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Research Article

Evaluation of the Overall Quality of the Health Technology Assessment Educational Program from the Perspectives of University Professors and Learners in Iran

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Abstract

Background: Failure to evaluate, examine, and assess the requirements and determine the quality level of the educational program of educational fields will result in low-quality and obsolete curricula. It will prevent the academic areas from achieving their goals.

Objectives: This study aimed to evaluate the overall quality level of the health technology assessment (HTA) educational program from the perspectives of university professors and students.

Methods: The study was conducted with 127 university professors, students, and HTA graduates at Tehran, Iran, Kerman, and Yazd Universities of Medical Sciences. A researcher-made questionnaire did the data collection. Cronbach's alpha coefficient for the entire questionnaire was 91%, and the intra-domain correlation coefficient was 87%, indicating that the instrument was appropriate. The data were analyzed with descriptive and analytical tests based on their normality or non-normality using Kruskal-Wallis and Friedman test and ANOVA or two-way ANOVA.

Results: This research was completed by 114 out of 127 participants. According to a review of diverse perspectives, the quality of the educational program in terms of design elements in special courses and executive elements in compensatory courses was within the range of average (1.66< mean <2.32) and renege of favorable (mean>2.32). In addition, the majority of executive elements from special courses and design elements from compensatory classes were in an unfavorable position, with a (1.66> mean) the average position (1.66< mean <2.32).

Conclusions: Problems and inadequacies were observed in a few educational program implementation elements. Therefore, modifications should be made to remedy the inappropriate details and remove implementation obstacles to enhance the interested groups' capability and practical skills.

Keywords: Health Technology Assessment (HTA); Educational Program; Evaluation

1. Background

Health technology assessment (HTA) was devised in Europe in the late 1970s and institutionalized and bolstered in the late 1980s and 1990s (1). The "Secretariat of Health Technology Assessment" was established in Iran in 2007, and the first period of student admission in this discipline began in 2010 at the Tehran University of Medical Science, Faculty of Health, with the entry of four students (2, 3). The number of candidates admitted to this field increased over the subsequent years. In addition to Tehran University, Yazd University of Medical Sciences in 2012, and the Iran University of Medical Sciences and Kerman University of Medical Sciences in 2013 began enrolling students.

According to the approval of the 42nd meeting of the Supreme Council of Medical Sciences Planning in 2010, the total number of study units in HTA is 31 units, which includes 21 units of specific compulsory courses (core), four units of optional special courses (non-

core), and six units of thesis. Revision of curricula is viewed as the foundation and imperative of educational advancement. It is necessary to include educational objectives and fundamental assessment and evaluation in educational programs (4). The educational program reflects educational activities and goals that play a decisive and crucial role in determining the success or failure of academic centers (5). According to Klein (6), and Sanyal and Martin (7), the compatibility between the objectives of the educational program and the professional requirements of the audience, as well as the progression toward the educational program's practical implementation, are essential characteristics of a good and high-quality educational program.

One of the primary causes of educational system inadequacy is the need for more accurate and continuous educational program evaluation, review, and revision. If the caliber of higher education is adequate, there will be sufficient qualified and specialized human resources (8). Due to their significance, these programs require the utmost care and oversight (5), and all curricula must be scrutinized to implement the necessary reforms (9). Evaluation of the quality of an educational program is to check the degree of desirability and status of its components in achieving the desired goals of academic institutions and higher education (10). According to the paradigm of Francis Klein, the nine elements of educational program quality assessment are objectives, content, time, evaluation, teaching-learning strategies, learning activities, materials and resources (educational, human, and other), grouping, and location (11).

Developing and enhancing HTA requires a suitable educational platform and the training of competent and capable human resources (12, 13). Due to science and technology's constant and rapid evolution, new challenges have arisen in HTA and related fields. To date, the evaluation of the educational program in the mentioned field has yet to be done. Also, there is no evaluation, review, requirement assessment, or program quality level determination. Therefore, it will be of poor quality and become obsolete, and its objectives will not be met.

2. Objectives

This study assessed the quality of HTA courses in Iran.

3. Methods

This descriptive-survey research was conducted to evaluate the internal quality of the HTA educational program by census method. Participants were 127 cases (45 professors, 39 graduates, and 43 students) from all universities of medical sciences in Iran, including Iran, Tehran, Kerman, and Yazd Universities of Medical Sciences. From the commencement of the field in 2010 to 2015, all learners (students and graduates) participated in the study. Students were required to pass theoretical and practical courses (except the thesis) to be accepted into the program.

