ORIGINAL ARTICLE

Assessing the Curriculum Quality of Health Sciences Disciplines Through an Entrepreneurship Education Approach Using Klein's Nine-factor Framework

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Background: A curriculum grounded on students' entrepreneurial traits can significantly help knowledge production and institutional and business development. This study evaluated the internal quality of an entrepreneurship-oriented health sciences curriculum from the viewpoint of students.

Method: The study employed a descriptive-analytical design. The target population included all students enrolled in health sciences disciplines at Birjand University of Medical Sciences. The Krejcie and Morgan table was used to determine a sample size of 194 participants, who were subsequently selected via convenience sampling. A 74-item researcher-made questionnaire was employed for data collection. The face validity of the instrument was confirmed by a panel of experts in medical education and curriculum planning. Moreover, the questionnaire's reliability was established using Cronbach's alpha, yielding a coefficient of 0.79. Data were analyzed with SPSS software (version 16), employing descriptive (frequency and percentage) and inferential statistics (one-sample t-test).

Results: A statistically significant difference ($p < 0.05$) was found between the empirical mean values and the theoretical mean value for curriculum elements in entrepreneurship-oriented health sciences programs, as viewed by students. The elements of objectives (3.33), content (3.58), learning materials (3.32), and evaluation (3.07) were at a desirable level, with their means exceeding the theoretical benchmark. A significant difference ($p < 0.05$) was observed for the elements of teaching strategies (2.86), learning activities (2.50), grouping (2.61), time allocation (2.35), and learning space (2.62), where the empirical means fell below the theoretical mean ($p < 0.05$).

Conclusion: Academic curricula in medical universities, particularly in health faculties, function as critical contributors to achieving core educational and institutional goals.

Keywords: Entrepreneurship; Curriculum; Assessment; Health Education; Klein Framework

سلوك أعضاء هيئة التدريس الطبيّة في تقديم التغذية الراجعة للطلاب في التعليم السريري بناءً على نموذج تحليل النتائج الموجه بالجدول (ALOBA) في مستشفى ابن سينا التعليمي، مشهد، إيران

الخلفية: تُعد التغذية الراجعة ضرورية لتطوير المتعلمين، وينبغي تدريب المعلمين والأساتذة على أهمية التغذية الراجعة. هدفت هذه الدراسة إلى تحديد حالة التغذية الراجعة في التعليم السريري باستخدام نموذج التغذية الراجعة الموجه بالجدول لتحليل النتائج (ALOBA).

الطريقة: في هذه الدراسة المستعرضة، تم شمل ٨ أعضاء هيئة تدريس الذين كانوا يدرّسون خلال فترة ٤ أشهر، في مستشفى ابن سينا التعليمي في مشهد، إيران، عام ٢٠٢٠. تم تسجيل أدائهم في تقديم التغذية الراجعة خلال إجمالي ٦٦ جولة سريرية. وا ستُخدمت قائمة تحقق صالحة بناءً على نموذج التغذية الراجعة ALOBA لجمع البيانات.

النتائج: كانت حالة المجالات الثلاثة للتغذية الراجعة، بما في ذلك تنظيم التغذية الراجعة التعليمية، والتغذية الراجعة البناءة، ونتائج التغذية الراجعة، والحالة العامة للتغذية الراجعة، مرغوبة. كان لأعضاء هيئة التدريس الذكور حالة تغذية راجعة تعليمية أفضل من الإناث ($p<0.001$). بالإضافة إلى ذلك، كان هناك فرق ذو دلالة إحصائية بين درجات أعضاء هيئة التدريس ذوي الخبرة العملية الأقل والأكثر من ١٥ عامًا ($p<0.001$). أما بخصوص الرتبة الأكاديمية، فإن الحالة العامة للتغذية الراجعة والتغذية الراجعة في كل مجال من المجالات الثلاثة كانت تختلف اختلافًا ذا دلالة إحصائية بين الأساتذة المساعدين وأساتذة المناصب العليا ($p<0.001$) وبين الأساتذة المساعدين والأساتذة المساعدين ($p<0.001$).

الخلاصة: كانت التغذية الراجعة في المجالات الثلاثة لنموذج ALOBA على مستوى مرغوب، وتأثرت بعوامل مثل الجنس والخبرة العملية والرتبة الأكاديمية. هناك حاجة إلى دراسات إضافية لفحص حالة تقديم التغذية الراجعة في التعليم السريري.

