PERCEPTIONS & SELF-EFFICACY IN FACULTY OF A PUBLIC SECTOR MEDICAL COLLEGE ON INTEGRATED VERSUS CONVENTIONAL TEACHING

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ABSTRACT

Background Objectives: The landscape of medical education is evolving, with a shift from conventional to integrated learning. However, the perceptions of teaching faculty towards these pedagogical approaches remain underexplored. This study aims to understand the preferences of the teaching faculty at Sheikh Zayed Medical College towards conventional and integrated learning methods and the reasons behind their preferences.

Methods: A cross-sectional survey study was conducted to gather data on faculty preferences. An online survey was disseminated to the teaching faculty of Sheikh Zayed Medical College, Lahore encompassing 7 basic and 10 clinical departments, and comprising 70 members. In addition to this, the 'Teachers' Sense of Self-Efficacy Scale' was utilized to assess the teachers' self-confidence levels.

Results: The response rate of the survey was 52.85% (37 participants). Despite the study's limitations, the teaching faculty generally expressed a positive outlook towards integrated learning. Sociodemographic factors that were significantly associated with teaching preference included gender ($p<0.000$) and qualification levels ($p<0.001$). Of the 35% males, 11 out of 13 preferred integrated teaching. Of the 46% MBBS only degree holders, 13 out of 17 preferred integrated teaching. A significant correlation was found between the self-efficacy scores and the faculty's previous exposure to integrated learning ($p=0.027$).

Conclusion: This study finds multiple advantages of integrated learning for medical students. However, careful planning, better interdepartmental communication, and consideration of student workload are necessary for successful implementation. Notably, faculty members who are exposed to the integrated system early on seem to have higher levels of self-efficacy.

Key words: Integrated Curriculum, Conventional, Teaching methods, Medical, Self efficacy, perception

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The art and science of education are dynamic processes that undergo multiple transformations as time goes on. This is especially true for medical education that has experienced a paradigm shift with the advent of newer technology and robust evidence-based approaches that seek to maximize both the act of teaching and learning.[1] Originally, the conventional form of medical education, which was grounded in the principles of region-based approach alongside clinical applications, remained the tried-and-true method for significant period of time in the setting of Pakistani medical universities and colleges. However, in order to maintain the minimum standard and efficiency in creating medical professionals, measures have been taken by educational authorities to finally shift systems for prospective medical students.[2] This act was further influenced by other factors, such as the outcomes from

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assessment of graduates following their performance as interns or medical officers, which highlighted the need for problem-based learning.[3,4] Even the advent of the COVID-19 pandemic, which caused an unprecedented disruption in the educational process, necessitated the shift towards a more organized and coordinated system, so as to expediate the learning of knowledge and skills in a set amount of time.[5]

The integrated modular system has gained traction in the last decade within the Pakistani medical sphere.[6] While not new, and utilized globally, it has only recently been recognized by local medical educationists to be more beneficial in both the short and long-term. Particularly, how the system engages students through active learning in small collaborative groups to tackle cases from clinical patients early on in their curriculum.[7] However, despite the potential boons, the transition has not been without challenges. As with any radical change within an educational facility, both teachers and students have to put in effort to adapt while also making sacrifices to what they are normally used to. Challenges such as inadequate resources or infrastructure, difficulty in interacting face-to-face, and the time commitment of both students and teachers have not made adjusting streamlined.[8,9] Moreover, emphasis on reforming and restructuring medical education curriculum have come under heavy criticism as well.[10]

There exists a lack of understanding of how medical teachers in Sheikh Khalifa bin Zayed Al Nahyan Medical and Dental College, Lahore are performing while experiencing a shift in system. More importantly, it is necessary to determine whether a teacher's self-efficacy influences the ability to adapt to this change. No study has been conducted which links the teacher's perceptions to his/her self-efficacy in medical education. Thus, the questions brought forth by this study are 'What are the perceptions of the teaching faculty towards integrated teaching versus conventional teaching?', and 'How does self-efficacy influence their preference for one method or the other?'. To satisfy these queries, the following objectives must be met. Firstly, to understand the faculty's experiences with both teaching methods. Secondly, to identify the challenges they face in teaching either and what their ultimate preference is. Lastly, to analyze the self-efficacy scores of participants and determine how these scores may reflect their preference in a particular teaching method.

The outcome from this study has the potential to not only inform but further revise educational strategies in medical schools. By understanding faculty perceptions and self-efficacy, we can tailor educational approaches to better support both faculty and students.

