

Research Article

Questionnaire Development Quality Assessment the Curricula and Courses in Health

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Abstract

Assessing the quality (QA) of Courses and curricula is of great importance in advancing specialized skills in any field of study. Accordingly, a researcher-developed questionnaire was created based on the well-known Francis Klein model of curricula evaluation. The method is the study of the cross-sectional in 2024. The researchers reviewed the questionnaire information with stakeholders from different fields of study in Medical Sciences to evaluate its validity and reliability. To establish the face and content validity of the questionnaire, a qualitative method (expert panel) was used, incorporating the opinions of 10 experts. Quantitative methods (internal consistency and Cronbach's Alpha) were used to assess the reliability of the questionnaire, based on feedback from 30 respondents. The questionnaire consists of two parts: three demographic questions and eleven specialized questions. The demographic questions covered age, field of study, gender, and other specific questions. These questions were based on nine elements: objectives, content, time, evaluation, place, grouping, learning activities, learning strategies, and resources. All of these elements had comprehensive and appropriate questions, except for the resource component. The questionnaire utilized a Likert scale, which was assessed using both qualitative and quantitative methods to determine their validity and reliability. Subsequently, the questionnaire was approved by experts and the research team. The Cronbach Alpha coefficient for the entire questionnaire was 91%, and the intra-domain correlation coefficient was 87%, indicating the tool's suitability. The final questionnaire consisted of eleven specific questions based on nine Cline elements, aimed at ensuring the comprehensiveness of the questions asked. Various lessons and curricula will be applicable.

Keywords

Curricula, Quality Assessment, Courses, Health, Questionnaire Development

1. Introduction

The curricula in educational institutions are extremely important. A sustainable education program must fulfill the needs of both society and learners [1, 2]. Educational curricula and units are a comprehensive reflection of educational activities and goals that play a decisive role in the success or failure of centers [1, 3]. According to Francis Klein and Sanyal Martin,

there should be alignment between the curriculum objectives and the professional needs of the audience. They argue that transitioning to the practical application of the curriculum content is a crucial aspect of a high-quality curriculum [4, 5]. The lack of attention to the growth of knowledge and global developments, the absence of inclusive participation of academics

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in the curricula planning process, and the failure to communicate the content of the disciplines with the needs of the audience and society were among the criticisms that highlighted the curricula planning of the university [6]. Evaluation and review of the units of study and curricula in each discipline require a needs assessment within that discipline [7]. There are several challenges to the quality of their education systems that have led to a decline in their standards [8, 9]. The poor quality of training programs reduces individuals' skills for the labor market, which can be attributed to various factors. The challenges include outdated teaching methods in university classes, irrelevant content and curricula that don't meet current community needs, a decrease in the quality of faculty members, a gap between the university and industry, insufficient educational resources, and inadequate monitoring and evaluation [10]. One of the major challenges confronting higher education systems in many countries worldwide is the assessment and improvement of educational programs and academic qualifications in universities [11]. The goal is to develop adaptable graduates who can meet the demands of both society and institutions, while also incorporating the latest scientific and technological advancements. Periodic evaluation and revision of these programs are crucial to prevent curricula quality reduction [11, 12]. To fulfill their missions effectively, universities must prioritize the evaluation of curriculum quality and education [13]. Therefore, decisions regarding the planning, design, implementation, and evaluation of curricula should be made within the educational institution itself, rather than being imposed from outside. This approach facilitates the process of implementing various lessons. The design and implementation of educational curricula and Courses should also be based on the real needs of those who use this service, and the educational goals should be related to the practical needs of consumers of this service [14]. Because low-quality education fails to meet the demands and needs of the labor it is essential to assess regard, the assessment of curricula and educational programs considered [15]. The development and enhancement of curricula evaluation necessitate suitable educational content and the utilization of adequate facilities and resources to educate skilled and competent human resources [16]. In this regard, evaluating the quality of the curricula and its units will help determine the desirability of its elements and components in achieving this goal [17]. To evaluate the quality of an educational system, we assess the desirability and status of the various components of different courses [18]. In these assessments, examining the current state of training programs provides the foundation for planning future activities [8]. According to Francis Klein's model, the quality assessment elements of the curricula consist of nine components: objectives, content, time, evaluation, learning strategies, learning activities, materials and resources (educational, human, other), grouping, and location [19, 20]. This model is one of the most renowned assessment models [20, 21]. This emphasizes both improvement and quality in academics and systems. It insists on the need for continuous evaluation and updating of units and pro-

grams, according to conditions, which stakeholders should consider [20].

