

ORIGINAL ARTICLE

Identifying the Educational Needs for Developing an Entrepreneurship-Based Curriculum from the Perspective of Students and Faculty Members of Health-Associated Disciplines

Yahya Mohammadi¹, Hasan Maleki^{2*}, Mahboubeh Khosravi², Mohammad Reza Miri³, Abbas Abbaspour⁴

¹Ph.D. candidate,
Department of Curriculum planning, Faculty of Education and Psychology, Allameh Tabatabai University, Tehran, Iran

²Department of Curriculum Planning, Faculty of Education and Psychology, Allameh Tabatabai University, Tehran, Iran

³Health Research Center, Birjand University of Medical Sciences, Birjand, Iran

⁴Department of Educational Management, School of Educational Sciences and Psychology, Allameh Tabatabai University, Tehran, Iran

*Allameh Tabatabai University,
Dehkadeh Olympic St.
Tehran, 148984511
Iran

Tel: +98 21 48393143
Fax: +98 21 48393143
Email:
malaki_cu@yahoo.com

Background: The most fundamental step in the development of a curriculum is to determine the educational needs. This study aims to identify the educational needs from the viewpoint of students and faculty members of health-associated disciplines in order to develop an entrepreneurship-based curriculum.

Methods: The study is applied in terms of purpose and descriptive-survey in terms of method. Moreover, needs assessment is based on inductive-comparative model. The research population included top-level documents, research literature, and all students and faculty members of the faculty of health affiliated to Birjand University of Medical Sciences during the academic year 2017-2018. Based on Krejcie and Morgan's table, the sample size was computed as 218 people, who were selected randomly. Moreover, 20 faculty members were incorporated by census. Data were collected by reviewing top-level policy-associated documents, reviewing the related literature, and conducting a needs assessment. The questionnaire for needs assessment comprised of 49 items. The validity of the questionnaire was confirmed by health education and medical education experts. The reliability of the questionnaire was obtained using Cronbach's alpha as 79%. Data were analyzed in SPSS software-version 16 using descriptive statistics (mean).

Results: The results showed that entrepreneurial education and knowledge with the mean score 4.38 and entrepreneurship-oriented social environment of the faculty of health with the mean score 4.10, as reported respectively by students and faculty members, were the two main educational need priorities for the health curriculum.

Conclusion: According to the findings, designing and developing a curriculum that can increase the entrepreneurship power and train creative and innovative students at the faculty of health is one of the main needs of students.

Keywords: Curriculum, Educational needs, Entrepreneurship, Health-associated disciplines

شناسایی نیازهای آموزشی برای تدوین برنامه درسی مبتنی بر رویکرد کارآفرینی از دیدگاه دانشجویان و استاید رشته های بهداشتی

زمینه و هدف: نخستین گام در راه تدوین برنامه درسی، تبیین نیازهای آموزشی است، که سنگ زیرین ساختمان آموزش است. هدف مطالعه حاضر شناسایی نیازهای آموزشی برای تدوین برنامه درسی مبتنی بر رویکرد کارآفرینی از دیدگاه دانشجویان و استاید رشته های بهداشتی بود.

روش: این تحقیق از حیث هدف جزو تحقیقات کاربردی و از نوع نیازمندی بر اساس الگوی قیاسی- استقرئایی است و از حیث روش، توصیفی- پیمایشی است. جامعه پژوهشی این تحقیق شامل اسناد بالادستی، ادبیات تحقیق و کلیه دانشجویان و استاید دانشکده بهداشت در سال تحصیلی ۹۷-۹۶ بودند. تعداد دانشجویان مورد مطالعه بر اساس جدول کرجی و مورگان، ۲۱۸ نفر برآورد و به شیوه تصادفی ساده انتخاب شدند. همچنین ۲۰ عضویات علمی به صورت سرشاری مورد بررسی قرار گرفتند. جمیع اوری اطلاعات در سه گام بررسی سیاست های بالادستی، ادبیات تحقیق و پژوهش نیازمندی انجام شد. پرسشنامه نیازمندی این تحقیق از دیدگاه دانشجویان و استاید دانشکده بهداشت شد. برای تحلیل داده ها از نرم افزار SPSS ۱۶ و از آمار توصیفی (میانگین) استفاده شد.

یافته ها: نتایج نشان داد که اکثر دانشجویان و استاید بیان کردند که در برنامه درسی رشته های بهداشتی باید اشنایی با طراحی طرح کسب و کار گذاشته شود و همچنین بر اندیش کارآفرینانه و بهبود تقویت کار گروهی و ایجاد محیطی همراه با زیرساخت های کارآفرینانه بیان کردند.