الكلمات المفتاحية: التغذية الراجعة، نموذج ALOBA، التعليم السريري، التعليم الطبي، أداء أعضاء هيئة التدريس

ارزیابی کیفیت برنامه درسی رشته های علوم بهداشتی با رویکرد آموزش کارآفرینی بر اساس الگوی نه گانه کلاین

زمینه و هدف: دانشگاهی که برنامه درسی آن مبتنی بر ویژگی های کارآفرینانه دانشجویان باشد نقش مهمی در تولید دانش و توسعه مؤسسات و کسب و کار خواهد داشت. مطالعه حاضر ارزیابی کیفیت درونی برنامه درسی رشته های علوم بهداشتی مبتنی بر آموزش کارآفرینی از دیدگاه دانشجویان بود.

روش: این مطالعه توصیفی – تحلیلی است. جامعه مورد مطالعه تمامی دانشجویان رشته های علوم بهداشتی دانشگاه علوم پزشکی بیرجند بودند نمونه بر اسلس جدول کرجسی و مورگان ۱۹۴ نفر برآورد شد و به روش نمونه گیری در دسترس انتخاب شدند. برای جمع آوری اطلاعات از پرسشنامه محقق ساخته استفاده شد که دارای ۷۴ سوال بود روایی صوری پرسشنامه به تائید صاحبنظران برنامه ریزی درسی و آموزش پزشکی رسید و پایایی پرسشنامه با استفاده از شیوه الفای کرونباخ ۰/۷۹ بدست آمد. برای تحلیل داده ها از نرم افزار SPSS نسخه ۱۶و از آمار توصیفی (فراوانی و درصد) و آمار استنباطی (t تک نمونه ای) استفاده شد.

یافته‌ها: بین میانگین تجربی بدست آمده در عناصر برنامه درسی شامل اهداف (۳/۳۳)، محتوا(۳/۵۸)، مواد یادگیری (۳/۳۲) و ارزشیابی(۳/۰۷) رشته های علوم بهداشتی مبتنی بر آموزش کارآفرینی از دیدگاه دانشجویان با میانگین نظری تفاوت معنی دار بوده و در وضعیت مطلوبی قرار داشت ($P<0/05$). اختلاف بین میانگین تجربی عناصر راهبردهای تدریس (۲/۸۶)، فعالیت یادگیری (۲/۵۰)، گروهبندی (۲/۶۱) ، زمان (۲/۳۵) و مکان (۲/۶۲) با میانگین نظری معنی دار بود و پائین تر از میانگین قرار داشت. ($P<0/05$).

نتیجه گیری: برنامه های درسی در دانشگاه های علوم پزشکی و مخصوصاً دانشکده های بهداشت، از جمله عوامل و عناصری هستند که در تحقق بخشیدن به اهداف آموزشی دانشگاه نقش بسزایی دارند

واژه های کلیدی: کارآفرینی، برنامه درسی، ارزیابی، آموزش بهداشت، الگوی کلاین

ایران کے مشہد میں ابن سائن ٹیچنگ ہسپتال میں کینیڈا کے تحت طبی اسٹاذہ کی طرف سے طلبۂ کو کلینیکل تعلیم میں فیڈ بیک دینے کا رویہ، ایجینڈا لیکڈ آؤٹ کم بیسڈ اینلیسز (ALOBA) کے مطابق

پس منظر: فیڈ بیک سیکھنے والوں کی ترقی کے لیے ضروری ہے، اور اساتذہ اور استادوں کو فیڈ بیک کی اہمیت پر تربیت دی جانی چاہیے۔ اس تحقیق کا مقصد ایجنڈا لیکڈ آؤٹ کم بیسڈ اینالیسز (ALOBA) فیڈ بیک ماڈل کا استعمال کرتے ہوئے کلینیکل تعلیم میں فیڈ بیک کی حیثیت کا تعین کرنا تھا۔

طریقہ: اس کراس سیکشنل تحقیق میں، ۲۰۲۰ میں ایران کے مشہد میں ابن سائن ٹیچنگ ہسپتال میں ۳ مہینوں کی مدت میں تدریس کرنے والے ۸ اساتذہ عملہ شامل کیے گئے۔ کلینیکل راؤنڈز کی کل ٦٦ میں ان کے فیڈ بیک دینے کا کارکردگی ریکارڈ کیا گیا۔ ڈیٹا اکٹھا کرنے کے لیے ALOBA فیڈ بیک ماڈل پر مبنی ایک درست چیک لسٹ کا استعمال کیا گیا۔