METHODS

This was a sequential mixed method study involving a pre-designed questionnaire and the Teacher's sense of efficacy scale.[11] The study setting was Shaikh Khalifa Bin Zayed Al Nahyan Medical & Dental College inLahore and was carried out between the 20th of December 2023 to the 22nd of February 2024. Ethical approval was taken from the IRB of Shaikh Zayed Medical Complex before the actual research took place. The participants included faculty from 7 basic sciences and 10 clinical departments, totaling 70 individuals. Using a predesigned structured questionnaire (English language), data was collected via the google survey forms. Before the commencement of the given research, however, pretesting of questionnaire was performed to ensure its accuracy and reliability. Questions were revised several times in order to aid understanding by the respondents. The questionnaire itself was composed of 4 sections. The first section consisted of 6 questions regarding the participants' biodata (age, gender, department, etc.). The second section consisted of 20 closed-ended questions regarding the participant's perceptions on integrated versus conventional teaching; the participants could only respond by choosing either one form of learning or the other. The third section had 6 open-ended questions that asked about the resistances experienced by the participants in teaching. The last section dealt with the participant's self-assessment of teaching using the self-efficacy of teaching scale. This last section contained 12 questions to which the response was a number from a scale of 1 to 9. Any participant who did not completely answer the whole ques-

tionnaire was excluded from the study.

For data analysis, after exporting data from Microsoft Excel 2007 into IBM SPSS Statistics Version 24, multiple tests were run to analyze the data. The self-efficacy scores, collected on a Likert scale, were treated as interval data. Descriptive statistics, including measures of central tendency such as mean, median, and mode, were used to summarize these scores. A point-biserial correlation coefficient test was conducted to measure the strength and direction of the association between the self-efficacy scores (continuous variable) and the preference for teaching method (dichotomous variable) for every closed-ended question; the statistical significance was measured using Pearson's correlation coefficient. Due to the small sample size, a Fischer's test was opted for during cross-tabulation. Lastly, due to the distribution not being uniform, Kruskal-Wallis and Mann-Whitney U tests were conducted between self-efficacy scores and teaching method choice per question.

RESULTS

The notable findings within the demographic data have been shown in TABLE 1.

Table 1: Sociodemographic values aligned with satisfaction between conventional vs integrated (n=37)

Factor		Frequency	Percentage	Q5: Which are you more satisfied with?		Asymptomatic significance (2-sided)
				Conventional	Integrated	
Gender	Male	13	35%	2	11	**P < 0.000**
	Female	24	65%	20	4	
Post	Demonstrator	7	19%	5	2	**P < 0.035**
	SHO	8	22%	2	6	
	PGR	9	24%	4	5	
	Registrar	1	3%	0	1	
	Assistant Professor	6	16%	6	0	
	Associate Professor	2	5%	1	1	
	HOD	4	11%	4	0	
Highest Qualification	MBBS	17	46%	4	13	**P<0.001**
	Mphil	13	35%	11	2	
	FCPS/MCPS/ MD	4	11%	4	0	
	PhD	3	8%	3	0	

The notable findings within closed-ended questions are displayed in FIGURE 1.

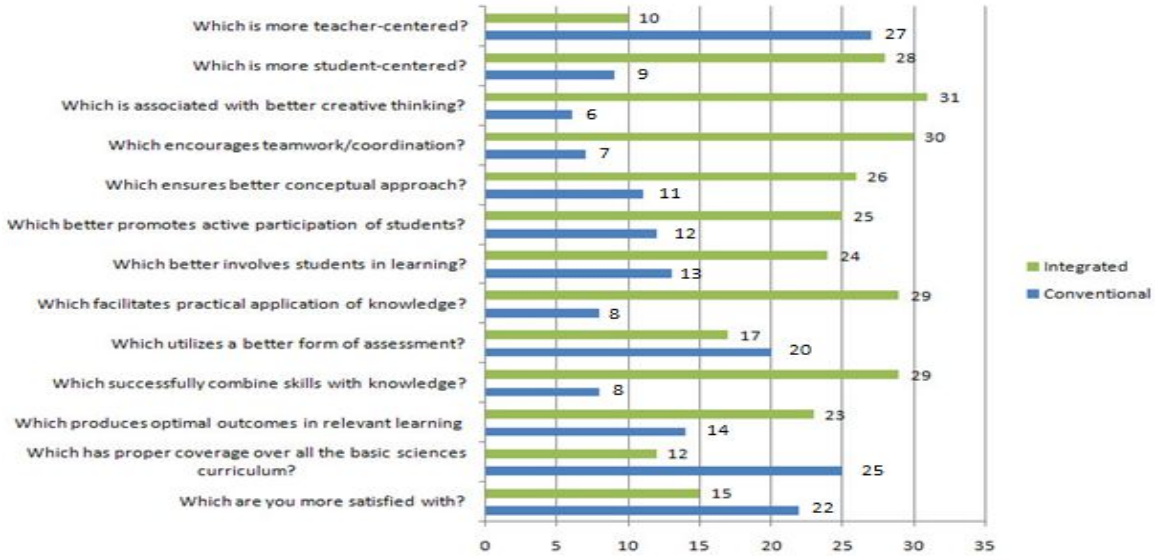

Figure 1: Responses to closed-ended questions

The mean self-efficacy score was 7.01+0.92. The notable finding related to self-efficacy score is displayed in Table 2.