نتیجه گیری: با توجه به یافته ها، طراحی و تدوین برنامه درسی که بتواند باعث افزایش قوه کارآفرینی و پرورش دانشجویان خلاق و نوآور در دانشکده بهداشت شود از نیازهای اصلی دانشجویان محسوب می شود.

واژه های کلیدی: برنامه درسی، رشته های بهداشتی، کارآفرینی، نیازهای آموزشی

معرفة الاحتياجات التعليمية الفرعية من أجل تطوير البرنامج التعليمي على المساعدة على الريادة من وجهة نظر الطلاب الجامعيين وأساتذة الفروع الصحية

الموضوع والمهدف: إن الخطة الأولى في طريق تطوير البرنامج التعليمي هي معرفة المتطلبات التعليمية، التي تشكل البنية الأساسية في بناء التعليم. المهدى من الدراسة الحالية هي معرفة المتطلبات التعليمية من أجل تطوير البرنامج التعليمي على المساعدة على الريادة وذلك من وجهة نظر الطلاب الجامعيين وأساتذة الفروع الصحية.

المطريقة: لهذه الدراسة من حيث المنهج هي جزء من الدراسات العملية ومن حيث النوع حاجة قياس حسب النمط القياسي - الاستقرائي ومن حيث الطريقة توصيفية - تمحثبة. المجموعة الخاصة لهذا التحقيق تتضمن ملفات المرحلة العليا وأساتذة التحقيق وكل الطلبة والأساتذة في كلية الصحة في سنة ۲۰۱۷-۲۰۱۸.

عدد الطالب المتمولين في هذه الدراسة حسب جدول كرجی و موجان ۲۱۸ طالب وقد تم اختيارهم بطريقة عشوائية بسيطة . وتم أيضاً اختيار عشرين عضواً من أعضاء الهيئة التدريسية . تم جمع البيانات على ثلاثة مراحل أولًا تقييم سياسة العلاقات العليا ثم أدبيات التحقيق ثم تقييم الاحتياجات . ورقة الأسئلة الاستفسارية للاحتياجات تعمري ۴۹-۳۰-۲۱ و كانت هذه الأسئلة قد نالت رضى أصحاب الخبرة في التعليم الصحي والتعليم الطبي . رقة الأسئلة تم فحصها بطريقة الفاي كرونباخ ۷۹٪ من أجل تحليل البيانات تم الاستفادة من spss 16 و البحصا . الوصفى (المتوسط) .

النتائج: أثبتت النتائج أن أكثر الطلبة والأساتذة أشاروا إلى أن البرنامج التعليمي في الفروع الصحية يجب أن يوضع بطريقة التعريف على طبيعة العمل وأيضاً تحسين وتنمية العمل الجماعي في محظوظ العمل .

النتيجة: بالاتساع للنتائج فإن تخطيط وتطوير البرنامج التعليمي بحيث يعزز إلى تقوية الريادة وتخرج الطلبة التابعين في كلية الصحة في الاحتياجات الأساسية للطلبة .

الكلمات المثلثية: الاحتياجات التعليمية، البرنامج الدراسي، الريادة، الفروع الصحية ميذیکل کے مختلف شعبوں کے اساتذہ اور طلباء کی نظر میں ایسے میذیکل نصاب کی تدوین کے لئے جو روزگار فرایم کرسکابو، ضروریات کا چائزہ

پیک گاردنٹ: درسی نصاب کی تدوین کا اولین بدق تعلیمی ضرورت کیوڑا کرنا ہے، کیونکہ یہ امر تعليمی نظام کی ریڑھ کی بدی ہے۔ اس تحقیق کا ہدف میذیکل کے مختلف شعبوں میں ایسے نصاب کی تدوین کرنا ہے جس سے طلباء کو روزگار بھی فرایم ہوتا ہے اسی وجہ سے طلباء اور اساتذہ سے اس کی ضروریات معلوم کی گئی ہے۔

روپش: اس تحقیق میں طویل مدت منصوبہ بندی کرنے والے اساتذہ، دویزار سترہ اور دویزار اتھارہ کے میذیکل طلباء نے شرکت کی اور اس میں میذیکل رسچ مواد سے بھی استفادہ کیا گیا۔ کرجی اور مرکان کی اسکیل کے مطابق تحقیق میں شرکت کرنے والوں کا رینڈم انتخاب کیا گیا۔ اس میں دو سو اتھارہ افراد نے شرکت کی دینا سوالنامے سے حاصل میذیکل اکڈیمیک کونسل کے بیس ارکان نے بھی شرکت کی۔ دینا سوالنامے سے حاصل کیا گیا، اس سوالنامے میں انجام سوال تھے جو مذکورہ بالا نصاب کے لئے ضروری چیزوں کے بارے میں تھے۔ دینا کا تجزیہ ایس پی ایس سولہ سے کیا گیا۔