2. Materials and Methods

This is a cross-sectional study including university teachers and learners (students and graduates) from medical universities in Iran. Cluster sampling was conducted due to the diverse groups from which the information was collected. The sampling method was conducted randomly for each category, and the participants cooperated using simple random sampling for the questionnaire evaluation based on their satisfaction. The data collection process involved using a questionnaire designed with closed-ended questions based on the Kline model. A two-dimensional table was used in the design. One dimension addressed questions about the nine elements of the curricula (objectives, content, learning strategies, learning activities, grouping, time, resources, place, and evaluation), while the other dimension addressed the title of the Core, Non-core, and Compensatory Courses or the title of the lesson being studied. Here are the steps to clarify how to create a questionnaire, which are explained below. After reviewing the studies, the research team initially designed a questionnaire based on the study objectives. The questionnaire included three demographic questions (age, gender, field of study) and eleven questions based on nine components of the Klein model. The Likert scale comprised 3 options: agree (yes), somewhat, and disagree (No), with points ranging from 1 to 3 [22]. The questionnaire's face and content validity were examined using a qualitative method with participants 10 experts. Consisting of specialists, researchers, and learners from various fields such as public health, environmental health, statistics, health technology assessment, radiology, pharmacy, medicine, health services management, public health law, health education, medical education, medical engineering, epidemiology, health economics, drug economics, health policy, and others, evaluated the specialty. After carefully reading the questionnaire, experts were asked to provide their written feedback. They were instructed to consider grammar, word usage, question importance, question order, timely completion, relevance, necessity, proportionality, and comprehension of phrases and words. The specialists' opinions were collected and necessary changes were made to the tool in question. The test-retest questionnaire was used to assess the questionnaire's reliability. This demonstrates how well the results of measuring a quantity in a sample coincide at two different times. For this purpose, the survey was distributed among the target community. Each survey was given a code to match the corresponding answer sheet before distribution. The participants were then asked to complete the questionnaire again after a period ranging from two weeks to a month. In both stages, 30 out of the total questionnaires were completed. The data was validated using the method and Cronbach's Alpha, and analyzed according to the study objectives using SPSS software.

3. Results

The demographic information of the study participants is described below: As indicated in our study, 30 participants completed the questionnaire in the reliability phase, and 10 participants completed it during the questionnaire validity phase. As shown in Table 1, the distribution of respondents' participation is as follows: 35.1% were attended by university

teachers, 35.7% were attended by graduates, and 34.2% were attended by students. The gender distribution of respondents shows that the highest percentage of participating university teachers was male, while the highest percentage of participating learners was female. They also follow a certain age distribution: university teachers aged 35-39 make up 35% of the group, while the 30-34 age group has the highest representation among graduates and students at 54.3%.

Table 1. The demographic information of the study participants.

Percentage	Gender	Target group	Percentage	Age group
0.80	Man	university teachers	2.5	25-29
			10.0	30-34
			35.0	35-39
0.20	Woman		27.5	40-44
			25.0	≥45
			28.6	25-29
34.3	Man	Graduated	54.3	30-34
			8.6	35-39
			8.6	40-44
65.7	Woman		0	≥45
			41.0	25-29
			46.2	30-34
42.6	Man	Student	7.7	35-39
			5/1	40-44
			0	≥45
53.8	Woman			

Also, in line with the information presented in Table 2, the participation of the target groups by field of study shows that among the group of learners (students and graduates), the highest frequency of the field of study is related to Public Health and the Environment Health, with a relative frequency of 59%. The field with the lowest percentage of partici-

pants is the Statistical, accounting for only 4% of the total. The group of participating university teachers also included epidemiologists, which had the highest relative distribution, while Pharmacy and medicine, and Medical engineering had the lowest relative distribution at 2.5%.

Table 2. Relative distribution of participants ' fields of study.

Target groups	Field of study	Percentage
Learners	Public health and the environment	0.59
	Other	0.37
	Statistical	0.4
university teachers	Health Technology Assessment	10.0
	Radiology	0.05

Target groups	Field of study	Percentage
	Pharmacy and medicine	2.5
	Health and medical services management	10.0
	Nanotechnology	2.5
	Health education and medical education	7.5
	Medical engineering	2.5
	Epidemiology	32.5
	Health Economics and pharmaceutical economics	15.0
	Health policy	12.5

After examining the demographics of the various participating groups, the results were analyzed. Stakeholders involved have expressed suggestions, opinions, and feedback on the initial format and design content. Their input includes suggestions for improving the quality of writing, ensuring accuracy and spelling fit in Word layouts, maintaining a proper layout to increase clarity and understanding of the ability of Question content, and creating appropriate questionnaire design. Then the recommendations of different

stakeholders in the questionnaire were applied by the research team, resulting in a final questionnaire at the end of the content validity (cv) stage, which comprises 11 questions. The questionnaire's reliability was analyzed using Cronbach's Alpha and other statistical methods. As a result of this step, Cronbach's Alpha coefficient for the entire questionnaire is 91%, and the intra-domain correlation coefficient is 87%. This 2 indicates the acceptability of the tool, as shown in Table 3.

