Comparison of Perceptions between Dental Students and Teachers Regarding Teaching Methodologies in Dental School in Manipal University, India

Karthik Shetty* MDS, Abhishek Parolia** MDS, Mandakini Mohan*** MDS, Kundabala M**** MDS, Ramya Shenoy***** MDS, Manuel S Thomas****** MDS
*Reader,** Assistant Professor, ***Professor & Head, *****Reader, Department of Conservative Dentistry & Endodontics, Manipal College of Dental Sciences, Mangalore, India, ****Assistant Professor, Department of Prosthodontics, Manipal College of Dental Sciences, Mangalore, India, ******Assistant Professor, Department of Community Dentistry, Manipal College of Dental Sciences, Mangalore, India.

ABSTRACT

The learning environment of the clinic or hospital is a challenging area for both the teachers and students. Though there are various teaching methodologies used in different dental schools in the world, there is still a quandary regarding which would be the best method for a teacher to teach and a student to learn. The objective of this study was to explore the perceptions of dental students and teachers about dental teaching and compare them so as to provide primary data for dental researchers and educators to improve the dental education. Student focus group data provided background for the development of a questionnaire that included twelve questions related to dental teaching. 100 BDS undergraduate students and 50 teaching faculty members were included in this study to give their perceptions regarding various aspects of dental teaching in dental schools. The data were tabulated and statistically analyzed. Most of the students and teachers preferred lectures with the aid of power-point and chalk-board. They preferred morning lectures from 8 am to 10 am and a maximum of 30 to 40 minutes for each lecture. Prior information about the lecture topic was preferred by the students as well as teachers. Delivery of clinical demonstrations was said to be beneficial after the theory lectures. They also preferred learning based education rather than exam oriented. Students advocated that attendance should be made compulsory and numerical marking of examination should be replaced by a grading system. The findings of this study indicate that dental researchers and educators should meet the requirements of students as well as teachers to improve the dental education. (Manipal Odont. 2010;1:7-11)

KEYWORDS: teaching methodology, perception

INTRODUCTION

The learning environment of any dental school all over the world is very demanding and challenging to meet the expectations of both students as well as teachers. Many dental educators believe that linking dental undergraduate courses to a general hospital program produces a better informed and more versatile general dental practitioner.1, 2

Nowadays it has been observed that the dental students are not so keen to learn and do not like their experiences in dental school, perhaps because of a stressful learning environment.3 Students, as the "consumers" of dental education, may be valuable assets in providing feedback and suggestions about teaching methodologies to provide data for dental educators to improve the quality of dental education. Various studies have been conducted to evaluate the students’ views about academic preparations4, learning environment5, use of techniques taught in dental school6, curriculum change7, 8 and impact of dental education on their stress level.9, 10 But there are very few studies where basic aspects of teaching methodologies have been discussed. Hence the aim of this study was to explore the perceptions of dental students and teachers about various aspects of dental teaching and compare them to provide primary data for dental researchers and educators to improve dental education and meet their expectations.

METHODOLOGY

Student focus group data provided background for the development of a questionnaire that included twelve questions related to dental teaching. 100 dental (BDS) undergraduate students and 50 teaching faculty members, Manipal University were included in this study to give their perceptions regarding various aspects of teaching in dental schools.
QUESTIONNAIRE

Your Perspective...............

1) This is a questionnaire to gather feedback regarding the effectiveness of teaching methods used for theory lectures in dental colleges
2) Please tick only one choice
3) Please answer all questions

A. Which of the following teaching methodology is the most understandable?
   1. Lecture only
   2. Lecture with power point
   3. Lecture with power point and chalk board
   4. Lecture with chalk board only
   5. Lecture with clinical demonstration
   6. Lecture with hands on
   7. Lecture with group discussion

B. Length of the theory classes should optimally be
   1. 15-20 mins
   2. 30-40 mins
   3. 40-60 mins
   4. More than 60 mins

C. Should hand outs be given after the theory classes?
   1. Strongly agree
   2. Agree
   3. I don't know
   4. Disagree
   5. Strongly disagree