The tool utilized for collecting data in this study was a questionnaire developed by the researchers and based on Klein's nine-area educational program evaluation framework (14). This questionnaire included two distinct sections for university professors and learners. The first section, a questionnaire for university professors, consisted of eleven questions devised and compiled specifically for the course or courses they taught and not for all course topics. The second section consisted of a table-based learner questionnaire. The nine educational program elements (objectives, content, instructional strategies, learning activities, grouping, time, materials and resources, location, and evaluation) were addressed in one dimension. On the other hand, the course titles of the mentioned discipline were set independently for various courses. The responses to both questionnaires were based on a three-point Likert scale: (No: 1; somewhat: 2; yes: 3) and "no idea" (unweighted) if any of the optional courses were not available at the universities where the participants studied.

The quality was determined based on the weighted mean; thus, it was divided into three categories: Favorable position (mean>2.32), average position (1.66< mean <2.32), and unfavorable position (1.66> mean). Data were gathered after receiving permission from the Tehran University of Medical Sciences and participants' consent to participate in the study. By the confidentiality principle, the information of the research units was recorded without their names and surnames. As much as practicable, data were also collected face-to-face; however, for graduates, data were collected via email.

Ten experts from HTA, statistics, epidemiology, medical education, and educational program planning evaluated the questionnaire after it was designed to determine its face validity and content. After gathering experts' opinions, modifications were made to the questionnaire design, the Likert scale, and the option "no idea" (unweighted) if any optional courses were not offered at the universities where the participants studied. Other essential adjustments were made with the assistance of supervisors and consultants. After the corrections were made, the final questionnaire was compiled and adjusted in two formats: University professors' and learners' questionnaires. Its reliability was then assessed.

The reliability of the questionnaire was determined using the test-retest (stability measurement) and Cronbach's alpha (interrater agreement) methodologies. A code was allocated to each questionnaire corresponding to the retest page and administered to forty individuals (students and graduates) using the test-retest method. After two weeks to one month, the questionnaire was given to the participants again for completion; thirty of the total questionnaires were completed in both phases. The alpha coefficient for the entire questionnaire was 91%, and the coefficient of internal correlation

was 87%, indicating the tool's suitability (Appendix 1 in Supplementary File).

The data were analyzed using descriptive statistics, like frequency, percentage, and mean. In addition, the Kolmogorov test was used to determine the significance and the difference between the viewpoints. The data were analyzed according to normality or non-normality using Kruskal-Wallis and Friedman tests and ANOVA or two-way ANOVA.

4. Results

Overall, 40 university professors (35.1%), 35 students (35.7%), and 39 graduates (34.2%) took part in this survey. Concerning gender, the highest percentage of teachers (51.6%) were male, and the highest percentage of learners (84.6%) were female. Regarding age, the group of 35 - 39 years old among university professors with 14 people (35%), and the age group of 30 - 34 years old among graduates and students with 19 people (54.3%) had the highest frequency. Most teachers had a work experience of 0-5 years, with a frequency of 14 people (35%), and the lowest rate was 20 years and more, with a frequency of 3 people (7.5%). Most university professors had a work experience of experience three years, with a frequency of 13 people (32.5%). Most students (31 people (79%)) and graduates (26 people (74%)) were satisfied with the educational program. Also, 64% of the studied master's students (25 cases) were employed, but most graduates with a master's degree were not. The total number of course units was 31, of which 21 were related to specific compulsory courses (core), four were related to optional special courses (non-core), and six were related to thesis. Below, the educational program's desirability status and its various aspects are discussed. For confidentiality, university names are coded.

According to Table 1, the place element of executive elements and all design elements (goal, content, time, and evaluation) in different universities were moderate or moderate to favorable. The element of learning activity in Yazd and the elements of teaching strategies, grouping, materials, and resources in Yazd and Kerman were of unfavorable to moderate quality. The element of human resources in university professors and graduates had a statistically significant difference among different universities (P = 0.01). No statistical difference was observed in the remaining elements (P > 0.05).