نتائج: فیڈ بیک کے تینوں شعبوں، جن میں تعلیمی فیڈ بیک کی تنظیم، تعمیراتی فیڈ بیک، اور فیڈ بیک کے نتائج شامل ہیں، اور فیڈ بیک کی مجموعی حیثیت مرغوب تھی۔ مرد اساتذہ کی تعلیمی فیڈ بیک کی حیثیت خواتین سے بہتر تھی ($p<0.001$)۔ اس کے علاوہ، ۱۵ سال سے کم اور زیادہ پریکٹیکل تجربات رکھنے والے اساتذہ کی اسکورنگ کے درمیان نمایاں فرق پایا گیا ($p<0.001$)۔ ایکادیمک رینک کے حوالے سے، فیڈ بیک کی مجموعی حیثیت اور فیڈ بیک کے ہر تینوں شعبوں میں فیڈ بیک پروفیسرز اور اسسٹنٹ پروفیسرز ($p<0.001$) اور اسسٹنٹ پروفیسرز اور پروفیسرز ($p<0.001$) کے درمیان نمایاں فرق پایا گیا۔

نتیجہ: ALOBA ماڈل کے تینوں شعبوں میں فیڈ بیک مرغوب سطح پر تھا اور اس پر جنس، کام کا تجربہ اور ایکادیمک رینک جیسے عوامل نے اثر انداز کیا۔ کلینیکل تعلیم میں فیڈ بیک دینے کی حیثیت کا مطالعہ کرنے کے لیے مزید تحقیق کی ضرورت ہے۔

کلیدی الفاظ: فیڈ بیک، ALOBA ماڈل، کلینیکل تعلیم، طبی تعلیم، اساتذہ کی کارکردگی

INTRODUCTION

Higher education system is a key driver of economic, social, and cultural development in societies. In Iran, a principal role played by the higher education sector is to generate the specialized human resources necessary for industry, agriculture, and services, among others (1). While workforce preparation and training have conventionally been among the primary goals of higher education, current analysis suggests this function may now represent its primary objective (2).

The Iranian higher education system has encountered several challenges in recent years. Key among these challenges are the increase in the number and diversity of higher education institutions, as well as the growing number of unemployed graduates (3). This expansion of higher education institutions and the resulting large number of graduates have, over recent decades, oriented these institutions toward revisiting and measuring various aspects of educational quality. As such, the university system has been compelled to reconsider its structure, goals, and internal processes. As universities are among the most critical educational institutions, they are expected to constantly assess their performance against desired standards and take the necessary measures to address their shortcomings (4).

Conversely, rising graduate unemployment rates in recent decades have increased criticism of the education system. In this regard, some officials and experts have attempted to align curricula with societal and labor market demands to lower graduate unemployment and supply skilled and specialized human capital to economic sectors (5). A major challenge in higher education is therefore the theory-practice gap in graduate competencies (6). To address this challenge, curriculum developers have increasingly focused on entrepreneurship as a means to link theoretical and practical knowledge with societal needs (7).

Curriculum experts and designers lack a universal agreement on the primary elements of a curriculum, each assuming certain components for the curriculum. For example, Johnson, in the 1960s, considered learning outcomes to be the sole key element of a curriculum. Stark and Lattuca define curriculum elements to encompass purpose, content, sequence, learners, instructional processes, resources, and assessment. This study analyzes the elements of an entrepreneurship training curriculum based on Klein's perspective. Klein's framework in curriculum planning identifies seven levels: ideal, societal, formal, institutional, instructional, operational, and experiential. Building upon this multi-level structure, he outlines nine curricular elements: goals, content, learning activities, materials, teaching methods, learner grouping, space, time, and evaluation (8).

Curriculum elements act as the heart of an educational institution and determine its success or failure. Curricula are therefore indicative of the progression and responsiveness of higher education to the changing needs of society (9). Curricular content must be adequately proportionate to the respective objectives and functions so that it performs its role effectively. Therefore, the core step in educational planning involves identifying and prioritizing entrepreneurship-oriented educational needs; when these are realistic, resulting programs will be coherent with reality and effective in problem solving (10).

