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ORIGINAL ARTICLE

Investigating the challenges that impede the viability of a Dental curriculum for Undergraduate studies

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ABSTRACT

Introduction: Perceptions of teachers and students about curriculum viability inhibitors are equally important yet may differ. Divergence can lead to destructive friction and adversely affect curriculum viability.

Objectives: Our team aimed to find the perceptions of teachers and students on inhibitors affecting the viability of an implemented medical curriculum, report their convergence or divergence, and explore approaches to reduce divergence.

Material and Methods: This is a mixed-method study. For quantitative data, teachers' perceptions were collected through validated, targeted questionnaires measuring viability inhibitors. For qualitative data, a focus group discussion (FGD) among teachers explored possible approaches to diverging teachers' perceptions.

Results: The data was collected from 53 faculty members (100%). This study provides an approach to measure curriculum viability inhibitors in an undergraduate Dental curriculum, to find solutions of these inhibitors through focus group discussion. No difference in opinion was found in interdepartmental, designation regarding curriculum viability. Years of Experience in different departments affect the choice of assessment tools on the basis of K.S.A.

Practical implication: this study will also helpful in improving the curriculum even when no strong inhibitors are present.

Conclusion: We believe this approach might help to improve the curriculum, even when no strong inhibitors are present. The suggestions to deal curriculum inhibitors. Questionnaires measuring curriculum viability inhibitors can be used stand-alone or as part of the curriculum evaluation process.

Keywords: Mixed method design; teacher perceptions; curriculum viability; curriculum inhibitors.

INTRODUCTION

The curriculum has no universal definition. Curriculum theory describes the basis of its development. Its four main components are aims, contents, methods of teaching and evaluation. This theory defines the basic structure of curriculum but with more research in education, anatomy of curriculum has expanded[1]. Learning theories or paradigms have shaped the perspectives or models of curriculum from the beginning of last century. Behaviourist learning theories are based on response to a stimulus; cognitivist paradigms explain the mind-memory phenomena whereas constructivist theory explains the buildup of knowledge on the previous knowledge[2]. The quality of a curriculum is determined through curriculum evaluation that establishes its strengths and weaknesses. This is done by benchmarking a curriculum against certain quality standards developed by national or global accreditation bodies. However, this process seems to ignore the issues that hamper the achievement of quality standards[3].

Curriculum evaluation is routinely used to determine the quality of a curriculum by comparing it against certain quality standards. Curriculum evaluation may show that a curriculum is either meeting or not meeting the expected standards. Usually, the curriculum evaluation does not consider inhibitors which indicate problems that may negatively affect curriculum quality and offer justifications on why the standards were not met[4]. Thomas et al. defined the curriculum as a planned educational experience, whereas Abrahamson characterized it as a dynamic living entity. Some educators take a narrow view, with the curriculum comprising only a collection of courses and syllabi. In our viewpoint, curriculum is more than a set of syllabi and courses; rather, it involves all the materials and activities that aim to facilitate students' learning. Moreover, the definition of curriculum has evolved[5]. Bosco described the basic structure of curriculum through his curriculum theory, which included aims, contents, methods of teaching, and evaluation. As research in education has continued, the definition of curriculum has expanded, influenced by curriculum development and instructional design models[6].

Accreditation standards that measure the quality of medical education further expand the concept of curriculum beyond the core areas of aim, content, pedagogy, and assessment to include extended/supportive areas, such as the role of students, faculty, governance, and curriculum renewal. Historically, the medical curriculum had been subjected to change as the definition of health and illness changed with time. The medical curricula undergo revisions, modifications and dynamic changes worldwide in the developed world, while the developing countries are still experiencing various challenges[7].

On a broader scale, integration in education is defined as "intentionally uniting or meshing of the discrete elements or features". There is a vast literature discussing integration in education as the "operational concept" where fragmented areas of knowledge are intentionally combined. Still, there is a dearth of literature that suggests a proper organizational framework to bridge the gap between theory and practice. The literature proposes that "integration" is not a goal to achieve but a strategy to develop curricula.[5] This strategy has to be applied carefully to achieve maximum benefit and the desired outcome. Curriculum integration is a complex process and is perceived differently by the stakeholders of medical institutions[8].