نتیجہ: اس تحقیق سے معلوم ہوتا ہے کہ اکثر طلباء اور اکڈیمیک کونسل کے اراکین نے کہا ہے کہ میذیکل نصاب میں مستقبل میں پیشہ و رانہ سرگرمیوں یعنی روزگار کے بارے میں بھی معلومات سموئی جانی چاہیں اور پیشہ و رانہ سرگرمیوں کے بارے میں طلباء کو مزید معلومات فرایم کی جانی چاہیں۔

سفارش: ان نتائج کے پیش نظر یہ معلوم ہوتا ہے کہ میذیکل طلباء کی بنیادی ضرورت ہے کہ ان کی تعلیمی نصاب سے نہ صرف اچھے اور باصلاحیت ذاکر کو کی تینگ بونی چاہیے بلکہ اس سے ان کے روزگار کی ضمانت بھی ملنی چاہیے۔

کلیدی الفاظ: تعلیمی ضرورتیں، تعلیمی نصاب، روزگار، میذیکل شعبے۔

INTRODUCTION

The higher education system contributes significantly to the economic, social, and cultural development of societies. In Iran, similar to other places, higher education is infused with the responsibility of training the specialized human force required for the various sectors of society in the fields of industry, agriculture, services, etc. (1). Alongside this, education is a key mechanism for the development of people's skills and human resources. In case people's skills are promoted, they will work more to ensure the welfare and well-being of families, community, and country in large. If the curriculum, as the heart of the educational system, is practiced systematically, it can improve the learning process and hence increase the skills of the human force (2).

The first step in developing a curriculum is to determine the educational needs (3). Needs assessment is, in fact, the foundation of the education building, and the more solid this foundation is, the more durable and invincible the building constructed on it will be. In the realm of education, needs-assessment is considered as one of the fundamental and essential components of the planning process, and wherever there is a requirement to consider designing and adopting a set of educational measures, needs-assessment comes to fore as a prerequisite (4). The most efficient way to determine the contents of appropriate education is to analyze needs. The information obtained from needs-assessment can be employed to develop the training program and to enhance the skills and knowledge of the specialist workforce (5). Therefore, needs-assessment is the process of collecting and harmonizing the views of individuals and groups concerning the educational needs. Determining the educational needs is a starting point in the development of educational programs (6).

An important part of the higher education system is the education of medical science, which deals with the life of humans. Universities of medical sciences, along with the provision of health services to the general population, also have an important role in the training of skilled human resources and specialists for different sectors of society. Graduates of health-associated disciplines play a significant role in providing healthcare services (2).

On the other hand, the preparation and training of medical science students for employment has always been one of the goals of the higher education system, which may also be referred to as the most important goal in the current era. The substantial increase in the number of universities and higher education institutions as well as their output, i.e., the huge number of graduates, have directed the focus of higher education institutions in recent decades to conceptualizing and measuring different dimensions of quality in higher education (7). Over the last few decades, with the rising unemployment rate among university graduates, criticism has grown against the educational system. In this regard, some officials and experts have attempted to link curricula to the needs of society and the world of professional work by taking certain measures in order both to prevent from the unemployment of graduates and to fulfill the demands of the various economic sectors of the country for skilled and

specialized manpower (8).

Also, with the advent and fast development of technology, students and university graduates have also found that they will set foot in varying, dynamic, and complex working environments; factors such as globalization, competition, and rapid technological growth have changed working opportunities; employers' expectations have changed, and they need staff who present entrepreneurial behaviors and attitudes (9).

In order to achieve this goal, one of the most important challenges facing the higher education system is the gap between theoretical knowledge and practical competencies of the graduates. Wilson (10) states that in order to cope with this challenge, one must establish a harmony between what the academic graduates learn and what the needs of the society are. Therefore, to bridge the gap between theoretical knowledge in medical sciences and community needs, entrepreneurship education should be considered.

