

Undergraduate dental students' perceptions of educational strategies at Foundation university college of dentistry

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Abstract

Introduction The way student learns from a particular educational environment mainly depends on the students' perception of the learning environment. Therefore, students' perception of teaching methods not only influence their behavior towards learning but also on the teacher and subject itself. Hence the aim of the present study was to assess the effectiveness of educational strategies practiced at Foundation University College of Dentistry with the help of pre-validated student's feedback questionnaire and to evaluate their curriculum according to the SPICES model.

Material and Methods: Students of 2nd and 3rd year BDS were asked to fill the pre-validated structured student's feedback questionnaire. Questionnaire comprised of questions on teaching and learning methods and on the changes recommended. Descriptive statistics were used in the form of frequency distribution and percentages were used to analyze the data.

Results: Majority of students agreed that knowledge of the subjects taught helped in clinical understanding and application. 46.5% students felt strongly agreed that integration of basic science subjects with pre-clinical aspects of teaching will help in better understanding. Students strongly agreed that they were encouraged to ask questions during lectures and were satisfied with the delivery and pace of lectures. The students in this study emphasized the first three ideas of SPICES model, which included, student centered teaching, problem based learning and an integrated curriculum.

Conclusions: Feedback from the students is believed to be one of the most reliable method of assessment. In this study, majority of BDS students in FUCD were satisfied with the current educational strategies. Implementation of integrated teaching, case based and group based discussion was strongly appreciated/recommended by the students.

Keywords: Student centered learning; learning environment; learning strategies

Introduction

In order to improve the teaching-learning cycle, periodic feedback and reviewing of the teaching program can help in improvement of educational standards and in particular educational environment. Entwistle¹ stated that the way a student learns

from a particular educational environment mainly depends on the students' perception of the learning environment. Therefore, students' perception of teaching methods not only influence their behavior towards learning but also on the teacher and subject itself.

In recent years, the repertoire of methods used for teaching has evolved and modified significantly in almost all higher educational institutes of Pakistan. More advanced, electronic based and new modes of teaching and assessment methods have enriched the whole conventional teaching / learning methods and expanded the traditional mode of assessment considerably.² The basic aim of all these advancements is to improve and alter the students' understanding about the

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curriculum that they start to conceptualize different aspect of the subject in the way that we as facilitators want them to learn or understand. Thus effective teaching of curriculum of a particular subject mainly involves continuous striving to know about the students' level of understanding and the impact of teaching on them as a learner.

For organizing and improving the medical curriculum of undergraduate students, the SPICES model of educational strategies still play a key role.³ The main points of SPICES model like student-centered learning, problem-based learning and integrated teaching are now widely accepted to bring necessary reforms in a curriculum.⁴

Despite recognizing the importance of students' perception and feedback regarding teaching/learning methods, however, this area needs to be addressed further in academic research. Thus, the primary focus of this present study was to determine the 2nd and 3rd year BDS students' perceptions about the didactic lecture method by using a pre-validated questionnaire at Foundation University College of Dentistry. The objectives were to assess the effectiveness of educational strategies practiced in FUCD with the help of student's feedback questionnaire and to evaluate their curriculum according to the SPICES model. Moreover, aim was also to analyze the recommendations given by students in improving the educational strategies.

Material and Methods

A pre-validated structured feedback questionnaire (Table I) was uploaded on google document and an email was send to all students of 2nd and 3rd year BDS, at Foundation University College of Dentistry (FUCD) during the year 2017 - 2018. The questionnaire was regarding the teaching-learning (educational) methodologies and assessment strategies currently implemented. The questionnaire comprised of total 25 items, 4 items regarding the perception of students

about the concerned subject, 11 items from teaching learning methodologies, 4 items from assessment strategies and 5 items regarding the suggested recommendations to improve teaching and learning. Statistical analysis of the data was done using Microsoft Excel/Epi Info. Descriptive statistics were used in the form of frequency distribution and percentages were used to analyze the data.

Results

Online questionnaire was emailed to 100 students, 86 students participated in the study. Subject perception was assessed in the study in Graph-1. 48.8% of the students found the subject under investigation to be interesting. 60.5% students agreed that knowledge of the basic science subjects help in clinical understanding and application. 46.5% students felt strongly agreed that integration of basic science subjects with pre-clinical will help in better understanding.

About 65.1% and 55.8% of the students showed satisfaction with the clinical correlation to the content taught in lectures, that helped them in understanding well. 58.1% of the students emphasized on stress given on important points during lectures that helped them immensely. Students agreed about the explanation given to clarify the subject contents to be satisfactory (Graph - 2a).

37.2% students strongly agreed that they were encouraged to ask questions and give answers during lectures whereas 48.8% agreed with the delivery and pace of lectures (Graph - 2b). 46.5% of the students agreed on the view that lectures and demonstrations were taken in a way that stimulated interest in the taught subject.