D. Should clinical demonstration on a topic be given?
   a. Before the theory class
      1. Strongly agree
      2. Agree
      3. I don't know
      4. Disagree
      5. Strongly disagree
   b. After the theory class
      1. Strongly agree
      2. Agree
      3. I don't know
      4. Disagree
      5. Strongly disagree

E. Theory classes should be held in
   1. Early morning 8 am to 10am

   2. Mid morning 10 am to 12 pm
   3. Afternoon 12pm to 2 pm
   4. Evening 2 pm to 4pm

F. Should home assignment be an essential part of the theory classes?
   1. Strongly agree
   2. Agree
   3. I don't know
   4. Disagree
   5. Strongly disagree

G. Should the theory classes schedule be previously informed to the students?
   1. Strongly agree
   2. Agree
   3. I don't know
   4. Disagree
   5. Strongly disagree

H. Should attendance for theory classes be made compulsory?
   1. Strongly agree
   2. Agree
   3. I don't know
   4. Disagree
   5. Strongly disagree

I. Should the numerical marking system be replaced with a grading system?
   1. Strongly agree
   2. Agree
   3. I don't know
   4. Disagree
   5. Strongly disagree

J. Should theory classes be taken?
   a. exam oriented
      1. Strongly agree
      2. Agree
      3. I don't know
      4. Disagree
      5. Strongly disagree
   b. learning oriented
      4. Strongly agree
      2. Agree
      3. I don't know
      4. Disagree
      5. Strongly disagree
Statistical analysis was done using SPSS 11.5 package. Kruskal-Wallis and Spearman Correlation tests were applied.

<table>
<thead>
<tr>
<th>Q.No.</th>
<th>Questions</th>
<th>Staff Response</th>
<th>Student Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Which of the following teaching methodology is the most understandable?</td>
<td>Lecture with power point and chalk board - 48%</td>
<td>Lecture with power point and chalk board - 60%</td>
</tr>
<tr>
<td>2</td>
<td>Length of the theory classes should optimally be</td>
<td>30-40 mins - 70%</td>
<td>30-40 mins - 58%</td>
</tr>
<tr>
<td>3</td>
<td>Should hand outs be given after the theory classes?</td>
<td>Agree - 42%</td>
<td>Strongly agree - 48%</td>
</tr>
<tr>
<td></td>
<td>Should hand outs be given after the theory classes?</td>
<td>Disagree - 42%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Should clinical demonstration on a topic be given?</td>
<td>I don’t know - 30%</td>
<td>I don’t know - 31%</td>
</tr>
<tr>
<td></td>
<td>a. Before the theory class</td>
<td>Disagree - 30%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Should clinical demonstration on a topic be given?</td>
<td>Strongly agree - 66%</td>
<td>Strongly agree - 65%</td>
</tr>
<tr>
<td></td>
<td>b. After the theory class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Theory classes should be held in</td>
<td>Early morning 8 am to 10 am - 86%</td>
<td>Early morning 8 am to 10 am - 58%</td>
</tr>
<tr>
<td>6</td>
<td>Should home assignment be an essential part of the theory classes?</td>
<td>Agree - 46%</td>
<td>Agree - 57%</td>
</tr>
<tr>
<td>7</td>
<td>Should the theory classes schedule be previously informed to the students?</td>
<td>Strongly agree - 60%</td>
<td>Strongly agree - 67%</td>
</tr>
<tr>
<td>8</td>
<td>Should attendance for theory classes be made compulsory?</td>
<td>Agree - 54%</td>
<td>Agree - 57%</td>
</tr>
<tr>
<td>9</td>
<td>Should the numerical marking system be replaced with a grading system?</td>
<td>Agree - 38%</td>
<td>Disagree - 32%</td>
</tr>
<tr>
<td>10</td>
<td>Should theory classes be taken?</td>
<td>Strongly agree - 42%</td>
<td>Strongly disagree - 41%</td>
</tr>
<tr>
<td></td>
<td>a. exam oriented</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Should theory classes be taken?</td>
<td>Strongly agree - 72%</td>
<td>Strongly agree - 79%</td>
</tr>
<tr>
<td></td>
<td>b. learning oriented</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 2: Statistical differences between students and staff members