Table 3. Internal consensus and stability measurement questionnaire using the Cronbach Alpha method and Test-retest.

Components sustainability	Objective	Content	Time	Evaluation	Place	Learning activities	Learning strategies	Grouping	resources:			Total
									Human	Training	Other	
Test-retest	0/68	64/0	72/0	71/0	0/94	72/0	0/71	80/0	74/0	73/0	0/73	87/0
Cronbach Alpha	0/70	76/0	0/71	82/0	80/0	0/77	0/78	80/0	0/81	0/71	0/73	91/0

The questionnaire was created based on the Francis Klein pattern. It includes a thorough question for each component, excluding the resource element. These questions apply to all the Core, Non-core, and Compensatory Courses listed in the curricula. The questionnaire will analyze the answers on three levels: Yes, No, and somewhat with scores of 3, 1, and 2. You can find the questionnaire in Table 4.

4. Discussion and Conclusion

This study is one of the first to create a fundamental tool for evaluating the quality of Core, Non-core, and Compensatory Courses and lessons from the perspective of various stakeholders. This questionnaire was utilized to evaluate different courses in the health technology assessment curricula. The results indicate that the educational curricula

needs to be restructured to enhance the quality of education and skills. Customizing the curricula to align with the learners' current needs and the specific topics covered in each field of study is recommended to enhance its quality [23]. The reforms based on the questionnaire aim to align people's educational goals with their career objectives. If the content of these lessons focuses on enhancing people's professional skills, providing the necessary resources to support and strengthen them is crucial. This questionnaire focuses on ensuring that there is no repetition in the educational material covered in the lessons. It also emphasizes the inclusion of practical and up-to-date content. In instances where the number of hours for core, non-core, and compensatory lessons are adjusted, the decision is based on their practical and theoretical importance. The teaching strategies are customized to meet the unique needs of each learner, to improve

professional performance, and to be suitable for the academic context. To achieve the best learning outcomes, it is recommended to incorporate a variety of engaging learning activities to actively involve learners in the learning process. Emphasizing the formation of active student teams, especially for important lessons in every subject, is crucial. Focusing on group assignments and research projects is essential for encouraging idea exchange and promoting collective participation. In addition to individually evaluating the quality of the lessons, the questionnaire can also be used in a comprehensive and categorized manner (Core, Non-core, and Compensatory Courses). This result aligns with Heydarifard et

al.'s study, indicating a need to revise core, non-core, and compensatory lessons based on unfavorable participant feedback [20]. In general, universities and educational institutions have a responsibility to ensure access to a wide range of resources, including educational materials and qualified personnel. Training sessions should be conducted in a secure environment equipped with suitable and comprehensive facilities to facilitate effective teaching. This ensures that learners have access to appropriate information and educational resources to enhance their inclusive scientific knowledge and meet future job market demands.

Table 4. Questionnaire for assessment the curricula quality (created by Author).

Questions:	Answers:		
	Yes	No	Somewhat
Are the course objectives aligned with the general objectives of the field?			
Learning strategies: Has attention been given to teaching and learning strategies appropriate for the course? (e.g., diversity and creativity in teaching methods).			
Content: Was the educational content in the course sufficient and useful?			
Learning activities: Is student participation in class activities adequate and appropriate for the course? (For example, holding seminar meetings, creating club magazines, and using problem-solving methods).			
Timing: is time adequate and appropriate for the nature of the course (considering practicality/ theoretical or the Core / Non-core)?			
		Human resources	
Are types of resources sufficient for the course?		Training resources	
		Other	
Place: Is the location and work environment suitable for the course, including internet access for virtual classrooms?			
Grouping: Have active training teams been considered based on the type and nature of the course?			
Evaluation: Are the evaluation criteria in the curricula appropriate for the type and nature of the course?			

Abbreviations

CV	Content Validity
QA	Assessing Quality

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Author Contributions

Zahra Heydarifard collaboration in this research includes the following: Conceptualization, Data curation, Formal Analysis, Funding acquisition, Investigation, Methodology, Project administration, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing and Amir jahanbin collaboration in this research includes the following: Resources and Software. Finley Zahra Heydarifard read and approved the final manuscript.

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Conflicts of Interest

The authors declare no conflicts of interest.

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