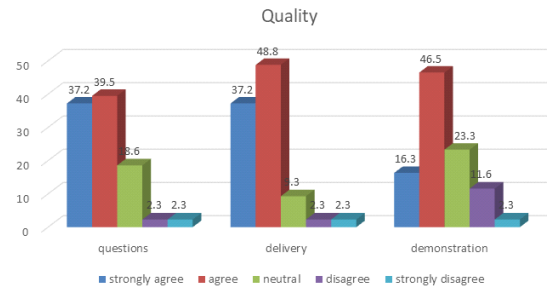
As regards to ascertaining readability which includes easy to follow concepts, facts from displayed lecture materials and usefulness e.g. photographs in relation to the content of lectures, 58.1 % and 60.5% were satisfied respectively (Graph - 2c). 51.2% students were

satisfied with the innovative methods being followed in understanding the topic.

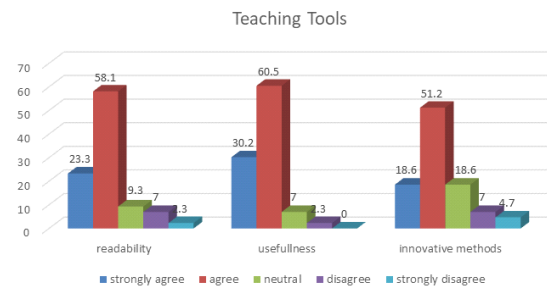
48.8% of students agreed that didactic lecturing is a very effective teaching-learning method and 48.8% of students were inclined to the fact that power point presentation is an ideal teaching learning media (Graph - 3).

There were 44.2% students who were of the view of introducing integrated teaching method whereas 48.8% & 41.9% expressed that there is a need of introducing case based learning and group discussions method (Graph - 4).

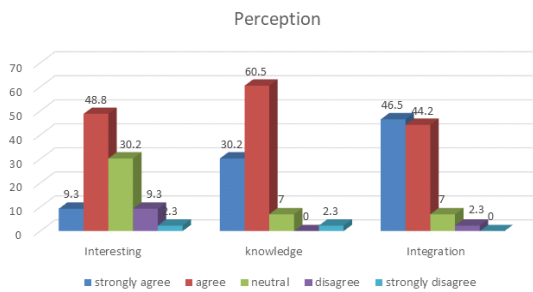
51.2% of students agreed with the assessments conducted in the form of written examinations and 65.1% of students agreed with the viva voce examination, which helped them to improve your subject knowledge and application skills (Graph - 5).



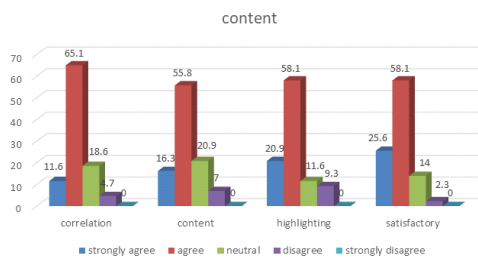
Graph-2b: Quality



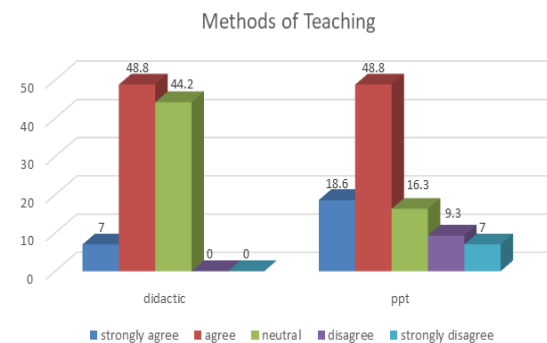
Graph-2c: Teaching Tools



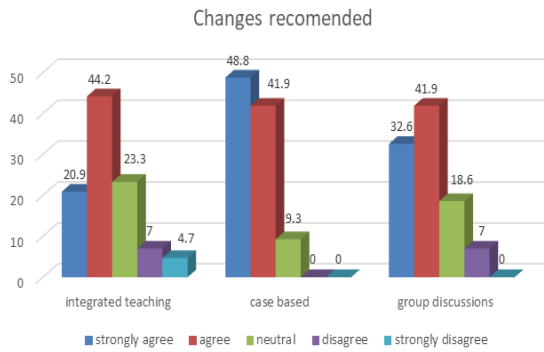
Graph-1: Subject Perception



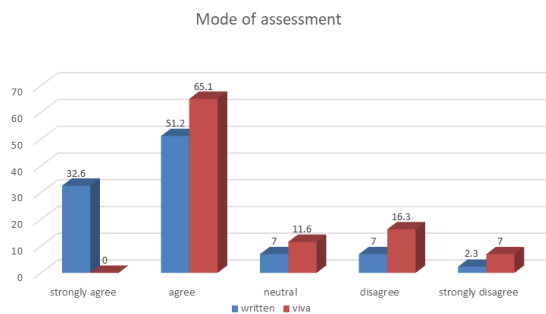
Graph-2A: Content



Graph-3: Methods of teaching



Graph-4: Changes recommended



Graph-5: Mode of assessment

Discussion:

