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Brief Report

Student Perception of the Integrated PBL MBChB-III Program Curriculum in a Medical University

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Abstract

Background: Integrated problem-based learning (PBL) is now an accepted method of teaching the medical curriculum. The objective of this study was to determine perceptions of PBL from third year students in the MBChB (Bachelor of Medicine and Bachelor of Surgery/Chirurgery) program at Walter Sisulu University, South Africa.

Methods: Year three students in the MBChB program at Walter Sisulu University were administered a questionnaire. The 11-item questionnaire measured students' perceptions of the integrated PBL curriculum. Questions addressed course content, objectives, and application, as well as impact on learner stress.

Results: More than half of the students reported that the curriculum enhanced analytical skills, and was reasoning and learning centered. Almost 70% of the students thought that the desired goals and objectives were clearly defined and about 90% stated that they could recognize discipline interrelations. While 61.7% of students reported that the curriculum facilitated active learning opportunities, more than 70% stated that it increased the workload and stress levels. About half of the students expressed overall satisfaction with the level of content integration.

Conclusion: Students generally presented favorable perceptions of the integrated MBChB-III PBL curriculum. There were concerns about the associated heavy workload and stress. Student counseling with respect to time and stress management coupled with improvements in curriculum design would be helpful in addressing this issue.

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Introduction

Problem based learning (PBL) is now a widely accepted method of education adopted by many medical universities around the world.¹ PBL facilitates an integrated core curriculum encouraging students towards independent, self-directed study, which enables them to learn to apply underlying scientific knowledge and principles in clinical practice.² The Walter Sisulu University adopts an integrated PBL approach towards the MBChB (Bachelor of Medicine and Bachelor of Surgery/Chirurgery year 3 course. Integration is both 'horizontal' and 'vertical'. In the former, various disciplines are taught in the same phase (year/semester). These courses include the basic sciences in the early years, followed by clinical subjects in the later years of the course. The 'vertical' integration facilitates 'bridging' of the basic with the clinical sciences, thereby introducing the students to clinical aspects in the initial years. This approach is intended to promote integration of basic science concepts and facts with their clinical relevance. However, the integration of disciplines in the medical curriculum is not without its setbacks. Horizontal and vertical integration may sometimes be sub-optimal³, not only because of the complexity of the exercise per se but also because of other factors like shortage or underutilization of staff and resources, and the challenging task of coordinating the program.

Effectiveness of course programs and curricula need to be determined on a regular basis. The most important evidence of quality and effectiveness is performance; and in educational programs, this is reflected in the achievement of optimal student learning outcomes.⁴ This, in turn, is strongly influenced by students' learning approach.⁵ Some studies have examined different aspects of students' perception relating to motivating factors, effectiveness of faculty-led versus student led tutorials, enhancement and flexibility of learning and practical relevance of the PBL education system.⁶⁻⁹ Others have focused on students' perceptions of integrated curricula within the PBL context.¹⁰ The integrated medical PBL curriculum, albeit a promising innovation, warrants further studies to better understand and define its effectiveness. The objective of this study was to determine MBChB-III students' perceptions of the integrated PBL curriculum.

Methods

A questionnaire was administered to 88 student volunteers out of a total 96 students, thereby representing 91.6% of those who had enrolled for the MBChB year 3 course at the Walter Sisulu University. Items addressed the objectives, content, implementation and outcomes of the PBL program (see Figure 1). Responses were indicated on a scale of 1 to 5 (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). Student names were not disclosed and all information was made available only to members of the research team.

Results

The percentage of students who endorsed each question is shown in Figure 1. Responses of 'strongly agreed' and 'agreed' were categorized as 'agreed'; and responses of 'strongly disagreed' and 'disagreed' were grouped together as 'disagreed'.

Discussion

This study determined that students at Walter Sisulu University MBChB-III consider the PBL program an innovative and useful model for learning in medicine. Integrated curricula have been defined or described in various ways; most of these include aspects like combination of subjects, relationships among concepts, sources that extend learning beyond textbooks like journals and the internet, emphasis on projects, and flexible student schedules.² The intended goal of PBL in the MBChB course is to produce a well trained, qualified medical professional who can render health services in real life situations. For this, the course content must foster a healthy development of concerned skills and competencies. In our study we found that most students considered the curriculum useful in several areas. They reported that it improved their analytical skills, addressed reasoning and problem solving, and encouraged initiative in their learning. We believe we achieved these outcomes by conceptualizing and designing our case simulations to challenge students with real life situations, followed by the presentation of facts and clues that encourage them to think logically, formulate new hypotheses, ideas and concepts and consider logical conclusions. Indeed, students stated that they needed to logically consider the information in

the cases and felt encouraged to seek library resources. Most students in our study agreed that the course content did not promote memorization or reproduction of content. The results from our study also showed that students were not only happy with the integrated discussion based tutorials, but also appreciated the supplementation of the tutorials with practical demonstrations and didactic resource lectures. Although many of our students were satisfied with the clarity of the desired goals and objectives, some reported that they needed to be defined more clearly. Students' perceptions about multidisciplinary integration generally tended to coincide with their intended objectives, and most of them thought that the cases were designed to encourage them to relate the concerned topics across disciplines.

A majority of our students also were of the view that the integrated PBL curriculum facilitated active and interactive learning, which also helped students improve their communication skills and develop self confidence. Another important aspect of an effective medical PBL curriculum would be the advantage it provides in developing generic skills and attitudes in the students desirable in their future practice.¹¹

Despite the positive results of the study, almost three quarters reported that the course levied an increased workload, thereby increasing levels of stress. Curriculum designers must take this point into consideration when designing the curriculum, and students may need to learn stress reduction strategies to manage the program. Finally, although many of the students were satisfied with the level of content integration, a need for more strategic integration was identified by some students.

Curriculum integration is a time consuming process because teachers need to select learning themes based on the syllabus while keeping student learning styles and needs in mind; in addition to exploring resources, and coordinating teaching schedules and assessments across disciplines.¹¹ During the process of designing the curriculum, the faculty tries to balance various issues that go towards formulating an effective curriculum, and at the same time not making it too taxing for students. While this study shed some light on student's perceptions on the integrated PBL medical course

curriculum of our university, which is generally favorable, it gives us an opportunity to address relevant concerns of students in our constant endeavor to improve upon our teaching and assessment tools for the MBChB-III program.

Conclusions and Recommendations

Students generally presented favorable perceptions of our integrated PBL curriculum although some concerns were raised about the associated heavy workload and stress, and the need for defining the goals and objectives more clearly. Recommendations include instituting remedial measures in this respect with our ongoing efforts to improve upon case and resource development, curriculum design and counseling students about stress management. Also, the faculty could review the curriculum content, assessment strategies and the timetable to provide better time management for the students.

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Figure 1. Students' perception of the PBL program