Table 1. The Quality of the Nine Elements of the Educational Program by Target Groups in the Studied Universities (Lower Limit - Upper Limit) a

Educational Program Elements	University Professors (40 Cases)				Graduates (35 Cases)				Students (39 Cases)				P-Value		
	1	2	3	4	1	2	3	4	1	2	3	4	A	B	C
Objectives	(2.45 - 2.58) b	(2.41 - 2.75) b	(2.41 - 2.73) b	(2.44 - 2.71) b	(1.74 - 2.55) c	(1.98 - 2.50) c	(2.04 - 2.51) c	(2.15 - 2.49) c	(2.20 - 2.68) c	(1.84 - 2.62) c	(2.15 - 2.51) c	(2.27 - 2.40) c	0.64	0.17	0.16
Content	(2.22 - 2.46) c	(2.03 - 2.32) d	(2.39 - 2.19) c	(2.03 - 2.42) c	(1.90 - 2.28) d	(1.85 - 2.12) d	(2.28 - 1.55) d	(1.66 - 2.01) d	(1.74 - 2.28) d	(1.71 - 2.25) d	(1.70 - 2.23) d	(2.15 - 1.76) d	0.89	0.77	0.79
Time	(1.73 - 2.42) c	(2.18 - 2.54) c	(2.21 - 2.43) c	(2 - 2.39) c	(1.73 - 2.23) d	(1.87 - 2.27) d	(1.78 - 2.25) d	(2.26 - 1.76) d	(1.69 - 2.28) d	(1.90 - 2.28) d	(1.67 - 2.11) d	(1.73 - 2.22) d	0.45	0.77	0.65
Assessment	(2.35 - 3.05) b	(2.33 - 2.50) b	(2.61 - 2.37) b	(2.21 - 2.57) c	(1.75 - 2.44) c	(1.76 - 2.35) c	(1.74 - 2.86) c	(1.73 - 2.36) c	(1.85 - 2.44) c	(1.80 - 2.35) c	(1.79 - 2.38) c	(1.82 - 2.41) c	0.31	0.47	0.36
Place	(2.63 - 3.36) b	(2.6 - 2.83) b	(2.55 - 2.88) b	(2.58 - 2.88) b	(2.81 - 2.33) b	(2.35 - 2.83) b	(2.17 - 2.79) c	(2.20 - 2.71) c	(2.11 - 2.63) c	(2.08 - 2.75) c	(2.22 - 2.64) c	(2.25 - 2.64) c	0.21	0.36	0.78
Learning activities	(1.89 - 2.58) c	(1.93 - 2.46) c	(1.70 - 2.17) d	(1.32 - 2.20) e	(2.10 - 2.59) c	(1.87 - 2.25) d	(1.71 - 2.29) d	(1.49 - 2.25) e	(2.13 - 2.52) c	(1.90 - 2.38) c	(1.89 - 2.26) d	(1.42 - 2.28) e	0.89	0.42	0.25
Teaching strategies	(2.59 - 3.30) b	(2.79 - 2.37) b	(2.34 - 2.89) b	(2.39 - 2.74) b	(2.11 - 2.27) c	(2.14 - 2.38) c	(1.54 - 2.31) e	(1.47 - 2.23) e	(2.21 - 2.58) c	(2.49 - 2.14) c	(1.79 - 2.28) e	(1.39 - 2.18) e	0.83	0.89	0.16
Grouping	(2.17 - 2.57) c	(1.73 - 2.29) d	(1.73 - 2.32) d	(1.68 - 2.20) d	(1.82 - 2.41) c	(2.01 - 2.49) c	(1.47 - 2.23) e	(1.48 - 2.21) e	(2.12 - 2.47) c	(1.71 - 2.29) d	(1.29 - 2.18) e	(1.27 - 1.92) e	0.25	0.52	0.53
Human resources	(2.38 - 3.61) b	(2.45 - 3.55) b	(1.61 - 2.20) e	(1.59 - 2.19) e	(2.65 - 2.88) b	(2.45 - 3.75) b	(1.64 - 2.29) e	(1.32 - 2.07) e	(2.24 - 2.71) c	(2.28 - 2.60) c	(1.47 - 2.25) e	(1.47 - 2.30) e	0.03	0	0.21

Educational resources	(2.03 - 2.32) d	(1.92 - 2.29) d	(2.27 - 1.58) e	(1.56 - 2.33) e	(2.39 - 1.98) c	(2.05 - 2.42) c	(1.63 - 2.28) e	(1.31 - 2.18) e	(2 - 2.39) c	(2.40 - 2) c	(1.36 - 2.13) e	(1.32 - 2.07) e	0.21	0.64	0.27
Other sources	(2.01 - 2.39) c	(1.82 - 2.25) d	(1.72 - 2.26) d	(2.05 - 2.31) d	(1.92 - 2.36) c	(1.82 - 2.37) c	(1.60 - 2.20) e	(1.41 - 2.24) e	(1.91 - 2.38) c	(1.90 - 2.28) d	(1.83 - 2.22) d	(1.78 - 2.15) d	0.91	0.48	0.60

[a] A: University professors; B: Graduates; C: Students.
[b] Favorable.
[c] Moderate to favorable.
[d] Medium.
[e] Unfavorable to moderate.