Amini et al. (11) describe entrepreneurship as the creation of a valuable insight from zero, and believe that entrepreneurship is the process of creating and accessing opportunities and pursuing these opportunities irrespective of the resources that are available. Therefore, in their opinion, entrepreneurship involves the creation and distribution of value and benefits among individuals, groups, organizations, and society, and believe that this will be achieved when entrepreneurship has a desirable position in the form and structure of the curriculum of universities and training centers. Safari and Sami Zadeh (12) maintain that the inclusion of educational subjects such as the basics of business plan, business management, e-business, and entrepreneurial skills as a scientific and educational course in the curriculum is needed in order to develop the entrepreneurial knowledge and skills and to promote student's entrepreneurial awareness. Yamani et al. (13) report that the preliminary studies conducted on the trainings delivered in universities and higher education centers and on educational needs aiming at the creation and promotion of entrepreneurship have shown that these trainings are not compatible with educational needs to create and promote entrepreneurship.

Therefore, one of the efficient approaches that should be taken into consideration by the medical education planners in relation to the medical education process and its quality improvement is the entrepreneurial curriculum approach (14). In this approach to curriculum design, the main emphasis is on well-defined achievements in response to the needs of the community and the labor market (15). Entrepreneurial education is an activity used to transfer the knowledge and information needed to set up and run a business. In addition, it improves and develops non-entrepreneurial attitudes, skills, and abilities (16).

Since no curriculum with entrepreneurial approach has been designed and developed for students of health schools in Iran and because any curriculum design needs to measure the needs of learners and specialists, hence the need to delve into this issue and design a curriculum aiming to develop entrepreneurship skills of college students. Therefore, the present study sought to identify educational needs for

developing a curriculum based on entrepreneurial approach from the viewpoint of health-associated students and faculty members.

METHODS

The study is applied in terms of purpose, and needs assessment is based on the inductive-comparative technique. The study was conducted in 2018 with the aim of designing an entrepreneurship-oriented curriculum in the faculty of health of Birjand University of Medical Sciences. The method is descriptive-survey. The research population included top-level documents, research literature, and all students and faculty members of the faculty of health affiliated to Birjand University of Medical Sciences during the academic year 2017-2018. Based on Krejcie and Morgan's table, the sample size was computed as 218 people, who were selected via simple randomization method. Students were incorporated who were at least in their second semester at university, thus first-semester students were excluded from the study. Given that the faculty members were 20, all of them were included through the census sampling method. Before the distribution of the questionnaires, the participants were explained about the confidentiality of the data collected, and their consent was taken to participate in the study verbally. Needs assessment and data collection were carried out in three main steps:

Step 1: High-level documents were checked with emphasis on entrepreneurship training. In this step, the high-level documents that emphasized entrepreneurship and entrepreneurship education were examined, and the highlights were extracted.

Step 2: In this step, the subject-related literature and domestic documentations were examined, and a semi-structured interview was performed with entrepreneurs and health education professionals. This step aimed to identify the knowledge, attitudes, skills, and abilities that students involved in health-associated disciplines must have. After reviewing the literature and the interviews, a list of students' educational needs was prepared.

Step 3: A needs assessment questionnaire was developed. To

determine and prioritize the educational needs, a questionnaire was developed based on the educational needs list that was obtained in the second step. The researcher-made questionnaire for needs assessment comprised of 49 items based on the educational needs extracted from the interviews. The items were scored on a 5-point Likert scale. The validity of the questionnaire was confirmed by health education and medical education experts. The reliability of the questionnaire was obtained using Cronbach's alpha as 79%. Data were analyzed in SPSS software-version 16 using descriptive statistics (mean).

RESULTS

Demographic characteristics showed that out of the 218 students, 47 (21.6%) were male (mean age: 20.24 ± 1.14 years) and 171 were female (78.4%) (mean age: 19.12 ± 1.24 years). Out of the 20 faculty members, 11 (55%) were male (mean age: 41.80 ± 8.39), and 9 (45%) were female (mean age: 38.1 ± 7.24 years) (Table 1).

In the first step, high-level documents were examined, including Supreme Leader's speeches, resilient economy general strategies, general employment policies, Iran Perspective 1404 document, health policy's major policies, country's Comprehensive Map of Science, country's Comprehensive Map of Health, Supreme Council of Cultural Revolution's documents, the Health System Development Plan, and the Development and Innovation Plan for Medical Education. It was found that the majority of the high-level documents emphasized entrepreneurship and entrepreneurship education, whereby the design of a curriculum that could operationalize this purpose is needed (Table 2).

After it was found, according to the high-level documents and macro-policies, that curriculum design by entrepreneurial approach is required, the educational needs that health students needed to fulfill during their studies were extracted by interviewing health education professionals and entrepreneurs. Subsequently, these needs were prioritized on the basis of students and faculty members' views.