Various models and strategies have been listed to achieve medical curriculum integration, but accomplishing the task in all phases of the curriculum is not well defined by existing literature. The integration level may be different from system to system in a system-based curriculum. The majority of the medical institutions in Pakistan are following traditional, discipline-based curricula. The interpretation of integration varies from institute to institute and surprisingly from individual to individual[9].

Objectives: The main objective of the study is to exploring the curriculum viability inhibitors in an undergraduate Dental curriculum.

Material and Methods

This is a mixed-method study. For quantitative data, teachers' perceptions were collected through validated, targeted questionnaires measuring viability inhibitors (Khan et al., 2021). For qualitative data, a focus group discussion (FGD) among teachers explored possible approaches to diverging teachers' perceptions.

Settings: The study was conducted in a dental college having a four-year BDS program, established in 19. The current curriculum consists of two phases spread over Four Years four BDS.

Participants: For quantitative assessment, 53 dental college faculty members (lecturers, senior lecturers, assistant professors, associate professors, and full professors) involved in teaching

were included. For qualitative assessment, five teachers participated in the FGD. Teachers included were actively involved in teaching, one from pre-clinical, and four from basic sciences.

Materials: Valid, reliable questionnaire was used developed by (Khan et al., 2021). The teacher questionnaire is a 25-item, closed-question questionnaire measuring curriculum viability inhibitors in six constructs: Educational program, Disciplinary Culture, Social Interaction, Institutional policy, Communication practices, and Faculty Involvement. Each item is scored on a 5-point Likert scale: 1 = strongly disagree, 2 = somewhat disagree,3 = neither agree nor disagree, 4 = somewhat agree, and 5 = strongly agree. A semi structured approach was adopted to the focus group discussion with a flexibility to prompt and probe the pre-structured questions that were used to start the discussion (Annexure A).

Procedure: For the quantitative assessment, questionnaires were distributed to 53 faculty members through email and social media. Respondents' identities were kept anonymous. They were requested to complete the questionnaire within two weeks, with a reminder sent after one week. For the qualitative part, five teachers and participate in the FGD. All had filled out questionnaires earlier and were briefed about the purpose of the FGD. The FGD started with introducing participants and establishing understanding of the topic under discussion. Questions probed the reasons and their solutions regarding the curriculum viability inhibitor. The FGD was closed by soliciting any additional comments. Another author observed the FGD and took notes for discussion.

Data Transcription: Data were transcribed using the Otter online application (otter.ai) that converts speech to text (Jüngling & Hofer, 2019). Sana iqbal checked the text for any inaccuracies by listening to the recording and member checking it with the participants. Remaining authors (AA,SS,A) reviewed it to ensure credibility and validity of the data. Ethical approval was obtained from the Ethical Review Committee of the institute.

Data analysis: Answering our first research question, we calculated the frequency, and internal consistency (Cronbach's alpha) of all the items using SPSS 21.We interpreted the results as (add from assignment). Cronbach's alpha was considered acceptable between .50 and .70, good between .70 and .90, and excellent if higher than .90 (Altman, 1991; Taber, 2018).Thematic analysis of the FGD data was done. Azhar and sehar sultan performed the analysis of the transcribed data.Another author (sana Iqbal) also examined and reviewed the transcript thoroughly. The raw data were coded to enable interpretation in a meaningful way and analysed to establish the relationship between them and how they can be combined to form a theme or fitted in a sub-theme. Finally, three themes were generated as being relevant to answering the research question. The coding followed by the formation of sub-themes and main themes was done by sana iqbal and validated by anbreen aziz.

RESULTS

The data was collected from 53 faculty members (100%). This study provides an approach to measure curriculum viability inhibitors in an undergraduate Dental curriculum, to find solutions of these inhibitors through focus group discussion. No difference in opinion was found in interdepartmental, designation regarding curriculum viability. Years of Experience in different departments affect the choice of assessment tools on the basis of K.S.A. There is a difference in opinion of different qualifications of faculty members regarding course content and its relevance to learning outcomes. Different designation holders have different opinions and experiences about the role of research activities in their promotion.

Table 1: Internal consistency of teacher and student questionnaire measuring curriculum viability inhibitors.

