

## Original Research Article

# Educational needs assessment of faculty members in Ardabil University of Medical Sciences

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**Received:** 10 September 2017

**Revised:** 04 October 2017

**Accepted:** 05 October 2017

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## ABSTRACT

**Background:** Identifying the educational needs is an essential step in planning faculty development programs and plays an important role in promoting the quality of education and can help educational planners to be able to design effective strategies based on available resources and provide effective training. The aim of this study was to determine the educational needs of faculty members in medical school of Ardabil University of Medical Sciences.

**Methods:** This is a descriptive cross-sectional study that has been done on 88 faculty academic members in two clinical and basic groups. Data collected by a questionnaire and collected data were analyzed using statistical methods in SPSS.20.

**Results:** 53.4% of cases were in group clinical and rests of them were in basic group. 75% of cases were male and rest of them were female. 57% had more than 10 years of work experience. There was a significant difference between two groups in the field of research in the area ethics in research and in the field of information technology in the area of using electronic resources between two groups. Based on the prioritization of the needs within the clinical and basic academic members, the greatest need in both groups was related to the writing of scientific texts in English. Also, the lowest priorities within the clinical and basic members were the familiarity with English journals (26.8%) and the use of electronic resources (27.7%).

**Conclusions:** Results showed that the level and type of needs among university faculty members fits with the needs of the faculty members in other universities that is required to response the needs of clinical and basic professors, necessary educational and research actions based on the priorities in 6 areas will happen in future.

**Keywords:** Needs assessment, Educational, Academic members, Ardabil

## INTRODUCTION

Training means any kind of activity or pre-programmed change that aims to create learning in individuals and make the necessary changes in the person's behavior in order to meet the need.<sup>1</sup>

The advancement and development of organizations and institutions need to increase the level of knowledge,

insight, skills and behavior of human resources, and the need for planning in organizations and educational institutions is the desirability of using limited resources and facilities and achieving maximum productivity. Due to the fact that in a systematic and realistic planning, reliable, comprehensive and accurate information is needed, so the need assessment process has been considered more than ever.<sup>2</sup>

Since the scientific and methodological needs assessment has been considered in recent years and the techniques and models of this process are in developing and expanding, so the lack of attention to the needs assessment in the educational curriculum system of Iran severely threatens the results of educational programs. Academic members, as one important section of educational system in country and empowering them in different fields, such as teaching and research, help to achieve the goals of the educational institutions. The main mission of the University of Medical Sciences is to develop human resources for the health promotion of the community. With the increasing number of medical students and establishment of new schools, educational needs and ways to improve the quality of education continuously need to be monitored in order to prevent a drop in the level of graduates of medical sciences in the country. University academic members responsible for educating the new generation who need to provide these services. Therefore, it is necessary for professors to be familiar with teaching, planning and educational assessment methods.<sup>3,4</sup>

A few studies have been done about identifying the educational needs and clinical teaching skills of faculty members in the country and because of no study has been done in Ardabil University of Medical Science, the aim of this study was to investigate the educational needs assessment of Ardabil University Academic members.

## METHODS

This is a descriptive-cross sectional study that has been done on 88 academic members which selected randomly from all clinical and basic groups from Apr 2015 to April 2016. The inclusion criteria is currently the academic member of university. Collected data by a questionnaire included characterized and needs assessment scale in 6 categories (research, general, English language, assessment, education and learning and information technology) which fits with number of academic members in basic and clinical faculties. Collected data analyzed by statistical methods such as table, graph and statistical indexes in SPSS.19.

## RESULTS

Of all 88 members, 53.4% were clinical and rest of them were basic. Of all members 75% were male and 46.6% were in age group 40-50. Of them 55.7% were associate professor and 62.5% had PhD and specialty. Of all members, 57% had work experience more than 10 year. Needs assessment was determined on the basis of prioritization within the questions of each area. In the field of research in topic “ethics in research” the difference between two groups was significant (Table 1).

In the field of information technology in topic “using electronic resources” the rate of need in clinical group was significantly more than basic groups (Table 2).