Table 1. Demographic characteristics of participants

Variable	Dimensions	Students		Faculty members	
		Frequency (218)	Percentage (91.6)	Frequency (20)	Percentage (9.4)
Gender	Man	47	21.6	11	55
	Woman	171	78.4	9	45
Discipline	Public health	87	39.9	-	-
	Professional health	109	50	-	-
Academic rank	Environmental health	22	10.1	-	-
	Instructor	-	-	6	30
	Assistant professor	-	-	12	60
	Associate professor	-	-	1	5
	Full professor	-	-	1	5

Table 2. High-level documents on the importance of entrepreneurship and approach to it

Document	Year	
Statement by the Supreme Leader in the meeting with workers and entrepreneurs	2008	<ul style="list-style-type: none"> - To initiate enterprises and to encourage entrepreneurs - To train human resources tailored to the current and future needs of the labor market - To enhance entrepreneurship power - To establish a comprehensive labor market information system - To support cooperative companies - To support the establishment and development of mutual funds
Statement by the Supreme Leader in the meeting with entrepreneurs	2010	<p>- The great Iran today needs more work and entrepreneurship than ever before so that it can rise like a fast-flying eagle in the midst of development, prosperity, and honor.</p> <p>Referring to the importance of work and entrepreneurship from the perspective of Islam, he discussed that employment, in addition to wealth creation, underlies the utilization of the treasure of human talents.</p>
Overall Employment Policies	2011	<ul style="list-style-type: none"> - To promote and strengthen the culture of work, production, entrepreneurship, and the use of domestic products as a national and Islamic value through the educational system and propaganda of the country - To train specialist, skilled, and efficient human resources tailored to the needs of the labor market (present and future) and to promote entrepreneurship power via the country's educational system
Announcement of general policies on national production, and support for Iranian labor and capital	2012	<ul style="list-style-type: none"> - To manage currency resources with an emphasis on fulfillment of the needs of national production and entrepreneurship and the stability of the national currency
General policies of resilient economy	2013	<ul style="list-style-type: none"> - To strengthen Jihadist culture in creating added value, wealth generation, productivity, entrepreneurship, investment, and productive employment, and to award a medal of resilient economy to those with outstanding services in this regard
Meeting of the chairman and members of the Supreme Council of Cyberspace with the Leader of the Revolution	2015	<ul style="list-style-type: none"> - The expansion of communications technology industries and telecommunication technology industries through knowledge-based companies will have a major impact on job creation and transformation of the country's economy.
Meeting of chancellors of universities and heads of research centers and incubation and science centers with the Supreme Leader	2015	<ul style="list-style-type: none"> - One of the ways to create employment for our graduates is the relationship between industry and the university. Industry and university should be interconnected.
Statement by the Supreme Leader during the meeting with the President and the cabinet	2015	<ul style="list-style-type: none"> - To establish knowledge-based companies - To use science and technology parks
Comprehensive Map of the Country		<ul style="list-style-type: none"> - To educate and empower the human capital, with emphasis on the training of pious, entrepreneurial, self-confident, creative, innovative, and capable people in the production of science, technology, and innovation commensurate with Islamic values and the needs of society
The 20-year Vision of the Islamic Republic of Iran		<ul style="list-style-type: none"> - To strengthen conscientiousness, social discipline, the spirit of hard work and initiative, entrepreneurship, honesty and contentment, and efforts to improve the quality of production
The general policies of the Fifth Development Plan by the Supreme Leader of the Revolution		<ul style="list-style-type: none"> - To establish effective communication between universities, research centers, and industry and related sectors of society - To empower the non-governmental sector for participation in the production of science and technology - To bring revolution in the education system with the aim of improving the quality of education based on the needs and priorities of the country in three fields of knowledge, skills, and education, as well as increasing mental and physical health of students
Evolution and Innovation Packages in medical sciences: Transition towards the third generation university	2015	<ul style="list-style-type: none"> - To redefine the mission, goals, and functions of medical universities based on the entrepreneur university model - To design and implement entrepreneurial models in health in order to create and promote job positions of medical science graduates - To design and implement new production-oriented educational programs based on native and national needs in the field of medical science

