Teaching anatomy using colored models

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Abstract
Anatomy refers to the science of investigating a body’s internal structure. The head and neck region is one of the most complex areas featured in the medical gross anatomy curriculum. Present study was conducted in Department of Anatomy, Pt. B. D. Sharma PGIMS, Rohtak. Study was carried out on 200 students of MBBS 1st year, in which two groups were made with 100 students in each group. Hundred students were taught about the bones on colored skull and other 100 students were taught on non-colored skull. Thereafter, a test was conducted via questionnaire. The results were tabulated and analyzed. Group of students taught on colored skull scored >70% marks in the test with <30% wrong answers as compared to the students taught on non-colored skull scored <60% marks in test with 42.5% of the wrong answers. Relations of different bones with each other in colored skull are better retained and give more clarity in understanding anatomy of skull.

Keywords: Colored skull, anatomist, medical students, anatomy learning

1. Introduction
Anatomy refers to the science of investigating a body’s internal structure. It is one of the basic sciences in a student’s medical curriculum [1]. Teaching of human anatomy has had to respond to significant changes in medical curricula, and it behooves anatomists to devise alternative strategies to effectively facilitate learning of the discipline by medical students in an integrated, applied relevant and contextual framework. In many medical schools, the lack of cadaver dissection as the primary method of learning is driving changes to more varied and novel learning and teaching methodologies [2].

The head and neck region is one of the most complex areas featured in the medical gross anatomy curriculum. The effectiveness of using 3-d models to teach anatomy is a topic of much discussion in medical research1.

2. Material and method
Present study was conducted in department of Anatomy Pt. B. D. Sharma Post Graduate Institute of Medical Sciences Rohtak. In present study skull was painted with different colors so that each bone could be easily identified. Than proposed study was carried out on 200 students of MBBS 1st year, in which two groups were made with 100 students in each group. Hundred students were taught about the bones on colored skull and other 100 students were taught on non colored skull. Than post learning test was conducted via questionnaire. These questions addressed the relation of different bones to each other present in the skull. Students were given 10 minutes, one minute for each question. Test were scored with a maximum of 10 points. One point was given when the answer was entirely correct. After that result was segregated and analyzed.
3. Result
The present study was carried out on 200 students in which two groups were made with 100 students in each group. Hundred students were taught about the bones on colored skull and other 100 students were taught on non colored skull. Than post learning test was conducted via questionnaire. After that result was segregated and analyzed.

Table 1: Showing results of the test taken on both the group.

<table>
<thead>
<tr>
<th>Groups of students studied on</th>
<th>Answers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Colored skull</td>
<td>72.30%</td>
<td>27.70%</td>
</tr>
<tr>
<td>Non-colored skull</td>
<td>57.50%</td>
<td>42.50%</td>
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</tbody>
</table>
4. Discussion
Anatomy is an essential component of medical education as it is critical for the accurate diagnosis in organs and human systems. The mental representation of the shape and organization of different anatomical structures is a crucial step in learning process [4]. Changes in student’s expectations and differences in learning styles between students have prompted novel instructional methods to maximize efficiency [5, 6, 7]. Therefore, the purpose of present study is to assess the way of teaching in which two groups of students were made, each group containing 100 students. Group of students taught on colored skull scored >70% marks in the test with <30% wrong answers as compared to the students taught on non-colored skull scored <60% marks in test with 42.5% of the wrong answers. So present study signifies that colored models are better way of teaching anatomy.

5. Conclusion
Relations of different bones with each other in colored skull are better retained and give more clarity in understanding anatomy of skull.

6. References