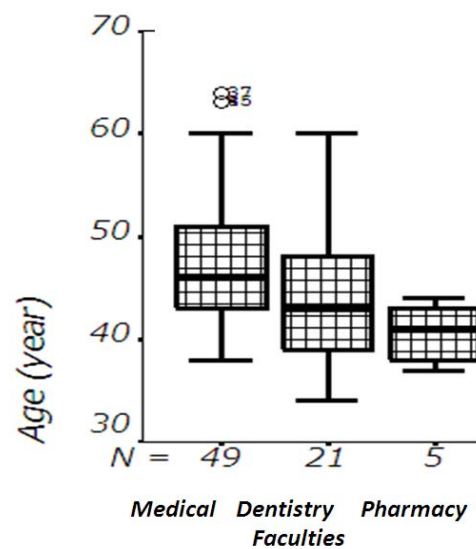


Figure 1. The Mean Age of the Promoted Faculty Members among Different Faculties

Distribution of Scholarship Score

Figure 2 illustrates that most scores were obtained from preparing and implementation of L&CP (41%) as well as implementation of new educational methods (30%) but not from their revisions or other subcategories.

Associate vs. Full Professor Positions

Members promoted to full professors were significantly older than those promoted to associate professors ($P<0.001$). Gender, time elapsed from starting the scholarship program, faculty of members were not different among associate and full position awarded (Table 1).

In addition, the total obtained score as well as scores in each subcategory was not significantly different in associate and full professor positions (Table 1).

Correlations

Age was correlated with implementation of new educational methods. This variable, in turn, was associated with time elapsed from starting the scholarship evaluation program as

Table 1. Socio-demographic Characteristics and Obtained Scores of Faculty Members Promoted to Associate and Full Professor Positions (n=85 including 3 missing).

Promoted to	Associate Position (n=64)	Full Position (n=18)	Total (n=85)
Age (Mean (SD, Min-Max) (year))	43.9 (5.6, 34-60)	53.4 (7.0, 43-64)	45.77(6.94,34-64)
Male percentage (%)	50 (78)	14 (78)	65 (76.5)
Time elapsed	19.8 (11.0, 8-35)	17.1 (9.2, 8-35)	19.0 (10.2, 8-35)
Faculties (%)			
Medicine	42 (84)	8 (16)	52 (61.2)
Dentistry	16 (73)	6 (27)	23 (27.1)
Pharmacy	3 (50)	3 (50)	6 (7.1)
Nursing & Midwifery	1 (100)	0 (0)	1 (1.2)
Health	2 (100)	0 (0)	2 (2.4)
Paramedical Sciences	0 (0)	1 (100)	1 (1.2)
Scores (Mean (95% CI))			
Developing national education standards and curricula	0.08 (-0.05-0.21)	0.09 (-0.10-0.28)	0.08 (0.48, 0-4)
Preparing and implementation of lesson and course plans	1.53 (1.37-1.68)	1.44 (1.11-1.77)	1.48 (0.66,0-2)
Revision and implementation of lesson and course plans	0.04 (-0.01-0.10)	0.09 (-0.05-0.22)	0.07 (0.29, 0-2)
Designing and implementation of educational programs	0.13 (0.06- 0.21)	0.19 (-0.03- 0.41)	0.15 (0.33, 0-2)
Revision and implementation of educational programs	0.01 (-0.01 -0.02)	-	0.01 (0.08, 0-1)
Implementation of new educational methods	1.19 (0.88-1.49)	0.88 (0.32-1.43)	1.07(1.17, 0-4)
Designing and implementation of new students assessment methods	0.55 (0.39-0.70)	0.44 (0.19-0.70)	0.52 (0.57, 0-3)
Others	0.13 (0.06-0.20)	0.16 (-0.02-0.33)	0.13 (0.28, 0-2)
Total score	3.69 (3.35-4.03)	3.30 (2.66-3.94)	3.51 (1.38, 1-8)

well as other items. Age was also positively correlated with total score ($r=0.242$, $n=79$, sig. 0.03).

The time elapsed from starting the scholarship evaluation program was significantly correlated with total score ($r=0.245$, $n=84$, sig. 0.025).