Table 3. Prioritization of students' educational needs in health-associated disciplines with an entrepreneurial approach from students' perspectives based on mean scores			
Educational need	Importance mean score	Educational need	Importance mean score
Entrepreneurial education and knowledge	4.38	Social accountability spirit	3.62
Infusing and enhancing the spirit of hard work in students	4.24	Independence of health students	3.42
Strengthening the teamwork spirit in health students	4.18	Introducing healthcare businesses	3.34
Creating and improving the capacity to develop creative and personal ideas of students	4.16	Forward-looking attitude in health	3.32
Creating the atmosphere to support the innovative activities of health students	4.15	Skill of health students to analyze economic situations	3.28
Familiarity with the design and development of a business plan	4.14	Spirit of courage and integrity in health	3.21
Coherence of entrepreneurial activities in the field of health and forward-looking ability	4.13	Creating and enhancing students' ability to complete tasks	3.19
Creating and improving students' capacity to accept success and failure	4.11	Identifying and creating entrepreneurial opportunities	3.15
Encouraging health students to acquire skills	4.08	Common perspective and prospective strategy in health	3.08
Entrepreneurship-orientedness of the social environment of the health school	4.07	Providing and guaranteeing student's sense of accomplishment-seeking	3.02
Emphasis on practical trainings and health skills	4.05	Entrepreneurship-orientedness of faculty' culture	2.99
Creating and strengthening students' determination	4.05	Upgrading students' decision-making capacity	2.95
Entrepreneurship-orientedness of trainers (faculty members)	4.04	Marketing and understanding the marketplace for health-associated businesses	2.85
Continuous interaction between students and the environment (agriculture, industry, etc.)	4	Creating and strengthening the ability to identify original business ideas in the field of health	2.84
Improving students' capacity to do things without the need for others to help	3.99	Creating and improving the ability to control and monitor activities and affairs	2.74
Creating and enhancing the spirit of accountability in solving problems with personal effort	3.98	Creating and promoting the ability to turn talents into abilities and to enhance the capacity to envisage the future	2.65
Risk-taking spirit and power	3.98	Skill to create and develop opportunities in health	2.52
Creativity and innovation in the field of health	3.91	Skill of designing virtual and electronic spaces	2.32
Opportunity to address new enterprises in health	3.91	Capital and investment of knowledge-based companies	2.23
Creating and improving the capacity of change in health students	3.90	Skill of designing an operational situation in health centers	2.21
Establishing and improving the ability to plan and organize healthcare business units	3.85	E-commerce in the field of health	2.19
Correct and logical decision-making skill	3.82	Skill of resource collection and planning for healthcare businesses	2.18
The spirit of quitting conventional methods	3.74	Introducing economic resources in the field of health	2.12
Self-esteem and confidence in students	3.70	Creating and enhancing the capacity to accept academic and professional outcomes	2.10
The spirit to acknowledge changes and transformations	3.65		

Educational needs according to the findings of Table 3 from the students' perspective indicate that the highest mean score of responses (4.38) was related to entrepreneurship education and knowledge, while the lowest mean score (2.10) was related to creating and improving the capacity to accept academic and occupational outcomes.

Educational needs, according to the findings of Table 4 from the viewpoint of faculty members, demonstrate that the highest mean score (4.10) was related to the entrepreneurship-orientedness of the social environment of the school of health, whilst the lowest mean score (2.20) belonged to common perspective and prospective strategy in health.

DISCUSSION

One of the most important barriers to the initiation of entrepreneurial enterprises by students is that they are not equipped with entrepreneurial skills. It is a frequent phenomenon for entrepreneurial students to start a business activity, but that it subsequently faces difficulty. It is because the sustainability of an entrepreneurial enterprise requires

knowledge, attitude, and entrepreneurial skills that many health students have not acquired.

This research conducted a needs-assessment for designing an entrepreneurship-oriented curriculum based on high-level policies of the country. It also identified the educational needs of students in terms of knowledge and entrepreneurship skills commensurate with the comparative-inductive model. Prioritizing the educational needs of students showed that the first and foremost priority was entrepreneurship education and knowledge. This finding is consistent with those of Khaledi et al. (17). Therefore, entrepreneurial education and knowledge stand as a requirement for production, new services, and innovation. Hence, creativity and innovation is essential for students to shed new lights. In the post-industrial or information period, transformation has an extreme acceleration, and the importance of creative human resources is perceived more than any other era so that the society can build on innovation to reach creativity and entrepreneurship. Therefore, the inclusion of topics in the curriculum that can educate entrepreneurial knowledge and attitude is suggested for the health-associated curricula.