**Table 1: Academic member needs in the field of research by two groups.**

Items	Need level	Clinical	Basic	P value
Familiar with qualitative research and meta-analysis	Low	25.5	19.5	0.58
	Medium	27.7	31.7	
	High	46.8	48.8	
Familiar with quantitative research	Low	31.9	22	0.092
	Medium	40.4	36.6	
	High	27.7	41.5	
Applied statistics in research	Low	21.3	12.2	0.2
	Medium	31.9	39	
	High	46.8	48.8	
Using statistical software	Low	27.7	17.1	0.16
	Medium	21.3	26.8	
	High	51.1	56.1	
Ethics in research	Low	31.9	17.1	0.044
	Medium	40.4	46.3	
	High	27.7	36.6	
Writing paper in Persian	Low	36.2	34.1	0.9
	Medium	34	34.1	
	High	29.8	31.7	
Writing paper in English	Low	21.3	17.1	0.4
	Medium	31.9	26.8	
	High	46.8	56.1	
Review article and writing references	Low	23.4	26.8	0.35
	Medium	44.7	31.7	
	High	41.5	31.9	

**Table 2: Academic member needs in the field of information technology by two groups.**

Items	Need level	Clinical	Basic	P value
<b>Familiar with ICDL</b>	Low	23.4	24.4	0.38
	Medium	42.6	34.1	
	High	34	41.5	
<b>Using electronic resources</b>	Low	27.7	17.1	0.034
	Medium	31.9	48.8	
	High	40.4	34.1	
<b>Using digital library</b>	Low	25.5	24.4	0.9
	Medium	34	34.1	
	High	40.4	41.5	
<b>Using Persian and English journals</b>	Low	27.7	19.5	0.2
	Medium	31.9	43.9	
	High	40.4	36.6	
<b>Familiar with open access English journals</b>	Low	21.3	26.8	0.28
	Medium	21.3	34.1	
	High	42.6	39.5	
	Medium	23.4	24.4	
	High	42.6	34.1	

**Table 3: Academic member needs in the field of assessment by two groups.**

Items	Need level	Clinical	Basic	P value
<b>Familiar with student evaluation methods</b>	Low	25.5	19.5	0.056
	Medium	51.1	41.5	
	High	23.4	39	
<b>Clinical evaluation of students</b>	Low	31.9	29.3	0.16
	Medium	36.2	48.4	
	High	31.9	22	
<b>Oral test</b>	Low	42.6	29.3	0.13
	Medium	31.9	39	
	High	25.5	31.7	
<b>Educational progress tests and their analysis</b>	Low	40.4	24.4	0.009
	Medium	38.3	36.6	
	High	21.3	39	
<b>Analysis Educational progress tests</b>	Low	29.8	26.8	0/03
	Medium	53.2	31.7	
	High	17	41.5	
<b>Use of log book (only clinical group)</b>	Low	21.3		-
	Medium	31		
	High	29.8		
<b>Evaluation by OSCE method (only clinical group)</b>	Low	21.3		-
	Medium	44.7		
	High	34		
<b>Case report (clinical group only)</b>	Low	21.3		-
	Medium	42.6		
	High	36.2		
<b>Multi-choice tests</b>	Low	31.9	34.1	0.11
	Medium	40.4	26.8	
	High	27.7	39	
<b>Self-evaluation</b>	Low	34	26.8	0.052
	Medium	48.9	41.5	
	High	17	31.7	

**Table 4: Academic member needs in the field of English by two groups.**

Items	Need level	Clinical	Basic	P value
Conversation in English	Low	10.6	14.6	0.6
	Medium	38.3	34.1	
	High	51.1	51.2	
Writing scientific texts in English	Low	12.8	9.8	0.5
	Medium	31.9	26.8	
	High	55.3	63.4	
Translation of scientific texts	Low	25.5	29.3	0.6
	Medium	25.5	29.3	
	High	48.9	41.5	
Spent English special courses	Low	19.1	12.2	0.11
	Medium	31.9	24.4	
	High	48.9	63.4	