As the mission of universities have evolved over time, one efficient approach currently considered by medical education planners for enhancing the quality of medical training is the entrepreneurship based curriculum model (11). Mohammadi et al. studied needs assessment for entrepreneurship education in health sciences. They found that students rated entrepreneurial knowledge and training (mean score: 4.38), and faculty rated the entrepreneurial quality of the health school's social environment (mean score: 4.10), as the two major priorities for educational needs in the curriculum. They also noted a lack of significant association between the theoretical education of health sciences graduates and the practical skills required in their workplaces and communities (12). As such, to reduce the divide between university education and the demands of the labor market, an entrepreneurship-oriented curriculum is needed. Alongside this, teachers should adopt teaching methods that can promote these competencies (13). Since extant research has not evaluated health sciences curricula from this standpoint, the current study sought to assess the quality of the health sciences curriculum—with a focus on entrepreneurship—from the perspectives of students at Birjand University of Medical Sciences.

METHODS

A cross-sectional analytical study was conducted in 2022 to investigate the internal quality of the health sciences curriculum with an emphasis on entrepreneurship education from the perspective of students at Birjand University of Medical Sciences. The research population comprised all health-related students (majoring in public health, health education, environmental health, and occupational health) at Birjand University of Medical Sciences (n=390 students). Based on the Krejcie and Morgan table, the sample size was determined as n=194, who were selected using convenience sampling. Questionnaires were administered and collected through the Porsline software. The study included students who were in their second academic semester or higher. Students who did not consent to complete the questionnaire were excluded. The data

collection instrument was a researcher-developed questionnaire, designed using Klein's nine-element curriculum model (8) with a focus on entrepreneurship education. To develop the questionnaire, the researchers first reviewed similar research articles conducted in general education and other educational systems. These studies centered on entrepreneurship education designed to increase knowledge, improve attitudes, develop skills, and enhance an entrepreneurial mindset in learners. Key codes were extracted from this review. Based on these codes, the authors crafted questionnaire items corresponding to each of Klein's nine curriculum elements. After the initial draft, the questionnaire was given to ten experts in medical education, health education, and curriculum planning to evaluate its content validity. The Content Validity Ratio (CVR) was computed. Three questions with a CVR value below 0.62 were removed, leaving a final set of 74 approved questions.

This questionnaire consisted of two sections; the first section included demographic characteristics of the respondents, including gender and age. The second section entailed 74 questions that measured 9 curriculum elements: objectives (18 questions), content (11 questions), learning activities (6 questions), teaching strategies (9 questions), learning materials (7 questions), student grouping (3 questions), space (9 questions), time (5 questions), and evaluation (6 questions). The items were responded on a 5-point Likert scale (5=very high score and 1=very low score).

The overall mean score of the questionnaire fell within a range of 1 to 5, where a mean score higher than 3 indicated that the quality of the health sciences curriculum lent more toward entrepreneurship-based education. To assess reliability, 40 questionnaires were first completed by the sample group, and reliability was measured using Cronbach's alpha, resulting in a value of 0.79. Data were analyzed with SPSS version 16. For the curriculum elements, the total score for each element was divided by its number of items to calculate an average per element. Based on similar studies and because the questionnaire used a 5-point Likert scale, each calculated mean was compared to a theoretical mean of 3 (8). The analysis made use of descriptive statistics (frequency and percentage) and one-sample t-test. The significance level was set at $p < 0.05$.

RESULTS

Of the total 194 completed questionnaires, 88 participants were male (45.4%) and 106 were female (54.6%). The mean age of participants was 18.41 years (Table 1).

In general, there was a significant difference between the empirical mean value of the internal quality of the health sciences curriculum and the theoretical average. Hence, the curriculum of these disciplines did not have a desirable internal quality.

Table 1. Descriptive indicators and one-sample t-test results for the evaluation of internal quality dimensions in health sciences curricula integrating entrepreneurship education

Curriculum elements	Mean (SD)	P value
Objectives	3.33 (0.918)	0.001
Content	3.58 (0.887)	0.001
Teaching strategies	2.86 (0.968)	0.019
Learning activities	2.50 (0.985)	0.026
Learning materials	3.32 (0.926)	0.005
Grouping	2.61 (0.899)	0.039
Space	2.62 (0.952)	0.002
Time	2.35 (0.920)	0.005
Evaluation	3.07 (0.995)	0.001
Curriculum's internal assessment	2.91 (0.964)	0.006

In general, there was a significant difference between the empirical mean value of the internal quality of the health sciences curriculum and the theoretical average. Hence, the curriculum of these disciplines did not have a desirable internal quality.