Table 4. Prioritization of students' educational needs in health-associated disciplines with an entrepreneurial approach from faculty members' perspective based on mean scores

Educational need	Importance mean score	Educational need	Importance mean score
Entrepreneurship-orientedness of the social environment of the health school	4.10	Correct and logical decision-making skill	3.15
Emphasis on practical trainings and health skills	4.05	The spirit of quitting conventional methods	3.12
Strengthening the teamwork spirit in health students	4.02	Self-esteem and confidence in students	3.11
Familiarity with the design and development of a business plan	3.95	The spirit to acknowledge changes and transformations	3.09
Entrepreneurial education and knowledge	3.94	Continuous interaction between students and the environment (agriculture, industry, etc.)	3.05
Entrepreneurship-orientedness of faculty' culture	3.87	Social accountability morale	3.04
Creating and improving the capacity to develop creative and personal ideas of students	3.86	Spirit of courage and integrity in health	3.02
Creating the atmosphere to support the innovative activities of health students	3.85	Creating and enhancing students' ability to complete tasks	3.01
Introducing economic resources in the field of health	3.84	Introducing healthcare businesses	3
Coherence of entrepreneurial activities in the field of health and forward-looking ability	3.75	Skill of designing virtual and electronic spaces	2.91
Creating and strengthening students' determination	3.74	Capital and investment of knowledge-based companies	2.85
Risk-taking spirit and power	3.65	Skill of designing an operational situation in health centers	2.84
Creativity and innovation in the field of health	3.62	E-commerce in the field of health	2.79
Entrepreneurship-orientedness of trainers (faculty members)	3.60	Skill of health students to analyze economic situations	2.76
Creating and improving students' capacity to accept success and failure	3.59	Identifying and creating entrepreneurial opportunities	2.65
Encouraging health students to acquire skills	3.58	Skill of resource collection and planning for healthcare businesses	2.62

Table 4. Continued

Educational need	Importance mean score	Educational need	Importance mean score
Forward-looking attitude in health	3.52	Marketing and understanding the marketplace for health-associated businesses	2.58
Independence of health students	3.45	Providing and guaranteeing student's sense of accomplishment-seeking	2.56
Infusing and enhancing the spirit of hard work in students	3.42	Skill to create and develop opportunities in health	2.51
Creating and strengthening the ability to identify original business ideas in the field of health	3.36	Upgrading students' decision-making capacity	2.46
Creating and promoting the ability to turn talents into abilities and to enhance the capacity to envisage the future	3.35	Establishing and improving the ability to plan and organize healthcare business units	2.42
Improving students' capacity to do things without the need for others to help	3.28	Creating and enhancing the capacity to accept academic and professional outcomes	2.36
Creating and enhancing the spirit of accountability in solving problems with personal effort	3.25	Creating and improving the ability to control and monitor activities and affairs	2.21
Opportunity to address new enterprises in health	3.21	Common perspective and prospective strategy in health	2.30
Creating and improving the capacity of change in health students	3.20		

On the other hand, a curriculum should be based on participatory learning and group work so that it can activate students' imagination, thinking, and innovation. In this curriculum, the spirit of working hard must be strengthened in students. This finding is consistent with Hicks's (18) results. While most curricula in health-associated disciplines include the transfer of readily available information to students, learners are passive and the information flow is one-sided; thus, students' creativity is not activated and knowledge is not generated. Application of different teaching methods such as brainstorming and problem-solving will be effective in promoting creativity of students.

Also, prioritizing educational needs from the viewpoint of faculty members of the health school showed that their first priority was the entrepreneurship-orientedness of the social environment of the health school. To explain this, it can be said that students will be oriented towards entrepreneurship when the necessary cultural, educational, and social infrastructures are accessible in the students' school and educational setting. This finding is consistent with the results of Solomon (19).

Another finding, based on the faculty's view, indicated that *practical training and group work* should be included in the curriculum of health students. This finding is consistent with the results of Khaledi et al. (17). To explain this educational need, it can be said that engaging in entrepreneurial activities requires practical skills, and this will be operational if practical training and practical teaching is considered in the lesson plan of health students. On the other hand, it is necessary that group work be strengthened in the curriculum and that the culture of group work be taught to students.

Another educational need that both students and faculty members have identified as a priority was familiarity with designing and developing a business plan, which is consistent with the findings of Khaledi et al. (17) and Yamani

et al. (13). Therefore, one of the basic skills in entrepreneurship education is the development of a business plan. Designing a business plan is one of the most popular teaching methods (20). Honig (21) found that among 100 universities in the United States, 78 universities had a particular focus on business plans. In fact, designing a business plan can create a structure that helps students focus on a particular area of knowledge and provides them with the possibility of free thinking. The strength of this study is that the results obtained can be used to design the curricula of health sciences based on increased entrepreneurial power and student innovation.