**Table 5: Academic member needs in the field of education and learning by two groups.**

Items	Need level	Clinical	Basic	P value
Design lesson plan	Low	57.4	31.7	0.033
	Medium	27.7	34.1	
	High	12.8	34.1	
New teaching methods	Low	25.5	14.6	0.008
	Medium	46.8	24.4	
	High	25.5	61	
Planning and reviewing curriculum	Low	46.8	17.1	0.006
	Medium	31.9	34.1	
	High	19.1	48.8	
Use the educational help tool	Low	38.3	26.8	0.023
	Medium	36.2	31.7	
	High	23.4	41.5	
Evidence based medicine	Low	19.1	2.4	0.001
	Medium	25.5	12.2	
	High	36.2	4.9	
Group discussion	Low	34	19.5	0.021
	Medium	36.2	56.1	
	High	23.4	24.4	
Students' creativity boosters	Low	17	14.6	0.24
	Medium	44.7	39	
	High	31.9	46.3	
Need for familiar with learning psychology	Low	31.9	14.6	0.003
	Medium	42.6	43.9	
	High	21.3	39	
Familiar with educational philosophy	Low	51.1	14.6	0.001
	Medium	29.8	68.3	
	High	14.9	17.1	

In the field of assessment in topic “Educational progress tests and their analysis” the difference between two groups was significant (Table 3).

In the field of English language there wasn't any difference between two groups (Table 4).

In the field of education and learning apart from the issues of familiarity with the design of the question, attention to in-person training, the formation of educational tours at universities and the provision of educational packages of each discipline by the ministry, in other respects, the difference between the clinical and the basic group was statistically significant (Table 5).

In the field of general in topics “understanding the duties and responsibilities of a faculty member, the need for training in the field of administrative rules and regulations, and the need for familiarization with

educational rules” the difference between two groups wasn’t significant but in other topics it was significant (Table 6).

**Table 6: Academic member needs in the field of general by two groups.**

Items	Need level	Clinical	Basic	P value
Ethics	Low	36.2	19.5	0.01
	Medium	38.3	36.6	
	High	25.5	43.9	
Patient and student law	Low	42.6	14.6	0.005
	Medium	40.4	42.9	
	High	17	41.5	
Communication skills	Low	31.9	17.1	0.006
	Medium	46.8	43.9	
	High	21.3	39	
Advice and guidance techniques	Low	29.8	14.6	0.016
	Medium	46.8	48.8	
	High	23.4	36.6	
Management courses	Low	36.2	14.6	0.003
	Medium	31.9	41.5	
	High	31.9	43.9	
Strategic programing	Low	27.7	7.3	0.036
	Medium	42.6	46.3	
	High	29.8	46.3	
Familiar with the duties and responsibilities of a faculty member	Low	21.3	17.1	0.1
	Medium	59.6	51.2	
	High	19.1	31.7	
Need for training in the field of administrative rules	Low	29.8	22	0.2
	Medium	44.7	41.5	
	High	25.5	36.6	
Need to become familiar with educational rules	Low	21.3	12.2	0.2
	Medium	48.9	53.7	
	High	29.8	34.1	

**Table 7: Prioritize the need for faculty members in clinical group.**

Areas	Priority level	Topic	%
Research	Most	Use of statistical software	51
	The least	Writing paper in Persian	36.2
Information technology	Most	Familiar with Open access English journals	42.6
	The least	Use of Persian-English journals	27.7
		Use of electronic resources	27.7
Assessment	Most	Oral test	42.6
	The least	Case report	36.2
English language	Most	Writing texts in English	55.3
	The least	Translation of special text	25.5
Education and learning	Most	Use of short time courses in education	51.1
	The least	Design lesson plan	57.4
General	Most	Management courses	31.9
	The least	Professional Ethics	36.2

Prioritizing the needs of the clinical group, writing scientific texts in English with 55.3% is the most and

using English and Persian journals with 27.7% is the least priority (Table 7).

Also, within basic group, writing scientific texts in English, take specialized language courses and have the necessary training facilities each with 63.4% is the most

and known English journals with 26.8% is the least priority (Table 8).

