

Assessment Of Dental Anatomy Carving For Undergraduates In Computer-Assisted Learning Vs. Traditional Learnig Method

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ABSTRACT

Aim:

This study aimed to test the advantages of computer assisted learning (CAL) over traditional method of dental anatomy wax carving for freshly enrolled students for dentistry. Making students perceive gross dental anatomy involves surveying and examination of natural teeth and carving wax models to precisely reproduce the morphology of teeth. In first year of dental curriculum dental anatomy carving is instructed to students that is the beginning towards dentistry with in which students learn primary data concerning teeth anatomy to learn the structure and internal form of each tooth. In our opinion, this is able to facilitate to extend in private practice.

Materials and Method:

Ninety one First year dental students at the Rural Dental College, PIMS were subjected to two practical demonstration session with two different methods of explaining wax carving of upper and lower right canines. All students were told to carve an upper canine and a lower right canine using the dental wax block. Clinical supervisors investigated the work of scholars by creating a scale from zero to five. Unpaired T test was made in use to compare two samples asses for both conventional and computer assisted methods.

Conclusion:

Computer assisted learning (CAL) has the potential to boost faculty instruction, chiefly when students need unremitting demonstration.

Keywords: Carving, Computer assisted learning, Traditional learning method

INTRODUCTION

The article covers the synchronous harmony between jaw bones and teeth, the complex joints that gives authority and control movements of mandible which is connected to cranium, the muscles that allow movement and chewing, and the blood vessels and nerves nourish these structures. As a result, it is critical to learn dental anatomy since it is necessary to have a fundamental understanding of tooth structure in order to practice or study dentistry. As a result, one of the fundamental components of the knowledge and abilities required to practice all areas of dentistry is the study of dental anatomy. (1)

All over the world the dental anatomy follows in two process. Initially , the students are exposed to the natural tooth to understand its anatomy, study regarding it , even practice its drawing . this process is later followed by carving various materials such as wax, plaster or plastic to produce the replica of the natural tooth to understand its anatomy. The first process is mandatory: Students must know “the common traits of each tooth, the difference between the maxillary and mandibular arches, and the differences between the arch components of each class”. (2) In the mid- to late 1960s, computer technology was used to improve learning (3, 4) By incorporating interactivity and independence into the learning process, CAL has shown promising results. CAL had positive responses to self-learning and appeared to be eager to learn. CAL has shown positive responses for self-learning and seemed motivated to learn. Students' transition from pre-clinic to clinic has been seen to be improved by introducing them to clinics.

MATERIAL & METHODS

Ninety one First year BDS students at the Rural Dental College, PIMS (DU) were treated to two different techniques of teaching waxed carving of the upper and lower right canines during two practical demonstration sessions. The dental wax block was used by all students to carve an upper canine and a lower right canine. Clinical supervisors graded the students' work on a on a range of 0 to 5. Unpaired T test was used to differentiate two samples evaluated for both traditional and computer assisted methods.

RESULTS

Assessment of upper canine carving The mean values of assessment of upper canine carving were (2.86 +/- 0.45) for traditional method and for computer assisted learning method (2.85+/- 0.35)

Table (1) Assessment records of upper canine carving

LECTURE TYPE	MEAN	STANDARD DEVIATION
Conventional	2.86	0.45
CAL	2.85	0.35

Assessment of lower canine carving assessing -The results of mean values of the lower canine carving were (2.85=-/ 0.39) for traditional learning method and (2.86+/-0.35) for traditional learning method and (2.86+/-0.35) for computer assisted learning method.