The obtained total score was negatively correlated with age ($r=-0.24$, Sig. 0.04, $n=79$) and the time elapsed from starting this process ($r=-0.24$, Sig. 0.04, $n=83$). The total scholarship score was positively correlated with majority of evaluation subcategories including developing national educational standards and curricula ($r=0.38$, Sig. < 0.000 , $n=84$), preparing and implementation of L&CP ($r=0.33$, sig. 0.002, $n=84$), revision and implementation of L&CP ($r=0.25$, Sig. 0.025, $n=84$), implementation of new educational methods ($r=0.59$, Sig. < 0.001 , $n=84$), and Designing and implementation of new student assessment methods ($r=0.36$, Sig. 0.001, $n=84$); while it was not associated with Designing and implementation of educational plans, review and implementation of educational plans as well as other items.

In addition, a significant correlations was found between the developing national standards and revision of L&CP ($r=0.31$, $n=84$, sig. 0.004) and designing educational programs ($r=0.23$, $n=84$, sig. 0.035).

A negative correlation was found between "provision and implementation of L&CP" and "revisions and implementation of L&CP" ($r=-0.272$, $n=84$, sig. 0.012).

DISCUSSION

This is the first evaluation of Scholarship of Teaching from Islamic Republic of Iran which was introduced in 2008 and implemented from 2009 to 2011.

This study found that faculty members obtained most of their scholarship scores from preparing and implementation of L&CP as well as implementation of new educational methods. Therefore, other subcategories including revision of educational plans should be stressed in future.

Scores of older promoted members was associated with total score and implementation of new educational methods. Younger faculty members should be persuaded to

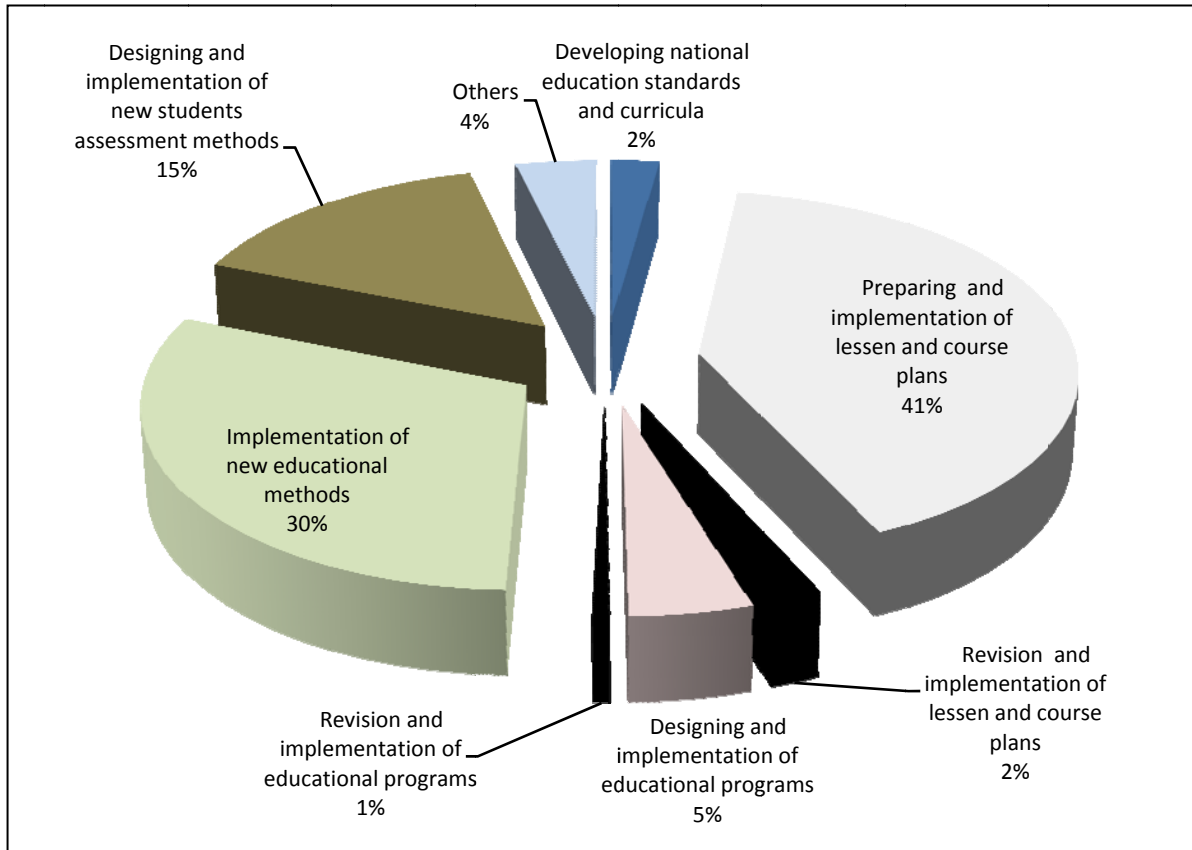


Figure 2. Distribution of Obtained Scholarship Scores from Evaluation Subcategories.

work on this item. Obtaining scholarship of teaching could be time dependent.

