

Integration in Undergraduate Medical Course of Bangladesh: Students' and Teachers' views

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Abstract

This cross sectional study was conducted to evaluate the MBBS (Bachelor of Medicine and Bachelor of Surgery) course of Bangladesh on the basis of modern 'Integrated teaching' instead of corresponding traditional 'Discipline-based teaching'. The study was conducted during the period of January 2021 to December 2021. Data were collected from conveniently selected eight medical colleges of Bangladesh. One self-administered semi-structured questionnaire was administered to collect data from 87 teachers and from 413 students of MBBS course. It was found that out of 4 point scale (1 to 4) the mean scores of respondents' views regarding 'Integrated teaching' in the present curriculum was 1.2; on the other hand, their views regarding the future MBBS course should adopt 'Integrated teaching' instead of traditional 'Discipline based teaching' was 3.47. The score of the respondents' opinion regarding the different requirements were above 3.4 out of 4. Now it is best time to shift our MBBS course towards 'Integrated teaching' in instead of 'Discipline-based teaching'.

Keywords *Integrated teaching, Discipline-based teaching, Curriculum evaluation, SPICES model, Traditional curriculum.*

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Introduction

The discipline based traditional medical curriculum was designed on the recommendations of Flexner's in 1910. In the traditional curriculum, the essential sciences are taught within the initial phase, followed by the clinically oriented subjects. This has three stages for the MBBS course. Those are Pre-clinical studies, Para clinical

studies and Clinical studies. In traditional system, pre-clinical subjects are taught within the first two years and clinical subjects are taught eventually years. Unlike the normal discipline based curriculum, the new curriculum, integrates every discipline during a unified manner with the expectation to develop the scholars with high level of efficacy¹. In discipline based

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curriculum, scholars and educationists argue that, student could face difficulties find the correlation between pre-clinical and clinical subjects. The newer system is usually referred as SPICES model². We need to define the roles of medical teachers in medical colleges to prepare them for complex task. Presently we are largely following discipline based curriculum which needs to be urgently modified to modular system using SPICES (Student-centered learning, Problem-based learning, integrated teaching, Community-based education, Elective studies, and Systematic approach) model to accommodate the needs of the present days. Curriculum evaluation helps to a corporation, program, project or the other intervention or initiative to assess any aim, concept or any alternative to assist in decision making³. Evaluation process requires information about things in question. When we evaluate, we are saying that the method will yield information regarding the worthiness, appropriateness, goodness, validity, legality, etc., of something that a reliable measurement or assessment has been made⁵. About 100 years ago studies were carried out on education of health professionals. These studies pointed out poor quality and standards of education in all fields of

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healthcare including medicine, public health and nursing care. The reports of these studies created far reaching effects on the healthcare system of North America⁶. In 21st century Global independent commission on education of health professionals highlighted healthcare and educational issues stating that noticeable inequalities persist both within and between the countries. At the same time health security of people around the globe is at a threat due to new challenges in form of new infections, environmental health issues and behavioral risks. Professional education has not been equipped to face these challenges mainly due to static type of curricula which as result produces ill-equipped graduates. A different study carried out in 21st century pointed out the challenges faced by health professional's education which range from curriculum design, teaching and learning methods, assessment, and faculty development with addition of some new issues such as internationalization of health professional education, digitalization, professionalization and social accountability of the health institutes⁷. So, the aim of this study was to explore the different dimension of SPICES model in MBBS curriculum in Bangladesh through document review and also find out the

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teachers, students and medical educationist opinion about SPICES model in MBBS course. It was expected that this research work would be helpful for policy makers to undertake necessary actions to improve the curriculum related activities in undergraduate medical education of Bangladesh.

Methodology

This cross-sectional type of descriptive study was conducted after getting approval for a thesis from the institutional review board (IRB) of Centre for Medical Education (CME) under the Faculty of Basic and Preclinical Science of Bangabadhu Sheikh Mujib Medical University (BSMMU), Dhaka. The study

Result

Table 1: Distribution of the respondents by their views regarding the ‘Integrated teaching’ instead of traditional ‘Discipline based education’ (n=500)