Salient findings to open-ended questions.

The notable findings within open-ended questions were grouped according to themes and are displayed in Table 3.

Table 2: *Association of self-efficacy score average with closed-ended questions (n=37)*

Factor	Item	Significance (2-tailed)	Inference
Self-efficacy Score Average (7.01±0.92)	Q2) Have you been exposed to Integrated modular system previously	0.027	Prior exposure to the integrated modular system increases confidence of the teacher

Table 3: *Responses to open-ended questions on Integrated system grouped by theme*

Merits of Integrated system	Frequency (Percentage)
Clinically oriented	16 (43.24%)
Better learning of concepts	8 (21.62%)
Better integration of subjects	6 (13.51%)
More practical application	5 (13.51%)
Other	2 (2.70%)
Demerits of Integrated system	**Frequency (Percentage)**
Lack of coordination	4 (10.81%)
Lack of training	3 (8.11%)
Course-related	13 (35.14%)
Time required	3 (8.11%)
Lack of preliminary planning	2 (5.41%)
Overall difficulty	5 (13.51%)
Resource intensive	3 (8.11%)
Incompetencies of student/teacher	2 (5.41%)
Difficulties in implementing Integrated system	**Frequency (Percentage)**
Lack of coordination	6 (16.22%)
Lack of training	6 (16.22%)
Course-related	7 (18.92%)
Time required	1 (2.70%)
Lack of preliminary planning	2 (5.41%)
Overall difficulty	4 (10.81%)
Resource intensive	4 (10.81%)
Incompetencies of student/teacher	4 (10.81%)
Not sure	3 (8.11%)
Is there a future for the integrated system?	**Frequency (Percentage)**
Only if the system is improved	12 (32.43%)
Only if the system is implemented properly	4 (10.81%)
We have no choice in the matter	3 (8.11%)
Yes, as it is beneficial for us	9 (24.32%)
No, as it is not beneficial for us	6 (16.22%)
Unsure	3 (8.11%)

DISCUSSION

Our research represents a pioneering effort in identifying an association between self-efficacy scores and preferences for conventional versus integrated teaching methods among MBBS teaching faculty. While we only found a few significant results, these are crucial in influencing decisions regarding the implementation of the integrated system.

The low response rate (52.85%) itself reveals critical shortcomings in the attitudes of the faculty on academic matters. Out of the 37 respondents, only 8 were from the clinical side, with 3 from Obstetrics/Gynecology, 2 from radiology, 2 from pulmonology and only 1 from medicine. This either reflects the low importance given by the clinical departments on the fundamental training of students, or was merely due to their heavy work schedule and time constraints. Understanding the reasons of the low response from the clinical side lies outside the scope of this study.

In terms of demographic responses, it was observed that out of the 37 respondents, 14 (38%) were in their 20s. Among this group, 10 showed a preference for the integrated teaching method over the conventional one. This preference among younger faculty for integrated teaching methods aligns with Simond and Brock'sfindings that younger students tend to prefer more interactive learning strategies.[12] This could also possibly be attributed to the fact that younger faculty members might be more open to novel teaching methodologies that integrate various disciplines.

Interestingly, gender seemed to play a role in the preferred teaching method. Out of the 24 (65%) female respondents, 20 (83.33%) preferred the conventional teaching method. In contrast, 11 out of 13 male respondents preferred the integrated method ($p<0.000$). Our findings on gender differences in teaching preferences is in stark contrastto previous research showing that female teachers reported more use of integrated approach in their instruction than male teachers.[13] This could suggest that gender-related factors might influence teaching preferences, although further research would be needed to explore this aspect.

The majority of the respondents were from the

anatomy department. However, this could be due to a lack of staff/involvement in other departments. Thus, we don't deem this finding as significant. The same applies to positions; despite the significant association between job posts and satisfaction with teaching method ($p<0.035$), due to the unequal distribution of the sample population, the finding may not be reliable. And even though the majority of the respondents were postgraduate residents (24%), the preference between conventional and integrated teaching methods was more or less evenly split in this group.