According to Table 2, the quality of grouping elements, human and educational resources, learning activities, and teaching strategies were among the executive elements in mandatory and optional special courses. In contrast, the goal and time elements were arranged in descending order in compensatory and required courses with unfavorable to moderate quality. The remainder of the ingredients in the various sections were moderate or moderate to favorable. The two elements of teaching strategies among respondent groups and the element of human resources at the level of multiple universities were reported, and their difference was statistically significant ($P > 0.05$).

Table 2. The Quality of Educational Program Elements by Compulsory, Optional, and Compensatory Courses in the Studied Groups (Upper Limit - Lower Limit)

Educational Program Elements	Compulsory Courses		Optional Courses		Compensatory Courses		P-Value	
	University Professors	Learners	University Professors	Learners	University Professors	Learners	Respondents	Universities
Objectives	(2.44 - 2.73) a	(2.39 - 2.65) a	(2.35 - 3.20) a	(2.40 - 2.72) a	(1.29 - 1.93) b	(1.32 - 1.86) b	0.39	0.44
Content	(2.38 - 2.66) a	(2.18 - 2.53) c	(2.09 - 2.38) c	(1.72 - 2.31) d	(1.86 - 2.24) d	(1.70 - 2.20) d	0.54	0.50
Time	(1.57 - 2.27) (b	(1.62 - 2.16) b	(2.35 - 2.60) a	(1.94 - 2.35) c	(1.75 - 2.30) d	(1.84 - 2.22) d	0.70	0.41
Assessment	(2.06 - 2.41) c	(1.98 - 2.39) c	(2.24 - 2.69) c	(1.98 - 2.54) c	(1.91 - 2.39) c	(1.70 - 2.50) c	0.94	0.68
Place	(2.80 - 2.95) a	(2.39 - 2.62) a	(2.35 - 2.64) a	(1.97 - 2.38) c	(2.56 - 2.89) a	(2.42 - 2.70) a	0.61	0.38
Learning activities	(1.57 - 2) b	(1.79 - 2.30) d	(1.84 - 1.38) b	(1.70 - 2.26) d	(2.25 - 2.29) d	(1.74 - 2.45) c	0.33	0.57
Teaching strategies	(3.33 - 2.57) a	(1.32 - 2.17) b	(2.37 - 2.57) a	(1.50 - 2.27) b	(2.34 - 2.64) a	(1.70 - 2.21) d	0.03	0.51
Grouping	(1.55 - 1.92) b	(1.44 - 2.00) b	(1.66 - 1.89) b	(1.60 - 2.20) b	(1.75 - 2.27) d	(1.83 - 2.40) c	0.45	0.43
Human resources	(1.85 - 2.72) c	(1.64 - 2.29) b	(1.79 - 2.39) c	(1.40 - 2.12) b	(2.63 - 3.36) a	(2.34 - 2.90) a	0.34	0.01
Educational resources	(1.88 - 2.25) d	(1.52 - 2.26) b	(1.40 - 1.74) b	(1.25 - 1.80) b	(2.61 - 2.79) a	(1.85 - 3.10) c	0.69	0.32
Other sources	(1.82 - 2.20) d	(1.94 - 2.29) d	(1.79 - 2.25) d	(1.70 - 2.00) d	(2.45 - 2.75) a	(2.41 - 2.69) a	0.50	0.41

[a] Favorable.
[b] Unfavorable to moderate.
[c] Moderate to favorable.
[d] Medium.

5. Discussion

This study aims to assess the efficacy of the HTA educational program. We could determine which aspects and components of the various curriculum components of the courses still need to be added and which implementation elements and methods (location, materials and resources, learning activities, instructions, and grouping strategies) are problematic, or which design elements (goal, content, evaluation, and time) are problematic. The educational program design elements were of sufficient quality, according to various opinions at the universities examined. However, the program's implemen-

tation method must be revised, particularly at the Yazd and Kerman Universities of Medical Sciences. The human resource situation at the universities of Tehran and Iran was favorable, whereas the universities of Kerman and Yazd experienced no favorable quality. This disparity is also logical, given that few professors teach many of the major courses in these universities due to a lack of faculty.