Chi-Square Tests						
	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	6.515[a]	8	.590	.661		
Likelihood Ratio	8.592	8	.378	.601		
Fisher's Exact Test	6.856			.578		
Linear-by-Linear Association	1.563[b]	1	.211	.240	.123	.031
N of Valid Cases	25					
a. 15 cells (100.0%) have expected count less than 5. The minimum expected count is .40.						
b. The standardized statistic is -1.250. Rest of details in separate file as assignment getting lengthy because of it.						

Table 2: Thematic analysis of focus group discussion.

Crosstab								
			Online Discussions					Total
			Strongly agree	Somewhat agree	Neutral	Somewhat disagree	Strongly Disagree	
Experience	Less than 5 years	Count	3	3	1	1	5	13
		% Within Experience	23.1%	23.1%	7.7%	7.7%	38.5%	100.0%
		% Within Online Discussions	37.5%	42.9%	50.0%	50.0%	83.3%	52.0%
		% of Total	12.0%	12.0%	4.0%	4.0%	20.0%	52.0%
	5-10 years	Count	3	3	0	1	0	7
		% Within Experience	42.9%	42.9%	0.0%	14.3%	0.0%	100.0%
		% Within Online Discussions	37.5%	42.9%	0.0%	50.0%	0.0%	28.0%
		% of Total	12.0%	12.0%	0.0%	4.0%	0.0%	28.0%
	11-15 years	Count	2	1	1	0	1	5
		% Within Experience	40.0%	20.0%	20.0%	0.0%	20.0%	100.0%
		% Within Online Discussions	25.0%	14.3%	50.0%	0.0%	16.7%	20.0%
		% of Total	8.0%	4.0%	4.0%	0.0%	4.0%	20.0%
Total		Count	8	7	2	2	6	25
		% Within Experience	32.0%	28.0%	8.0%	8.0%	24.0%	100.0%
		% within OnlineDiscussions	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	32.0%	28.0%	8.0%	8.0%	24.0%	100.0%

DISCUSSION

This study aimed at exploring the perceptions of faculty about the level of integration in their institutions and all the processes they underwent during the planning and implementing of the integrated curriculum[9]. It was found that curriculum integration was not a straightforward hierarchical organization of the content; rather, it was a world of continuously interacting elements which needed to interact in an organized manner to produce meaningful results. The persons leading this educational reform in medical colleges of Pakistan mostly relied on Harden's integration ladder to achieve

curricular integration[10]. The faculty had difficulties in identifying and achieving the exact level of integration because of overlapping in different steps of the ladder with ambiguous boundaries[11].

Knowledge of inhibitors is particularly useful for reviewers when an existing curriculum needs to be renewed. Curriculum developers can also consider the inhibitors during the process of curriculum development, taking preventive measures to design a curriculum that has minimal issues when implemented[12]. Inhibitors of curriculum quality can also be explored through interviewing the stakeholders about different aspects of curriculum. However, that requires ample time and data analysis and involves perception of a rather small number of respondents compared to survey questionnaires. Certain tools developed by accreditation bodies use open-ended qualitative questionnaires to solicit views of medical educationalists or members of medical education departments[13].

Although medical educationalists are curriculum experts in a general sense, they may not be expert in viability inhibitors of a specific curriculum perceived and practiced by medical students and teachers at large[14]. Therefore, there is a need to develop questionnaires that can easily be interpreted by all stakeholders involved in identifying inhibitors. The aim of this study is therefore to develop and establish the validity and reliability of student and teacher questionnaires measuring viability inhibitors[15].

CONCLUSION

We believe this approach might help to improve the curriculum, even when no strong inhibitors are present. The suggestions to deal curriculum inhibitors. Questionnaires measuring curriculum viability inhibitors can be used stand-alone or as part of the curriculum evaluation process. Used stand-alone, questionnaires measure the presence of curriculum inhibitors; help curriculum evaluators focus on relevant areas and see how inhibitors affect the curriculum's quality; and help find remedies for curriculum weaknesses. Used as part of curriculum evaluation, they can help determine reasons for not meeting quality standards, the curriculum's weaknesses, and their causes.

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Availability of data and material: The data generated and analysed during the study are available on request.

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