In this study, preparing and revision of L&CP were negatively correlated. Therefore, faculty members who prepare L&CP are different from whom revising them.

We also found that members who develop national educational standards tend to design, implement and revise educational plans.

Association time elapsed from starting this program with implementation of new educational methods and other scholarship items as well as total score should be celebrated. As establishment of this program in the past 40 months has pushed faculty members towards implementing new methods and increased diversity of items obtaining better scores.

While the major responsibilities of faculty teaching members have not changed significantly over the past decades, the concept of measuring these activities and their promotion have evolved. Promotion of the faculty members should cover all aspects of their activities. In addition, "scholarship" of every aspect of a faculty work should be

taken into the heart of activities (1). Setting of a minimum mandatory score for scholarly teaching has been effective and should be stressed in future.

Still, there are many issues left to be explored. Scholarship has provided new opportunities for advancing educational process.

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REFERENCES

1. Rao A, Rich VL. Service and scholarship: an evolutionary examination of nursing administration. *Nurs Adm Q.* 2012 Apr;36(2):107-14.
2. Glassick CE, Huber MT, Maeroff GI. *Scholarship Assessed: Evaluation of the Professionate.* The Carnegie Foundation for the Advancement of Teaching. 1st ed. San Francisco: Jossey-Bass; 1997.
3. Nuthalapaty FS, Casey PM, Cullimore AJ, Dugoff L, Abbott JF, Chuang AW, et al. To the point: a primer on medical education research. *Am J Obstet Gynecol.* 2011 Dec 27.
4. Purcell N, Lloyd-Jones G. Standards for medical educators. *Med Educ.* 2003 Feb;37(2):149-54.
5. Fincher RM, Simpson DE, Mennin SP, Rosenfeld GC, Rothman A, McGrew MC, et al. Scholarship in teaching: an imperative for the 21st century. *Acad Med.* 2000 Sep;75(9):887-94.
6. Glassick CE. Boyer's expanded definitions of scholarship, the standards for assessing scholarship, and the elusiveness of the scholarship of teaching. *Acad Med.* 2000 Sep;75(9):877-80.
7. Glassick CE. Reconsidering scholarship. *J Public Health Manag Pract.* 2000 Jan;6(1):4-9.
8. Beattie DS. Expanding the view of scholarship: introduction. *Acad Med.* 2000 Sep;75(9):871-6.
9. Ramani S. Twelve tips to promote excellence in medical teaching. *Med Teach.* 2006 Feb;28(1):19-23.
10. Glanville I, Houde S. The scholarship of teaching: implications for nursing faculty. *J Prof Nurs.* 2004 Jan-Feb;20(1):7-14.
11. Becker KL, Dang D, Jordan E, Kub J, Welch A, Smith CA, et al. An evaluation framework for faculty practice. *Nurs Outlook.* 2007 Jan-Feb;55(1):44-54.
12. Smesny AL, Williams JS, Brazeau GA, Weber RJ, Matthews HW, Das SK. Barriers to scholarship in dentistry, medicine, nursing, and pharmacy practice faculty. *Am J Pharm Educ.* 2007 Oct 15;71(5):91.
13. Chandran L, Gusic M, Baldwin C, Turner T, Zenni E, Lane JL, et al. Evaluating the performance of medical educators: a novel analysis tool to demonstrate the quality and impact of educational activities. *Acad Med.* 2009 Jan;84(1):58-66.
14. Promotion Regulation of Faculty; Medical Universities, Higher Education and Research Institutes. Islamic Republic of Iran: Ministry of Health and Medical Education; 2008.
15. *Equivalents and Scoring of Scholarship of Teaching in Promotion Regulation.* Islamic Republic of Iran: Ministry of Health and Medical Education; 2010.
16. Boyer EL. *Scholarship Reconsidered: Priorities of the Professoriate.* 1st ed. Princeton: The Carnegie Foundation for the Advancement of Teaching; 1990.