



## Identifying the extra-curricular research needs of the students of medical sciences

Akbar Babaei Heydarabadi <sup>1</sup>, Marzieh Araban<sup>2</sup>, Hashem Mohamadian<sup>3</sup>, Esmaeil Hatami<sup>4</sup>,  
Elahe Rezaeian<sup>5</sup>, Saad Bavi<sup>6\*</sup>

1. Assistant Professor of Health Education and Health Promotion, Faculty of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
2. Associate Professor of Health Education and Health Promotion, Faculty of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
3. Assistant Professor of Health Education and Health Promotion, Faculty of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
4. Bachelor of Environmental Health, Student Research Committee, Faculty of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
5. MSc in Health Education, Student Research Committee, Faculty of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
6. Bachelor of Public Health, Student Research Committee, Faculty of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

### Keywords:

Needs assessment  
Extra-curricular  
Research  
Workshop

Research is one of the tools for improving the ability of students, regular and controlled activity, which studies phenomena to explore and expand knowledge. Extra-curricular activities are one of the ways to increase students' knowledge in this field. Since the first step in the implementation of any educational program is the identification of priorities, the present study aimed to identify the needs of students in the Jundishapur University of Medical Sciences in Ahvaz. This study was conducted using qualitative approach and conventional content analysis method. The population includes students from Jundishapur University of Ahvaz that were selected based on purpose. The data was collected through semi-structured interviews conducted by two trained scholars using voice recorder and simultaneous interview writing. Then the data was coded and analyzed. In the present study, a total of 27 students with an average age of 22.93 with a standard deviation of 2.147 and a sexual distribution of 48.1% were males and 51.9% females. Of the interviews with the students, 55 workshops were finally identified. They were categorized into two main categories dependent on the software and independent of the software. Which belonged to the software-dependent, two-class "software dependent to the Internet" and "independent of the Internet". The software independent class is classified into 5 sub class. Congress and Research Conference, Principles of Writing Proposals, Principles of Writing, Resume Writing and others. This study shows the needs of medical students in research field. It is recommended that the research research assistance and the research committee consider these needs in order to formulate research plans.

\* Corresponding author Email: 3aadbavi92@gmail.com

## **Introduction**

Extracurricular activities include a wide range of educational, research and cultural activities that aim to enhance the ability of students at the individual, organizational and community levels, and in fact complement university curricula that provide numerous educational experiences to students. Creates and strengthens (Veronesi and Gunderman, 2012, De Sisto et al., 2021, Thompson et al., 2013, Nazha et al., 2015). By the beginning of the 21st century, many top universities have designed their educational mission to educate the full student body. In order to achieve this goal, in addition to written curricula, extracurricular activities are needed in universities, which are implemented in various forms (Ward and Yates, 2012, Tenhouse, 2003, Wittrup and Hurd, 2021). The results of the design, implementation and evaluation of extracurricular activities cover a wide range, including; Helping to raise the individual level (individual development) in terms of science, emotion, intellectual, social, spiritual development, creating special professional skills necessary for future career success, positive effects on academic achievement and helping to achieve organizational goals, such as Scientific development of the university (Tenhouse, 2003).

Therefore, research is one of the most important issues that university planners should consider (Moradi et al., 2005, Khedmat et al., 2017). Evidence shows that the number of research physicians has decreased over the past two decades. This further highlights the role of student research and addressing it (Pasko et al., 2003). The study of Rezaian et al. Has introduced the holding of research-related workshops as one of the ways to increase students' knowledge. Therefore, creating extracurricular activities can be helpful in this regard (Rezaeian et al., 2012).

Programs that are prepared and implemented without sufficient knowledge of the needs of individuals do not have sufficient support and participation by target groups and do not achieve

the expected success (Gilmore, 2011). Therefore, the first and most basic step in developing educational programs is needs assessment (Nazha et al., 2015). Therefore, obtaining priorities leads to greater productivity of resources and enhancing the effects of the program due to attracting the largest audience and increasing their acceptance for participation in educational intervention (Francke et al., 1996). One of the needs assessment methods is to use a qualitative approach. Qualitative research is a systematic way of examining topics that cannot be explained quantitatively and numerically. Therefore, the basic commitment of qualitative research is to express events, functions, norms and values from the participants' point of view (Cavalli, 2012).

According to what has been said, recognizing the educational needs and designing related extracurricular activities is a prerequisite for a successful educational system and in fact is the first factor in creating and guaranteeing the effectiveness of educational programs and training skilled and specialized personnel. Its adaptation and efficiency will increase with the professional needs of the community. Considering that students, in addition to formal educational programs, in most cases also need extracurricular education, which is sometimes answered in the form of educational workshops, the present study aims to identify the extracurricular needs of students of Jundi University of Medical Sciences. Shapoor did research.