Issues	Level of agreement with corresponding score				Mean(\pm SD)
	1 Not at all	2 Mildly	3 Moderately	4 Highly	
The present MBBS course adopting ‘Integrated teaching’ instead of traditional ‘Discipline based teaching’	414(82.8)	72(14.4)	14(2.8)	0	1.20(0.465)
The future MBBS course should adopt ‘Integrated teaching’ instead of traditional ‘Discipline based teaching’	6(1.2)	110(22)	29(5.08)	355(71)	3.47(0.873)

Table 1 shows that out of 4 point score the mean score of the respondents’ views regarding the present MBBBS course adopting ‘Integrated teaching’ instead of traditional ‘Discipline based education’

was conducted for one year from January 2021 to December 2021. After having necessary permission from other concerned authorities and individuals. One self-administered semi-structured questionnaire was administered upon 87 teachers from different disciplines with different designations and 413 students of different phases of MBBS course of conveniently selected eight medical colleges of Bangladesh. Equal numbers of colleges from public and non-government ownership and similarly equal numbers of colleges were selected from capital Dhaka and outside of Dhaka. The data were computed, processed and analyzed using SPSS software program version 19.

was 1.20; whereas the mean score of the respondents’ views regarding the future MBBBS course should adopt ‘Integrated teaching’ instead of traditional ‘Discipline based teaching’ was 3.47.

Table 2. Comparing the students and teachers by their mean scores of views regarding the 'Integrated teaching' instead of traditional 'Discipline based education'

The issues are	Respondents	Mean(\pm SD)	P value
The present MBBS course adopting 'Integrated teaching' instead of traditional 'Discipline based education'	Students (n=412)	1.13(0.393)	0.000**
	Teachers (n=87)	1.54(0.606)	
The future MBBS course should adopt 'Integrated teaching' instead of traditional 'Discipline based education'	Students (n=412)	3.59(0.769)	0.000**
	Teachers (n=88)	2.86(1.063)	

**Welch t test done due to unequal variances

Table 2 shows that the mean scores of opinion regarding the present MBBS course adopting 'Integrated teaching' instead of traditional 'Discipline based teaching' was higher in case of teachers than that of students and this finding was statistically highly significant. On the other

hand, it was found that mean scores of the opinion for future MBBS course should adopt 'Integrated teaching' instead of traditional 'Discipline based teaching' was higher in case of students than that of teachers and this finding was also statistically highly significant.

Table 3. Distribution of the respondents by their views regarding the requirements to implement the 'Integrated teaching' instead of traditional 'Discipline based education' in the MBBS course (n=500)

The requirement	Level of agreement with corresponding score				Mean(\pm SD)
	1 Not at all	2 Mildly	3 Moderately	4 Highly	
Teachers should be informed about the importance of integrated teaching	4(0.8)	110(22)	28(5.6)	358(71.6)	3.48(0.860)
The future MBBS course should adopt 'Integrated teaching' instead of traditional 'Discipline based teaching'	3(0.6)	80(16)	45(9)	372(74.4)	3.57(0.776)
Input from medical educationist should be taken	2(0.4)	39(7.8)	100(20)	359(71.8)	3.64(0.633)
It will require more educational workforce (teachers and staffs)	1(0.2)	29(5.8)	221(44.2)	249(49.8)	3.43(0.612)
It will require increased financial supports	1(0.2)	36(7.2)	187(37.4)	276(55.2)	3.48(0.637)
Educational workforce should be trained up	2(0.4)	36(13.2)	69(11.8)	373(74.4)	3.61(0.729)

Table 3 shows that out of 4 point score the mean scores of the respondents' views regarding the different requirements to implement the 'Integrated teaching' instead

of traditional 'Discipline based teaching' in the MBBS course were above 3.5 or near 3.5.

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Table 4 Comparing the students and teachers by their mean scores of views regarding the requirements to implement the ‘Integrated teaching’ instead of traditional ‘Discipline based education’

The requirement	Number of respondents	Mean(±SD)	P value
Teachers should be informed about the importance of integrated teaching	Students (n=412)	3.57(0.393)	0.000**
	Teachers (n=87)	3.08(0.606)	
The future MBBS course should adopt ‘Integrated teaching’ instead of traditional ‘Discipline based teaching’	Students (n=412)	3.64(0.769)	0.000**
	Teachers (n=88)	3.24(1.063)	
Input from medical educationist should be taken	Students (n=412)	3.72(0.393)	0.000**
	Teachers (n=87)	3.26(0.606)	
It will require more educational workforce (teachers and staffs)	Students (n=412)	3.51(0.769)	0.000*
	Teachers (n=88)	3.06(1.063)	
It will require increased financial supports	Students (n=412)	3.57(0.393)	0.000*
	Teachers (n=87)	3.03(0.606)	
Educational workforce should be trained up	Students (n=412)	3.69(0.769)	0.000**
	Teachers (n=88)	3.22(1.063)	