The results from Table 1 reveal a statistically significant difference ($p < 0.05$) between the empirical mean and the theoretical cut-off (3) for the curriculum elements of objectives, content, learning materials, and evaluation, as perceived by students. This indicates a desirable status of these components in the health sciences curriculum employing an entrepreneurship education approach. On the other hand, a significant negative deviation ($p < 0.05$) was observed for the elements of learning materials, teaching strategies, grouping, space, and time, with empirical means below the theoretical benchmark, suggesting an unsatisfactory status from the student perspective. In sum, the analysis revealed a significant discrepancy between the overall empirical mean for the curriculum's internal quality and the theoretical mean, leading to the conclusion that the internal quality of the health sciences curriculum based on entrepreneurship education is suboptimal.

The results of Table 2 indicate a lack of significant difference between the average internal quality of the health sciences curriculum based on entrepreneurship education from the perspective of male and female students of Birjand University of Medical Sciences ($p < 0.05$).

Table 2. Comparison of the mean internal quality of the health sciences curriculum based on entrepreneurship education from the perspective of male and female students

Evaluation Criteria	Gender	Mean (SD)	P value
Internal quality of the curriculum	Male	2.81 (1.22)	0.107
	Female	3.02 (0.708)	

There were no significant associations between the internal quality elements of the health sciences curriculum and the academic semester and age of the students ($p > 0.05$) (table 3).

Table 3. Correlations between internal quality elements of the health sciences curriculum and students' academic semester and age

Variable	Academic semester		Age	
	Correlation coefficient	Significance level	Correlation coefficient	Significance level
Internal quality of the curriculum	0.033	0.570	-0.015	0.785

DISCUSSION

Curricula in medical universities, and especially health schools, are among significant contributors to realizing the university's educational goals. As the core of academic centers and a reflection of educational roles and goals, curricula deserve careful attention (14). Findings from this study revealed that the empirical means for certain elements—namely objectives, content, learning materials, and evaluation—were higher than the theoretical benchmark of 3. Conversely, the empirical means for teaching strategies, learning materials, grouping, space, and time were lower than the theoretical mean ($p < .05$). Moreover, no significant correlations were established between the average internal quality of entrepreneurship based health sciences curricula and gender, academic semester, or age ($p > .05$).

The study found that the curriculum components—objectives, content, learning materials, and assessment—in entrepreneurship based health sciences programs are perceived by students to be at an appropriate level. This observation aligns with the conclusions made by Mohammadi et al. (12) and Jim et al. (15), who assert that objectives, as a paramount curricular element, require especial consideration in medical sciences institutions. This finding is also consistent with the study of Ghanati et al. (16) who believed that content, learning materials, and evaluation should strengthen the three areas of entrepreneurial knowledge, attitude, and skills in students. Yamani et al. (17) believed that the entrepreneurship- and business-oriented curriculum in medical universities should be structured such that it can develop students' entrepreneurial skills in line with advancing the economy of the society and empowering graduates. Hence, the curricular objective of entrepreneurship-oriented health sciences disciplines should aim to address the challenges inherent in the training and development of entrepreneurial students. Such objectives must enhance the awareness of both students and faculty members in alignment with ongoing transformations within the health entrepreneurship ecosystem (12).

Moghaddasi et al. (18) and Malekipour (19) noted that the content of entrepreneurship education should strengthen skills such as planning, critical thinking, self-evaluation, leadership, social network negotiation, teamwork, time management, a spirit of self-reliance, criticism and analysis, and the ability to innovate and be creative. This finding is consistent with the results of the present study. Moreover, based on the results obtained, entrepreneurship-oriented learning materials and resources were classified into three categories—publications, discussions, and observation—and all three materials should be employed in the entrepreneurship-oriented curriculum. This finding complies with the findings from Mortazanejad et al.'s study (20). They argued that learning resources should align with educational objectives and content. Indeed, analysis of core upstream documents and their subsidiary frameworks reveals that entrepreneurship education within national health sciences curricula should prioritize the integration of key competencies, namely, critical thinking, problem-solving, decision-making, self-assessment, self-awareness, volition, lifelong learning, self-confidence, accountability, adaptability, and professional ethics, among others—issues that require increased emphasis in future educational planning (12).