Table (2) Assessment records of lower canine carving

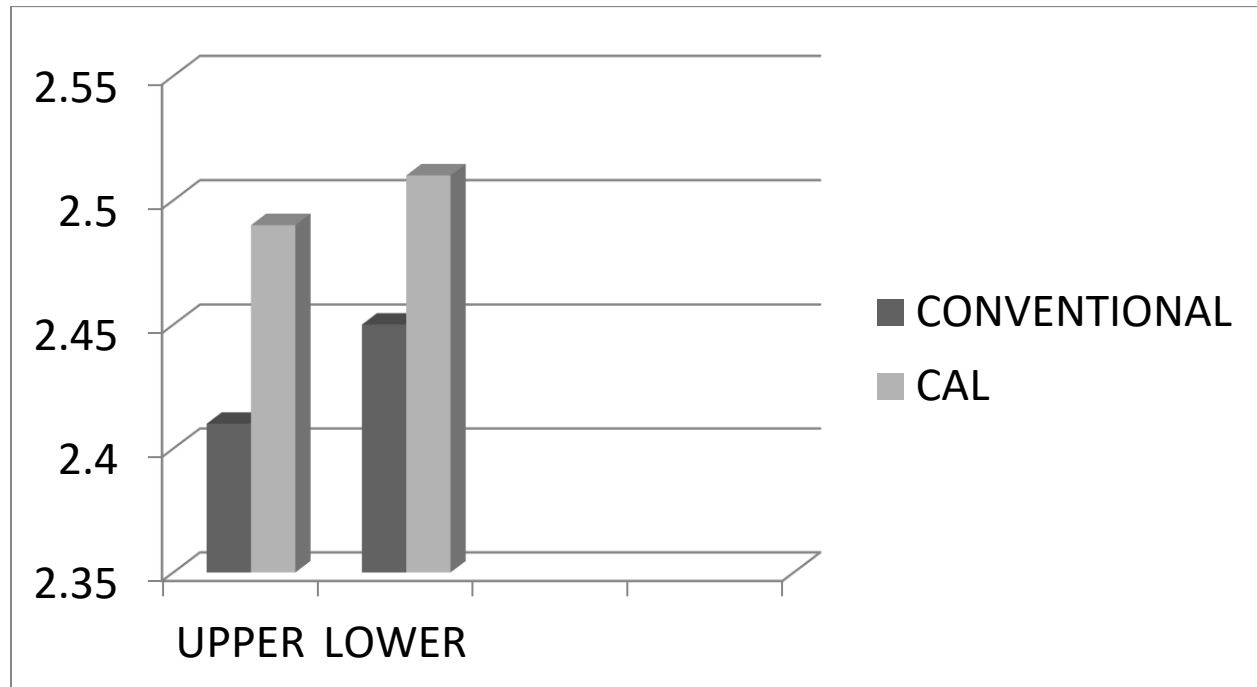
LECTURE TYPE	MEAN	STANDARD DEVIATION
Conventional	2.85	0.39
CAL	2.86	0.35

General assessment of canine carving (both upper and lower) -The mean value of evaluation for both upper and lower canine carving were(2.86+/-0.42) for traditional learning method, and for computerassisted learning method.

Table (3) General assessment of canine carving(both upper and lower)

LECTURE TYPE	MEAN	STANDARD DEVIATION
Conventional	2.86	0.42
CAL	2.85	0.35

If we merged the results, no significant differences in assessment of records of both upper and lower canine carving between traditional and CAL methods.



Graph (1): shows the differences in evaluation records of both upper and lower canine' carving between traditional and CAL methods.

DISCUSSION

The knowledge of tooth morphology, physiology and occlusion is required to practice dentistry. Working in the field of operative dentistry necessitates a thorough understanding of the forms of different teeth, as well as the ability to recreate them. For more than 50 years, tooth carving has been a part of the dental curriculum in India. (5)

The dental student begins to build psychomotor abilities for restoring the teeth to proper form and function by carving tooth anatomy. Tooth carving aids dental students in comprehending and reconstructing the structure and function of teeth. Students will have an easier time identifying teeth, recognizing and diagnosing tooth anomalies, and treating or managing dental pathology. CAL has the ability to enhance instructor instruction, particularly when method demonstrations must be repeated (6).

According to McCann et al., around two-thirds of e-teaching students found college e-resources useful for learning, although they preferred printed literature and saw e-teaching as a supplement to traditional lectures rather than a replacement. (7)

Advantages of use of computer in dentistry include 24 hours availability of information, it is available as per the need of student anytime, and information can be played repeatedly until the

student clears his or her concepts. Our point of study was to find out any advantages of CAL over traditional learning in terms of dental wax carving course related to canine. The findings revealed that there was no significant difference in the evaluation records of upper and lower canine carving between the two learning methods. However, this does not imply that the groups were identical; rather, it indicates that there was insufficient evidence to reject the null hypothesis of no difference.

Every student who participated in study were allowed to have DVDs after completing the requested tasks. However, it was not studied whether or not this fact had an impact on the outcomes. This should be investigated further. According to the findings, CAL could be more effective when used in conjunction with traditional teaching methods. To generalize the findings, similar research with a larger sample size are required.

CONCLUSION

In terms of wax carving courses for undergraduates, CAL revealed no substantial advantages over traditional or conventional learning. However, CAL could add value to the traditional method of teaching dental anatomy wax carving in preclinical courses. Within the confines of this study, instructional DVDs could be successfully employed as a supplement to the traditional manner of teaching wax carving in terms of CAL. In this regard, oral instructions with graphic illustrations and the continual presence of a teacher are equal to instructional multimedia.

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