*Independent t tests done due to statistically equal variance

**Welch t test done due to statistically unequal variances

The mean scores of table 4 shows that there were higher mean scores in case of students than the teachers regarding different requirements of ‘Integrated teaching’ instead of traditional ‘Discipline based teaching’, and these were statistically highly significant.

Discussion

The means scores of the respondents’ views regarding the present MBBBS course adopting ‘Integrated teaching’ instead of traditional ‘discipline based teaching’ was only 1.20 (Table1). This finding indicates that the present course curriculum is mostly discipline based. On the other hand, the means scores of the respondents’ views

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regarding the future MBBBS course should adopt ‘Integrated teaching’ instead of traditional ‘discipline based teaching’ was 3.47 (Table1); which indicates that they were highly motivate for integrate teaching in future.

Integrated teaching had potential to improve the knowledge, skills, and comprehensive learning, the students are benefitted if the planning and implication of integrated teaching are done properly, it may lead to better learning outcomes; this might be useful to improve their skills as better qualified health professional⁸. It was also mentioned that integrated curricula have been well-organized for effective clinical reasoning instead of the way basic

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sciences and clinical sciences traditionally taught as separate disciplines⁹.

From the mean scores it is found that the teachers were more in favour of the present MBBS course adopting 'Integrated teaching' instead of traditional 'Discipline based teaching' compared to the students' views and this was statistically highly significant (Table 2/ <0.000). This difference is probably due to existence of integrated teaching session in the MBBS curriculum (2002, 2012). On the other hand, it was found that mean scores of the opinion for future MBBS course should adopt 'Integrated teaching' instead of traditional 'Discipline based teaching' was higher in case of students than that of teachers and this finding was also statistically highly significant. This difference was probably due to teachers were in fear that they will loss subject identity due to further integration.

An integrated approach creates learning experiences than discipline or subject based assignments or units, project-based learning experiences, curriculum developed across a number of disciplines, and/or curriculum tied together with overarching themes and questions. An integrated curriculum causes students to make connections in their learning across subjects or between various areas of a specific subject. This is a more realistic learning experience. In real-life, problems are rarely soiled in to a specific subject. Teaching in an integrated manner helps students see problem solving as complex and multi-layered¹⁰.

Out of four point scores the mean scores of the respondents' views regarding the different requirements to implement the 'Integrated teaching' instead of traditional 'discipline based teaching' in the MBBS course were above 3.5 or near 3.5. which indicates that the respondents were strongly agreed to the different requirements of

implementing the 'Integrated teaching' instead of traditional 'Discipline based teaching' in the MBBS course (Table 3). It was mentioned that in order to implement integrated teaching in place of discipline based instruction, we would need to work very closely with curriculum planners and subject matter experts, as well as learners who are ready to learn from such an approach⁹.

From the mean scores of the table 4 it is found that the teachers were less favour than the students regarding different requirements of 'Integrated teaching' instead of traditional 'Discipline based teaching' and this were statistically highly significant. This finding indicates probably teachers were fear of loss of their subject identity, difficult to implement, costly and teachers require motivation and training (Table 4). An integrated approach to learning allows teachers to weave in a school's core values in a natural and applied fashion, thus elevating the learning experience to involve social/emotional strengths and character development¹⁰.

Conclusion

This particular section of study was explored teachers and students views regarding the integration in undergraduate MBBS curriculum in Bangladesh. It revealed from their views that the present course curriculum is mostly discipline based but they are highly motivated for integrated teaching in future. When the opinions of the teachers and students were compared, it was discovered that the teachers were more in favour of the current MBBS course adopting integrated teaching than the students, while the students were more in favour of the future MBBS course adopting integrated teaching than the teachers. The respondents strongly agreed with the various requirements for implementing "Integrated teaching" rather

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than the traditional “Discipline based teaching” in the MBBS program. However, it was also discovered that the teachers were less in favour than the students of the various requirements for “Integrated teaching” rather than the conventional “Discipline based teaching”.

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