Therefore, it can be stated that one of the most important missions and goals of medical universities and health schools is to promote the entrepreneurship power and to train creative and innovative forces. This has changed the school's mission over time, whereby these universities have been called the third generation universities or entrepreneur universities. Given the currently performed needs assessment, curriculum and medical education designers should consider the design and development of health-associated entrepreneurship-based curricula. Among the limitations of this research was the insufficient time of faculty members to complete the questionnaire, which was beyond the control of the researcher.

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REFERENCES

1. Aqaghi S, Naderi N, Rezaei B. Evaluation of entrepreneurship teaching skills based on the Bourich model: A mixed approach. *Quarterly journal of research papers* 2016; 4(3): 129-43. [In Persian].
2. Yamani N, Alizadeh M, Changiz T, Taleghani F. Need assessment for master of science in family nursing curriculum: using Delphi technique. *Iranian journal of nursing* 2012; 24: 8-19. [In Persian].
3. Maleki H. Curriculum planning (practice guide). Burhan School of Cultural Education, 2017.
4. Dehghani M R, Zare S, Bazrafkan L, Amini M, Koujori J, Asghar Hayat A, et al . Educational needs assessment and educational program planning with the developing a curriculum model in Shiraz University of Medical Sciences, Iran. *Strides in development of medical education* 2014; 11(3): 299-312. [In Persian].
5. Mtshali NG. Implementing community-based education in basic nursing education programs in South Africa. *Curationis* 2009; 32(1): 25-32.
6. Thomas E, Davies B. Nurse teachers' knowledge in curriculum planning and implementation. *Nurse Educ Today* 2006; 26(7): 572-7.
7. Hedayati, A, Maleki, H, Sadeghi, A, Saadipour, I. Design and validation of a curriculum-based curriculum template for a master's degree course curriculum. *Qualitative research in curriculum*. 2016; 1(4): 21-40.
8. Binaghi TA, Saeedi Rezvani M. Designing applied science curricula in higher education courses: providing an appropriate pattern. *National Conference on Technology in Higher Education*, 2015. [In Persian].
9. Ahmadpour A, Ghasemi H, Ali Khanidadukalayi M. Factors influencing the development of entrepreneurship skills for students at agricultural colleges. *Quarterly journal of management education* 2015; 32: 26-40. [In Persian].
10. Wilson J. Bridging the theory practice gap. *Aust Nurs J* 2008; 16(4): 45-56.
11. Garcia-Alegria J. Core competencies in internal medicine. *Eur J Intern Med* 2012; 23(4): 338-41.
12. Safari S, Sami Zadeh M. Needs assessment of knowledge training and entrepreneurship skills in humanities. *Journal of technology* 2012; 7(1): 65-78. [In Persian].
13. Yamani N, Mousavi M, Haghani F. Need assessment of the course "entrepreneurship and familiarization with business" in Isfahan University of Medical Sciences. *Iranian journal of medical education* 2016; 16: 320-7. [In Persian].
14. Arasti Z, Kiani Falavarjani M, Imanipour N. A study of teaching methods in entrepreneurship education for graduate students. *Higher education studies* 2012; 2(1): 2-10. [In Persian].
15. Torben B. The camp model for entrepreneurship teaching. *International entrepreneurship and management journal* 2010; 7(2): 279-96.
16. Zabibi M, Moghaddasi A. *Entrepreneurship, from theory to practice*. Mashhad: Jahan Farda; 2006. [In Persian].
17. Khaledi KH, Agahi H, Eskandari F. Educational needs of entrepreneurship management, College of Agriculture, West of Iran. *Quarterly journal of agricultural management management* 2014; 3(4): 3-15. [In Persian].
18. Hicks O. *Curriculum in Higher Education in Australia- Hello? Enhancing higher education, theory and scholarship*. Proceedings of the 30th Herdsa Annual Conference, 8-11 July 2007, Adelaide, Australia.
19. Solomon G. National Survey of Entrepreneurship Education in the United States. Proceeding at OECD conference fostering entrepreneurship. Trento, Italy, 2005.
20. Redford Dana T. Entrepreneurship education in Portugal: 2004/2005. National Survey. Comportment Organ EGESTAO 2006; 12(1): 19-41.
21. Honig B. Entrepreneurship education: Toward a model of contingency-based business planning. *Acad Manag Learn Educ* 2004; 3(3): 258-73.