Other findings revealed that the status of certain curricular elements—teaching strategies, learning activities, grouping, time, and space—based on entrepreneurship education is suboptimal as perceived by health sciences students. These findings are consistent with those of Chung et al. (21), Huertas et al. (22), and Mohammadi et al. (13). They argued that entrepreneurial competencies are not taught to students based on the aforementioned curriculum elements and that faculty and educational spaces in universities are not in line with the third-generation university. Therefore, the focus in entrepreneurship education today is less on why it is needed or what it entails, and more on the methods of teaching and learning. There is no longer any doubt, as there once was, about the significance and necessity of entrepreneurship training. Entrepreneurial teaching and learning strategies involve adapting modern teaching methods to the goals of the entrepreneurship curriculum, ensuring active student participation, preparing students to learn entrepreneurial concepts, providing high-quality feedback, offering time for reflection, and developing students' emotional and cognitive capacities. Executing such a curriculum needs a dynamic and varied approach; all active teaching and learning strategies can effectively support entrepreneurial learning and practice (12).

The present study found that classrooms should facilitate the growth and development of students' talents and creativity. Environments where teachers establish a discursive space and encourage debate yield a higher chance of student-generated ideas,

which tend to result in novel ideation. This finding complies with findings by Malekipour (19), Maghsoudi (23), and Mortazanejad et al. (20), who stressed the need for a classroom atmosphere characterized by liveliness, dynamism, and productive dialogue. Moreover, within entrepreneurship-based curricula, instructional time should be structured according to the following dimensions: extended allocation beyond standard periods, readiness-based scheduling, competency and occupational need-based scheduling, creativity and talent-oriented scheduling, and unlimited flexible time.

One of the limitations of the study was the scarcity of literature on entrepreneurship-oriented curricula in medical universities, which extended the research duration. Moreover, the use of a convenience sample from a single health faculty limits the generalizability of the results. Future research may include multi-center studies at the national or macro-regional level across health faculties.

CONCLUSION

Presently, entrepreneurship within a knowledge-based economy is a vital necessity acknowledged invariably by various experts. Conversely, curricula in health faculties are among the factors and elements that play a significant role in realizing the university's educational goals. The curriculum should promote physical and intellectual growth, foster communication and analytical skills, and help students appreciate the role of human thought in social development. As such, the content of academic courses should be adapted to occupational needs, and opportunities for work-based experience and internships should be provided in order to train entrepreneurship-competent health students. Moreover, it is necessary to establish a foundation for implementing practical and experience-based educational programs by facilitating student engagement in workplaces and industrial settings, thereby stimulating their intellectual development. Concurrently, technological capacities should be leveraged to enhance classroom intelligence, with the objective of simulating business environments.

Ethical Considerations:

Ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc., have been completely observed by the authors. This article is based on a research project in education (ethics code: IR.BUMS.REC.1397.218).

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REFERENCES

1. Javadi A, Mohammadi Y. Investigating the relationship between academic procrastination, internet addiction, and academic performance among Medical Sciences students, Birjand, Iran. Future Med Educ J, 2025; 15(1): 25-29.

2. Ajaghi S, Naderi N, Rezaei B. Evaluation of entrepreneurship teaching skills based on Borich's model: a mixed approach. Teaching Research, 2016; 4(3): 129-45. Persian

3. Zarghani H, Shahbeiki M, Raeisoon MR, Khoshravan Z, Mohammadi Y. Investigating the Rate of Adaptation between the Courses of Radiation Technology and Job Requirements from the Perspective of Graduates. Future Med Educ J, 2017;8(4):1-7.

4. Fadaei A, Ghafari M, Amiri M, Shakeri K. Investigating Environmental Health Engineering Graduates' viewpoints about the Conformity Rate of the curriculum with Their Professional Needs in Chaharmahal and Bakhtiari Province. Iranian Journal of Medical Education. 2014; (9)14: 787-95.

5. Kim S, Ryoo H, Ahn H. Student customized creative education model based on open innovation. J. Open Innov. Technol. Market Complex, 2017; 3(6):35-49.