Most of the special, optional, and required courses were necessary, applicable, related to professional requirements, and compatible with the objectives of the field. Because most of the design elements (objective, content, and evaluation) of the lessons in these two sections (objective, content, and evaluation) were adequate, only the time element in the required lessons needs to be revised. However, the courses offered by these two departments need executive elements, such as grouping elements, instructional strategies, learning activities, and materials and resources. The quality status of compensatory courses differs from those of the courses offered by the other two departments, as the majority of compensatory courses lack the main elements, including the goal. At the same time, there were no real issues with the implementation elements and implementation method. However, university professors and students have different perspectives on teaching strategies as university professors emphasize using appropriate and diverse strategies and their teaching abilities, while students hold the opposite view.

This study focused on applying training, removing implementation barriers, training specialized human resources, and access to resources, consistent with Lehoux et al.'s study on the International Master's Program (13). According to the study by Rezaei et al., which sought to modify the content of the general dental educational program to the requirements of dentists working in Birjand, there was a need for more adaptation between educational program units and job needs (4). The study conducted by Nejatifar et al. on the interrater of internal medicine residency training course at the Guilan University of Medical Sciences revealed that 67% met the norms (15).

Among the strengths of this study are (1) using the opinions of all university professors and learners and assessing needs according to different universities; (2) being the first study in Iran and supporting quality enhancement continuously; (3) providing a comprehensive and transparent analysis; and (4) evaluation of the program in detail and by different course topics in different sections. The need for long-term planning for continuous evaluation and the existence of implementation issues limit this study.

5.1. Conclusions

According to this study, more than half of the students were satisfied with the studied program, and most departments, particularly the specialized departments, had a favorable situation regarding design elements. However, there should be more inadequacies in the implementation method and elements, such as learning activities, instructional strategies, organization, and resources. Therefore, it is recommended that adjustments be made to remedy the inappropriate elements and eliminate implementation barriers to increase the interested parties' capability and practical skills. The following improvements to the HTA program are suggested based on the indicated content: (1) courses that need to be aligned with the course's objectives must be deleted, and line courses must be modified; (2) content and headings of course titles that are unique and up-to-date are needed; (3) the allocation of ample theoretical and practical training hours to fundamental and fundamental courses; (4) the compatibility of the evaluation methods with the content of instruction; (5) creating or expanding the functional unit for introductory courses, the need for subject-appropriate and diverse teaching methodologies for the subjects being taught, and the creation or expansion of the functional unit; (6) assigning activities and assignments to students and requiring students to provide instructional activities, such as critiquing different articles based on the type of course and involving students in research projects; (7) constituting active pedagogical and student teams and executing HTA initiatives; (8) high quality training classes on lighting, acoustics, educational facilities and aesthetic appeal of the area; (9) access to a sufficient amount of all types of resources, such as books, educational materials, and teaching aids, as well as the provision of knowledgeable and competent personnel.

Since more than half of the students were satisfied with the study program, it is necessary to investigate the opinion of other stakeholders in society, employers, and individuals involved in this field in the following research to gain a comprehensive understanding of the quality from all aspects. By implementing the suggestions and revising the training program under consideration, significant progress will be achieved.

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Author's Contribution:

All authors contributed equally to this research.

Conflict of Interest:

There is no conflict of interest.

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Appendix 1. Interrater Agreement and Stability of the Questionnaire Using Cronbach's Alpha and Test-Retest

Educational Program Elements	Questions Guiding the Variables	Test-Retest Stability	Cronbach's Alpha
Objectives	Do the objectives of various courses align with the overarching objectives of preparing researchers and specialists to conduct Health Technology Assessment (HTA) studies?	0.68	0.70
Content	Does the educational program encompass adequate and comprehensive educational material for all the distinct subjects?	0.64	0.76
Time	Is the time allocation for each lesson unit appropriate?	0.72	0.71
Assessment	Do the recorded evaluation criteria within the educational program adequately assess diverse courses?	0.71	0.82
Place	Does the location where the courses are being conducted align with each course's specific type and characteristics? Resources that benefit academic courses include access to online medical information systems courses and websites, systematic review studies, and research institutes.	0.94	0.80
Learning activities	Depending on the nature of the course, has the participation of students in learning and classroom activities been considered? (Such as holding seminars and journal clubs, problem-solving methods)	0.72	0.77
Teaching strategies	Is it necessary to give attention to appropriate instructional strategies for the lesson unit? (Such as practical/theory/variety of teaching methods)	0.71	0.78
Grouping	Has attention been paid to the creation of dynamic educational teams?	0.80	0.80
Human resources	Are the categories of resources (human resources, instructional equipment, teaching aids, and other resources) adequate for the various courses?	0.74	0.81
Educational resources		0.73	0.72
Other sources		0.71	0.73
Whole questionnaire		0.87	0.91