Student’s feedback is a reliable way of evaluating teaching-learning and assessment methods and their efficacy.⁵ In the current study, out of 100 undergraduate dental students, 86 students (86%) responded to the questionnaire, whereas in other studies the respondent percentages were 96.09% and 99% respectively.^{6,7}

Regarding the perception of students about the subjects of basic sciences, 48.8% of the students showed interest in these and 60.5% students believed that knowledge of basic science subjects will help in clinical understanding and application. This is in consent to other studies found in the literature.⁸ The pre-clinical component of dental curriculum of 2nd year BDS helps in building strong foundation of students which develops better understanding and eventually better patient care.⁹

As far as the content of basic science subjects were concerned, majority of students (65.1% and 55.8%) were satisfied with clinical

correlation, explanation and clarification of the content of the lectures. This was in contrast to a lower percentage in another study⁶ that reported only 36.30 % of students were satisfied with the content of the lectures. Many students agreed to initiate integrated teaching (44.2%), case based discussion (48.8%) and group discussions (41.0%).

The students in this study approved the first three ideas of SPICES model, which includes, student centered teaching, problem based learning and an integrated curriculum. The SPICES model reflects six main concepts in medical education (Figure 1).³ By recognizing and implementing the SPICES principles in medical and dental institutions, students will take responsibility of their own learning; become self-directed and lifelong learners and able to provide constructive feedback to improve the educational strategies.¹⁰

S	Student-centred	←	→	Teacher-centred
P	Problem-based	←	→	Information gathering
I	Integrated	←	→	Discipline-based
C	Community-based	←	→	Hospital-based
E	Electives	←	→	Standard programme
S	Systematic	←	→	Apprenticeship-based/ Opportunistic

Figure 1

The curriculum of BDS should be designed in accordance with current educational strategies, in an integrated format to support teaching and assessment, to reflect a constructivist perspective, based on SPICES model. It is an innovative and integrated approach of teaching and learning in contrast with the traditional strategies. It comprises of six educational strategies.³

The entire programme of BDS should be structured according to the constructivist approach. Constructivist approach is student centered, nurtures analytical thinking and generates dynamic and motivated learners.¹¹ Therefore, an attempt should be made in designing the modules in such a way that there will be minimal didactic teaching and

more focus on facilitation based on themes e.g. PBL.¹² This fact will be reflected by the use of instructional methods being used are more learner centered as compared to traditional methods. A constructivist approach is used to produce self-directed and inquisitive learners.¹³

Large percentage of students were of the view that important points of the subjects were highlighted properly during lectures and discussed with logical reasoning to clarify the subject contents. However, in literature reports contrasting results also.⁷ 37.2% students strongly agreed that they were encouraged to ask questions during lectures. 48.8 % were satisfied with the delivery and pace of lecture.

58.1%, and 60.5% of students were satisfied with readability and usefulness of lecture presentations respectively. 48.8% of the students agreed that didactic lecturing is an effective teaching and learning strategy and similar percentage of students were satisfied with the power point presentations during lectures.

Assessments can be both formative and summative.¹⁴ Participants of the study were satisfied with the implemented mode of assessment in written (51.2%) and viva (65.1%) form. To improve the methods of assessments, new innovative assessment tools like DOPS (direct observation of procedural skills), mini CEX (clinical examination exercises), MSF (multiple source feedback) and regular feedbacks should be provided to students after formative and summative assessments.^{15,16}

Conclusions

Student feedback is believed to be one of the most reliable methods of assessment. In this study, majority of the BDS students were satisfied with the current educational strategies. Implementation of integrated teaching, case based and group based discussions were strongly recommended by the students. Some of the concepts included

in the SPICES model of medical education are already in practice to some extent in FUCD. Regular review from the medical education committee is required to ensure that the entire course is suitable to cultivate appropriate knowledge, skills, attitudes and competencies essential to meet the requirements of a dentist providing oral health care in the community. Due to time constrain, this study was conducted in only one institute. Sample size can be further improved by collecting data from multiple collages. Future research should compare the student's perceptions regarding the traditional and integrated educational strategies. Secondly, the perceptions of faculty regarding feedback should also be explored. Thirdly, limited literature is available regarding the role of student's feedback in improving the teaching strategies of medical teachers.

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