6. Tabitha Wanjiru K, Gicuru Kirimi I, Andrew B. Nyaboga. The Effect of Entrepreneurship Curriculum in Inculcating Entrepreneurial Intention among University Entrepreneurship Students in Kenya. Science Journal of Education, 2016;4(2): 57-64.

7. ashrafi S, Najafi Hezarjaribi HA. Educational Entrepreneurs Competencies. Journal of New Approaches in Educational Administration, 2020; 11(41): 95-116.

8. Roshanialibenesee H, Fathi Vajargah K, Khorasani A. Curriculum Design of Iran's Virtual Education System Based on Klein's Nine Model at Shahid Beheshti University in the 2013-2014 Academic Year; Obstacles and challenges. Educ Strategy Med Sci 2022; 15(4) :309-18. Persian

9. Raeisoon MR, Raeisi M, Mohammadi Y. Effect of Using the Constructivist Teaching Method on Creative Thinking and Entrepreneurship. Health Tech Ass Act. 2024;8(1).

10. Kossari M. Explaining the Characteristics of the Fourth Element of the Undergraduate Curriculum, Emphasizing the Development of Entrepreneurial Skills. Research Planning and Planning in Higher Education, 2009; 54(4): 18-18.

11. Hannani M, Khoramabadi H, Rastgar M, Motalebi-Kashani M. The Views of Occupational Health Graduates Working in Kashan, Iran, on Compliance of Curriculum Content with Occupational Requirements. Journal of Medical Education Development Center. 2016; 13(1): 84-91.

12. Mohammadi Y, Maleki H, Khosravi M, Miri MR, Abbaspour A. Identifying the Educational Needs for Developing an Entrepreneurship-Based Curriculum from the Perspective of Students and Faculty Members of Health-Associated Disciplines. Future Med Educ J, 2018; 8(3): 9-16.

13. Mohammadi Y, Malaki H, Khosravi M , Miri MR , Abbaspour A. Analysis of Teaching and Learning Strategies in Medical Education Curriculum with Entrepreneurship Education Approach, Birjand University of Medical Sciences, 2018; 25(2): 16-26. Persian.

14. Fazeli S, Esmaeili A, Mohammadi Y, Raeisoon M. Investigating the Compliance of the Curriculum Content of the Psychiatric Department of Medicine (Externship and Internship) with the Future Job Needs from the Perspective of General Practitioners. Res Med Edu, 2021; 13 (3):72-79 .Persian

15. Jim Wu Y Chih-Hung Y. Chia-I P. Entrepreneurship Education: An Experimental Study with Information and Communication Technolog, Sustainability, 2018; 10(691):1-13.

16. Ghanaati M, Nodehi H, Ghodrati A, Jalalifar A. Impact of Entrepreneurship Education on Entrepreneurial Intentions of Students Sabzevar University of Medical Sciences. Journal of Sabzevar University of Medical Sciences, 2017; 24(5): 319-25.

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: 320-27. Persian

17. Moghaddasi J, Keikavoosi Arani M, Keikavoosi Arani L. Factors Affecting the Transformation of Medical Sciences Universities into Entrepreneurial Universities in Iranian Higher Education System. Journal of healthcare management, 2016; 6(4): 49-59. Persian

18. Malekipour A. Designing a curriculum for entrepreneurship and career education based on successful operational projects by going through the Stort Mill model. Research in Curriculum Planning, 2023; 19(75): 172-88. Persian.

Mortazanejad N, Attaran M, Hosseinikhah A, Abbasi E. Explanation of Entrepreneurship Curriculum Components in General Education Synthesis Inquiry. TPC, 2017; 5(9): 105-42. Persian.

19. Chung-Gyu B, Chang Soo S, Joo Y. P, Dae Soo C. A Study on the Effectiveness of Entrepreneurship Education Programs in Higher Education Institutions: A Case Study of Korean Graduate Programs, 2018;4(3): 26-38.

20. Huertas M, Jacobo R. Entrepreneurial and intrapreneurial intentions of sports science students: what are their determinant variables? Journal of Physical Education and Sport, 2018;18(3): 1363 - 72.

21. Maghsoudi S. A study of teaching methods in entrepreneurship education. Bi-Quarterly Journal of Educational Studies, Nama Aja. 2016; 7 (45):63-70.