References

1. Jonsson E. Development of health technology assessment in Europe. A personal perspective. *Int J Technol Assess Health Care.* 2002;**18**(2):171-83. [PubMed ID:12053417]. https://doi.org/10.1017/s0266462302000181.
2. Majdzadeh SR, Yazdizadeh B. [Chapter 14, Speech 7: Evaluation of health technology]. In: Hatami H, Razavi M, Eftekhar Ardabili H, Majlesi F, Sayed Nozadi M, Parizadeh J, editors. *Textbook Of* Public Health. Tehran: Arjmand Publication; 2019. p. 2217-22.
3. Arab-Zozani M, Majdzadeh R, Sarbakhsh P, Naseri Sis R. The Attitude of Health Technology Assessment Students to Their Field of Study and Future Career in Iran. *Int J Epidemiol Res.* 2017;**4**(3):227-31. https://doi.org/10.15171/ijer.2017.08.
4. Rezaei Z, Ramazanzade K, Abbaszadeh H. [The degree of compliance of the content of the general dentistry curriculum with job needs from the perspective of dentists in Birjand]. *Iran J Med* Educ. 2021;**21**(7):68-81. Persian.
5. Altbach P. Comparative Studies in Higher Education. In: Postlethwaite TN, editor. *The Encyclopedia of Comparative Education and National Systems of Education.* Elkins Park, PA: Franklin Book Company; 1988. p. 6-7.
6. Klein MF. Educational program Design. In: Husen T, Postlethwaite TN, editors. *International Encyclopedia of Education: Educational program Studies. Volume II.* Oxford: Pergamon Press; 1985. p. 1163-70.
7. Sanyal BC, Martin M. Quality Assurance and the Role of Accreditation: An overview. 2007. Available from: https://upcommons.upc.edu/bitstream/handle/2099/8095/bikas.pdf.
8. Khaghanizadeh M, Fathi-Vajargah K. [Patterns of academic educational program]. *Bimonthly of E ducation Strategies in Medical Sciences.* 2009;**1**(2):11-9. Persian.
9. Bridges D. Back to the Future: The higher education curriculum in the 21st century. *Cambridge Journal of Education.* 2000;30(1):37-55. https://doi.org/10.1080/03057640050005762.
10. Fathi Vajargah K, Shafiee Z. [Quality assessment of adult education curriculum in universities]. *Journal of Curriculum Studies.* 2008;**2**(5):1-26. Persian.
11. van den Akker J. Curriculum perspectives: An introduction. In: van den Akker J, Kuiper W, Hameyer U, editors. *Curriculum Landscapes and Trends.* Dordrecht: Kluwer Academic Publishers; 2003. p. 1-10.
12. Douw K, Vondeling H, Bakketeig LS, Gabbay J, Hansen NW, Kristensen FB. HTA education and training in Europe. *Int J Technol Assess Health Care.* 2002;**18**(4):808-19. [PubMed ID:12602081]. https://doi.org/10.1017/s0266462302000612.
13. Lehoux P, Battista RN, Granados A, Gallo P, Tailliez S, Coyle D, et al. International Master's Program in health technology assessment and management: assessment of the first edition (2001–2003). *Int J Technol Assess Health Care.* 2005;**21**(1):104-12. [PubMed ID:15736521]. https://doi.org/10.1017/s0266462305050130.
14. Yazdani M, Rezvani A, Vafamehr M, Khademzade MH. Evaluation of Architectural Engineering Curriculum to Promote Vocational Education Based on Klein Model. *Creative City Design.* 2022;**5**(1):45-61. https://doi.org/10.30495/ccd.2022.689602.
15. Nejatifar F, Gharib C, Monfared A, Shenavar I, Alavi SA, Hojati A, et al. [Internal evaluation of residency training course in internal medicine of Guilan University of Medical Sciences in 2022]. *Res Med Educ.* 2022;**14**(1):79-88. Persian. https://doi.org/10.52547/rme.14.1.79.