## **Methods**

The present study was conducted with a qualitative approach and counting content analysis method. First, the research license was obtained from the university. The study population included students of Jundishapur University in all academic levels. In any case, in the first place, the students' willingness to participate, then from among them, the representatives of each class, the excellent and

weak students, were selected as the main participants on a goal-based basis. In order to explain the extracurricular needs of students in the field of research, information was gathered through semi-structured interviews. Question: What workshops or programs do you think are needed to improve your research competence? Data collection continued until saturation. Information saturation means a thorough examination of the participants until no new findings are obtained from them in the field of research (Yamani et al., 2013, Jeanfreau and Jack Jr, 2010). In fact, there is no fixed standard or rule for the number of participants in a qualitative research (Ranjbar et al., 2012). Qualitative researchers are not concerned with generalizing the problem, but want to gain a deep and general understanding of the phenomenon. To conduct the interview, two researchers were trained in one session and simultaneously. Interviews were conducted separately with the participants. At the end of the interview, the researcher reviews the summary of the notes with the help of the interviewee and, if necessary, corrects the notes, especially the key points. Were adjusted.

To analyze the data, the collected data, which included sentences, propositions and words and obtained through semi-structured interviews, were coded and analyzed. Finally, the data were classified into codes, sub-themes, and main themes. Validity and reliability: In the qualitative method, the validity and reliability of the research is the same as checking the accuracy and robustness of the data, which includes validity, transferability, reliability and verifiability (Bryman, 2016, Abdi et al., 2020). In the present

study, in order to determine the reliability and verifiability, the text of the interview and the topics selected by the external observer were reviewed to ensure that he / she achieves the same results and also to compare the findings with other studies. Has also been used. Consistency was confirmed due to similar perception.

## Findings

In this study, 27 students of different levels of medical and paramedical disciplines participated. Sex distribution showed that 13 of them (48.1%) were male and 14 (51.9%) were female. The mean age of students was 22.93 with a standard deviation of 2.147 (Table 1). After completing the information related to improving the students' ability in the field of research, 55 workshops were finally extracted. Then, using the content analysis method, these workshops are divided into two main categories; Were software-dependent and software-independent. 37 workshops were located in the software-related category, which was divided into two sub-categories; They were categorized as Internet-dependent and Internet-independent. In the Internet-dependent class 5 sub-classes; Internet search workshops, familiarization with journals, reference management software, article submission, other and in the independent category of the Internet are two other sub-categories; Statistical software and Office were included (Table 2). In the software-independent category, 18 workshops were categorized into 5 sub-categories of Congress and Research Conference, Principles of Proposal Writing, Article, Resume Writing, and others (Table 3).

**Table 1: Demographic characteristics of the interviewees**

		percentage	Frequency
Faculty	Health	18.5	5
	Paramedical	18.5	5
	Midwifery and Nursing	14.8	4
	medical	22.2	6
	Dentistry	3.7	1
	Pharmacology	7.4	2
	Rehabilitation	14.18	4

	<b>Total</b>	<b>100</b>	<b>27</b>
<b>Grade</b>	<b>Bachelor</b>	<b>55.6</b>	<b>15</b>
	<b>Masters</b>	<b>11.1</b>	<b>3</b>
	<b>Ph.D</b>	<b>33.3</b>	<b>9</b>
	<b>Total</b>	<b>100</b>	<b>27</b>

**Table 2: Main categories and subcategories of extracurricular research needs of students in the field of software dependence**

subcategories			Main categories
Web of science, Magiran, Google Scholar, Blessing, scopus, SID, wiley, ovid, Pubmed	Search the database	Internet dependent	Software-dependent workshops
Source finder system, Elsevier journal finder, internal specialized journals of each field, foreign specialized journals of each field, introduction of Journal Citation Reports	Familiarity with magazines		
Endnote, Mendeley, Zotero, Citavi, Refworks	Familiarity with reference management software		
Specialized Latin magazines in each field, specialized Persian magazines in each field	How to submit an article to a journal		
NCSS Software, Basic R Software, Advanced R Software, Basic Minitab, Advanced Minitab, Basic SPSS, Advanced SPSS, GraphPad Software	Statistical software	Internet independent	
Basic Word, Advanced Word, Basic PowerPoint, Advanced PowerPoint, Pamphlet, Publisher, Excel Basic, Advanced Excel	Offic software		