**Table 8: Prioritize the need for faculty members in basic group.**

Areas	Priority level	Topic	%
Research	Most	Use of statistical software	56.1
	The least	Writing paper in Persian	34.1
Information technology	Most	Use of digital library	41.5
	The least	Familiar with English journals	26.8
Assessment	Most	Analysis of academic achievement tests	41.5
	The least	Multi-choice tests	34.1
English language	Most	Writing texts in English	63.4
	The least	Translation special texts	29.3
Education and learning	Most	Necessary facilities for education	63.4
	The least	Attention to non-formal education	39
General	Most	Strategic programing	46.3
	The least	Need for training in the field of administrative regulations	22

## DISCUSSION

Results showed that most of academic members were middle aged men with a work experience of less than ten years which in clinical group a few more than basic group. Among six needs assessment fields, there was significant difference between two groups in the education and learning field with 19 topics, general with 6 topics, assessment and information technology and research each with one topic. At the highest level of clinical and basic groups needs assessment, writing scientific texts in English, writing paper in English, Spend specialized language courses, familiar with open access journal, use of sabbatical duration, case report and management courses, having facilities for education, using statistical software and digital library, familiar with computer skills, analysis academic achievement tests and strategic programing.

In the lowest needs assessment between the two clinical and basic groups, the design of the lesson plan, oral test, patients' rights and students, written articles in Persian, the use of Persian and English journals and electronic resources, translation of specialized texts, attention to non-instructive education, test multi-choice, familiar with administrative laws and regulations were the least needed.

In Asadi and et al study, all of academic members declared their needs for English and computer learning which was more than our study results.<sup>5</sup>

In Toulabi and et al study, English writing technique, speaking English, learning statistics and SPSS, using digital library and search electronic resources are the

needs of clinical group and the primary and advanced teaching methods were the educational needs of faculty members of Lorestan University of Medical Sciences, which was somewhat consistent with the present study.<sup>6</sup>

In Asadi and et al study, design lesson plan and virtual tutorials as an important educational need which in our study attention to virtual tutorials and design lesson plan is in the least need which was in line with Esfahan and Qom study.<sup>5,7,8</sup>

In Mirzaei and et al study, in the field of education and learning, the most need for new methods of teaching and the least need for Journal Club but in our study in two clinical and basic groups the most need for use of short-term training courses and having the necessary facilities for training and at least was the lesson plan design and attention to virtual tutorials. In the field of assessment in clinical and basic group, the most need for oral test and analysis of academic achievement tests and the least need for case report and multi-choice tests which not in line with Mirzaei study.<sup>2</sup>

In the field of research, use of statistical software in two groups and writing paper in English in basic group was the most and writing paper in Persian was the least need but in Mirzaei study writing paper in English and ethics in research was the most and least needs, respectively. In the field of information technology, the most need in clinical and basic groups were familiar with English journals, use of digital library and familiar with computer skills and the least need for use of electronic resources and English - Persian journals, respectively. In the field general, the most need for strategic programing in basic group and in clinical group management courses and the

least need for professional ethics and education in the field of administrative laws in clinical and basic groups but in Mirzaei study, the most need for student relationship method and the least need for professional ethics. In the field of English language, the most need for writing texts in English in two groups and the least need for spend the English courses and translation of specialized language texts which in line with Mirzaei study.<sup>2</sup>

## CONCLUSION

Determine and prioritize the educational needs of faculty members by educational groups can be an important step in the design and planning of education in line with the needs of the faculty and improve the quality of education. According to the total needs assessment results of academic members in Ardabil University of Medical Science, Most of the discussed topics were the faculty members' educational needs and it is suggested that, in addition to holding training courses and workshops on the needs identified, the necessary steps should be taken to create a dynamic and continuous assessment system at the university in the future.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

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**Cite this article as:** Shafaei-Khanghah Y, Enteshari-Moghaddam A, Nasl Seraji F, Amani F, Ghobadi H, Farzaneh E, Fernandez K. Educational needs assessment of faculty members in Ardabil University of Medical Sciences. *Int J Community Med Public Health* 2017;4:4042-8.