Half of the respondents had less than 2 years of teaching experience, and the majority of these individuals preferred the conventional approach. While the possible explanation may be because newer faculty members might be more comfortable with the teaching methods they experienced during their own education, according to literature, those with more years of teaching tended to prefer older conventional methods;[14] this again being more likely due to comfort zone since the teachers were more familiar with methods, they themselves experienced.

Lastly, among the 17 respondents (46% of the total) who only had an MBBS degree, 13 (76.47%) preferred the integrated teaching method ($p<0.001$). This contrasts with those who had higher qualifications, the majority of whom preferred the conventional approach. While a study has shown how teacher qualification can affect student performance,[15] literature has not clarified how the choice of teaching methodology can affect this. On first glance it may seem like it is possibly due to the age of the participant, as attaining an M.Phil. or PhD degree typically takes several years, by the time a person has become steadfast in his or her way of thinking. In contrast, fresh and prospective students are constantly exposed to newer ideas, even from within the syllabus of MBBS, which is constantly being refreshed minimally. Further research could give us a more detailed analysis of this result.

Regarding the closed-ended questions, we found several notable findings. Despite a majority of respondents (59.46%) expressing satisfaction with the conventional teaching method, the integrated teaching method was perceived as superior in several key areas. Specifically, it was seen as successfully combining skills with knowledge (78.38%), facilitating the practical application of knowledge (78.38%), ensuring a better conceptual approach (70.27%), and encouraging teamwork and coordination (81.08%). Furthermore, it was associated with better creative thinking (83.78%) and was viewed as more student-centered (75.68%). All these results resonate with previous studies found in literature,[16,17,18] highlighting the potential benefits of the integrated teaching method.

When analyzing the open-ended questions, we decided to group all the responses according to themes. This led to us realizing the significant demerits and challenges of the integrated system. The most prominent demerit, as indicated by 35.14% of respondents, was course-related issues. Following this was the lack of training of the faculty. It was the second most frequently mentioned demerit and difficulty in implementing the integrated system, as indicated by 8.11% and 16.22% of respondents, respectively. This underscores the importance of adequate training for teachers in the effective implementation of the integrated system. Previous studies also shared this same concern.[16,17,18]

Regarding the future of the integrated system, the most common response (32.43%) was that it could have a future only if the system is improved. However, 24.32% of respondents believed that the integrated system has a future as it is beneficial for them. Interestingly, some of the respondents mentioned how their opinion didn't matter (8.11%) and they had no choice in determining the fate of the implementation of the system, these findings highlight the need for improvements in the integrated system and suggest that despite its challenges, there is a potential future for this approach if certain modifications are made.

Lastly, perhaps the most crucial finding from our study was the relationship between self-efficacy scores and the closed-ended questions. Our findings indicate that, although the self-efficacy score averages were relatively consistent across all teachers, there was a significant relationship between these scores and the responses to question 2 ($p=0.027$), as determined by Pearson's correlation test. Question 2 pertained to prior

exposure to the integrated system. The significant correlation suggests that preliminary training and exposure to the integrated system enhanced the faculty's confidence, thereby increasing their self-efficacy scores. The results here once again underscore the importance of adequate faculty training for the successful implementation of the integrated system.

This research is not without issues. Primarily due to the low response rate, and secondarily due to being conducted in only one center and non-confirmation of subjects to both systems before study, this limited the generalizability of the findings. As such, after careful consideration of our findings, we stress the need for the following recommendations. Firstly, given the significant correlation between prior exposure to the integrated system and self-efficacy scores, it is recommended to provide comprehensive training to faculty members. Secondly, the course-related issue was highlighted as a major demerit of the integrated system and suggests a need for a thorough review and possible revision of the curriculum. Thirdly, as the integrated system was found to be resource-intensive, it is recommended to allocate sufficient resources, including time, materials, and personnel, to support its successful implementation. Fourthly, regular feedback and evaluation mechanisms should be established to continuously assess the effectiveness of the integrated system and make necessary adjustments. Finally, more research is needed to explore the factors influencing faculty preferences for teaching methods and to identify strategies for improving the effectiveness of the integrated system.

Ethical Approval:
The ethical Approval was obtained vide letter no. TERC/NHRC/Internal-2/410.

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CONCLUSION

The findings of this study underscore the potential benefits of integrated learning in medical education. However, successful implementation requires careful planning, improved interdepartmental coordination, and consideration of student workload. Importantly, early exposure of faculty to the integrated system appears to enhance their self-efficacy. Therefore, authorities in medical education should focus on initiatives to train faculty in integrated learning methods. Such endeavors could facilitate the transition from conventional to integrated teaching methods, thereby not only speeding up the process but also promising better gains in teacher performance and student achievement.

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