<table>
<thead>
<tr>
<th>Question</th>
<th>Kruskal wallis test</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Should handouts be given after the theory classes?</td>
<td>0.138</td>
<td>0.711</td>
</tr>
<tr>
<td>Should clinical demonstration on a topic be given before the theory class</td>
<td>0.05</td>
<td>0.823</td>
</tr>
<tr>
<td>Should clinical demonstration on a topic be given after the theory class</td>
<td>0.575</td>
<td>0.414</td>
</tr>
<tr>
<td>Should home assignment be an essential part of the theory classes?</td>
<td>0.575</td>
<td>0.414</td>
</tr>
<tr>
<td>Should the theory classes schedule be previously informed to the students?</td>
<td>0.119</td>
<td>0.730</td>
</tr>
<tr>
<td>Should attendance for theory classes be made compulsory?</td>
<td>0.417</td>
<td>0.518</td>
</tr>
<tr>
<td>Should the numerical marking system be replaced with a grading system</td>
<td>0.742</td>
<td>0.389</td>
</tr>
<tr>
<td>Should theory classes be taken exam oriented</td>
<td>1.267</td>
<td>0.260</td>
</tr>
<tr>
<td>Should theory classes be taken learning oriented</td>
<td>1.267</td>
<td>0.260</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>p value</th>
<th>Spearman Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which of the following teaching methodology is the most understandable?</td>
<td>0.017</td>
<td>(Significant)12.109</td>
</tr>
<tr>
<td>Length of the theory classes should optimally be</td>
<td>0.5443</td>
<td>0.084</td>
</tr>
<tr>
<td>Theory classes should be held in</td>
<td>0.017</td>
<td>(Significant)12.103</td>
</tr>
</tbody>
</table>

**DISCUSSION**

One of the most serious challenges that dental educators face today is improving the level of student satisfaction with the curriculum and learning environment. In predoctoral dental education, didactic and clinical training is condensed into four years or less. Little opportunity is given for the students to acquire a sense of "connectedness" between biomedical science courses generally completed during their first two years and patient clinical experiences required for graduation. Although integration of science with clinical practice is a key objective of any dental curriculum, students often perceive that the mantra of survival in school is to pass the science courses by rote memorization and to discover the relevance of this material in actual practice. As in this study, both teachers and students agree that teaching methodology should include lecture with power point, chalkboard, and clinical demonstration as the use of diagrams and symbolic devices such as graphs, flow charts, hierarchies, models, and arrows make the students to understand the topic better. After determining the purpose and objective of the lecture, the instructor should consider its length. Results of this study are in the agreement to the study by Arredondo et al (1994)11 who recommended lecture time no longer than 45 minutes because after this concentration level goes down. Lectures are generally described from the instructor's point of view, and the student's need for interaction with the instructor is not addressed. In fact, lack of interaction is considered to be one of the major limitation of the traditional lecture.12 So distribution of handouts allow students to concentrate in the lecture rather than writing down notes and make the class more interactive. Handouts are the means of disseminating additional information and also help in reviewing important facts and identifying resources for further study. Most students and teachers agree as handouts may aid in reviewing the important aspects of the class. Whereas some teachers feel giving handouts will make the students less attentive during the
During this time level of concentration is maximum. Giving home assignment is found to be beneficial as it teaches self discipline, perseverance and time management. It also improves skill and knowledge of the subject. Compulsory attendance improves the performance of students as they may not miss the explanations given during the lecture. Previously informed topic of lecture helps them to prepare for the classes and also gives clues about the chapter. Most students and teachers feel marks are more quantitative indicators of knowledge and skill. Some teachers prefer grades as these may reduce unrealistic pressure on the students but students preferred numerical system as it gives the student to work harder. Most of the students and teachers feel theory classes should be exam oriented as this will help to assess their knowledge of the subject and determine academic progress while some of them suggested it should be learning oriented as this will help to attain a more long lasting knowledge of the subject. Therefore theory classes should be both exam as well as learning oriented which allow students to grasp basic knowledge and implement it during exams.

CONCLUSION

The findings of this study can provide guidance in preparing undergraduate dental and dental hygiene educators to enter the teaching environment. This study also suggests that dental researchers and educators should meet the requirements of students as well as teachers to improve dental education.

REFERENCES