**Table 3: Main categories and subcategories of extracurricular research needs of students in the field of software independence**

subcategories		Main categories
Familiarity with national congresses, familiarity with international congresses, poster design method, article preparation method. Article submission method	Research congress and conference	Software-independent workshops
Quantitative research, qualitative research	Principles of proposal writing	
Quantitative essay writing, systematic review and meta-analysis articles, qualitative essay writing, importance of essay writing, article review and judgment.	Principles of writing an article	
Resume writing in Latin, resume writing in Persian.	Principles of resume writing	
Thesis, research design, research self-management, research ethics.	Principles of writing a research report	

## **Discussion**

The aim of this study was to identify the extracurricular needs of students of Ahvaz Jundishapur University of Medical Sciences in the field of research. In this area there are two main subclasses; Software-dependent and software-independent were identified. Software-related workshops: Includes all workshops that require the use of a computer. A total of 37 workshops are located in this subcategory; 21 Internet-related workshops and 16 Internet-independent workshops, which are as follows:

Internet-related subcategory to 5 other subcategories; Workshops on Internet search, journal review or indexing, reference management software, article submission, and more were categorized. 1. "Internet search" workshops include: teaching how to search on scientific sites such as; Web of science, Magiran, Google Scholar, Barakat, Scopus, SID, Wiley, Ovid and Pubmed. 2. "Familiarity with journals and citation analysis in scientometrics" workshops are; Source finder system, Elsevier journal finder, domestic journals, foreign journals and introduction. Jcr 3. The subclasses of "client management software" are Endnote, Mendeley, Zotero, Citavi, Refworks. 4. In the "Submitting Articles" section, they were placed in specialized Persian and Latin language magazines in each field. Research conducted in Kabul shows that students mostly use the Internet to obtain information, especially scientific and specialized information (JAFARI and DAYANI, 2010). Findings from studies by Lotfnejad (LOTFNEZHAD et al., 2007), Samuel (Samuel et al., 2004) and Jadoon (Jadoon et al., 2009) show that students' familiarity with a valid medical database is moderate, and students mentioned the need for training in this area. Given the importance of information retrieval skills and the use of search operators, especially at the master's and doctoral levels, it seems necessary to address it. The study by Hall et al. Also shows that it is necessary for students to know the difference between general search engines and specialized databases.

Therefore, setting up workshops to introduce specialized databases in each field can be done in this field. Have an effective role (Hall, 2003).

Internet-independent sub-category: In this sub-category, 15 workshops were classified into 2 sub-categories of statistical software and Office; 1. "Statistical software" includes: NCSS software, Basic R software, Advanced R software, Basic Minitab, Advanced Minitab, Basic SPSS, Advanced SPSS and Stata software. 2. In the "Office Software" section, the introductory Word, Advanced Word, Basic Excel, Advanced Excel, Basic PowerPoint, Advanced PowerPoint, Publisher and Pamphlet workshops were located. Students in other studies (Momayyezi and Fallahzadeh, 2014), and (Azarmi et al., 2018) have mentioned the need to become familiar with statistical methods. Software-independent workshops: Workshops that do not require the use of a computer. In this section, 18 workshops were extracted, which were divided into 5 sub-categories: Congress and Research Conference, Principles of Proposal Writing, Article, Resume Writing and others. 1. "Research Congress and Conference": Introduction to National Congresses, Introduction to International Congresses, Poster Design Method, Article Preparation Method and Article Submission Method, 2. "Proposal Writing Principles": Quantitative Research, Qualitative Research, 3. "Articles": Quantitative essay writing, Qualitative essay writing, Systematic review and meta-analysis articles, Importance of essay writing, Review and judging of the article 4. Workshops related to "resume writing": Two subcategories of resume writing Persian and English 5. "Other" workshops: dissertation defense method, research project reporting, research self-management, research ethics and patent training were extracted. Studies conducted in other universities show moderate or low knowledge of students in the field of research, and since this knowledge can not lead to increased research performance and capability, so it should be to improve the ability of students in this field. He made more efforts (Rezaeian et al.,

2012). In the master study of Bostan Abad et al., The knowledge of most nurses (73.2%) in the research method was moderate. And holding a workshop has led to an increase in the knowledge of undergraduate nurses (ARSHADI et al., 2016).

## Conclusion

According to the findings of this study, 55 workshops were finally extracted in the field of research, which were classified into two main categories: "software-dependent" and "software-independent", each containing 37 and 18 sub-categories, respectively. Considering the results obtained from this study and considering that the first step for planning in any field is need assessment, it is suggested that the Vice Chancellor for Research, Student Research Committee and other relevant centers can use the findings of the present study in Use it to develop an effective and useful program.

## Acknowledgments

This study was taken from the research project approved No. U-96015 Ahvaz Jundishapur University of Medical Sciences. We would like to thank all the students who helped us in this study. Ethics Code: IR.AJUMS.REC.1369.63. This project was funded by the National Agency Strategic Research in Medical Education Tehran. Iran. Grant No. 960043.

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