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STUDENTS FEEDBACK ON THE UTILITY OF GROSS ANATOMY MANUAL IN LEARNING ANATOMY

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ABSTRACT

Objective: Gross anatomy manual is a mandatory activity in most of the medical schools in India as well as abroad. As large part of anatomy is the spatial relationship between various parts of human body, drawing can be very useful tool in learning complex anatomical facts or relation. This will help in integrating the knowledge more effectively and also reinforcing information and performing better during their examinations. In our department, diagrams drawn in gross anatomy manual are evaluated and marks scored in it make an essential component of formative assessment of the students. **Methods:** A questionnaire based study was conducted involving 236 first year MBBS students, to know how the students perceive the role of gross anatomy manual in their study. **Results:** Analysis of the results depicted that 71.61% of students accepted that drawing diagrams help them in understanding the spatial relationship of anatomical facts while 28.39% of students were of opinion that it is a useless activity. Few students also suggested some other possibilities to improve existing trend. **Conclusion:** The study concludes that maximum numbers of students were in favor of drawing the gross anatomy manual as it helps in better understanding of the subject.

INTRODUCTION

Learning science requires students to develop representational skills by sketching. Research consistently shows that drawing, as a means of investigating what children know, has 'the potential to modify the dominant view of verbal knowledge as the primary representation of what average people know, and ultimately to advance knowledge of the role visual memory plays in human understandings of the world in which we live' (1).

Gross anatomy manual is a mandatory activity in most of the medical schools in India as well as abroad. As large part of anatomy is the spatial relationship between various parts of human body, drawing can be very useful tool in learning complex anatomical facts or relations. The objective behind initiating this activity was that students will observe the particular area carefully and then will reproduce the 2D image of the same. This will help in integrating the knowledge more effectively and also reinforcing information and performing better during their examinations. In our department, diagrams drawn in gross anatomy manual are evaluated and marks scored in it make an essential component of formative assessment of the students.

MATERIAL & METHODS

A questionnaire based study was done on 236 first year MBBS students of King George's Medical University, Lucknow, Uttar Pradesh, India to know how the students perceive the role of gross anatomy manual in their study. A verbal consent was taken from the students. This study was carried out after the end of professional exam of the academic year 2011-12 so that they were free to give their suggestions.

Students were asked to fill the questionnaire containing semi-structured questions and also to give their opinion regarding the utility of gross anatomy manual in learning anatomy.

RESULTS

71.61% of students accepted that drawing diagrams help them in understanding the spatial relationship of anatomical facts. 28.39% of students were of opinion that it is a useless activity. The positive feedback given by the students were that it helps in better understanding of structures, helps in practicing the diagrams, collection from different sources, therefore also assist in last minute preparation or revision of diagrams and therefore useful in reproducing diagrams in exams. The negative feedback as quoted by some students were that it is an useless activity, complete waste of time, tedious task, very wide or too many diagrams, less time to draw or takes much time to draw, compulsive activity as it is done under pressure overnight prior to part-viva and they mostly copy diagrams from senior's manual.

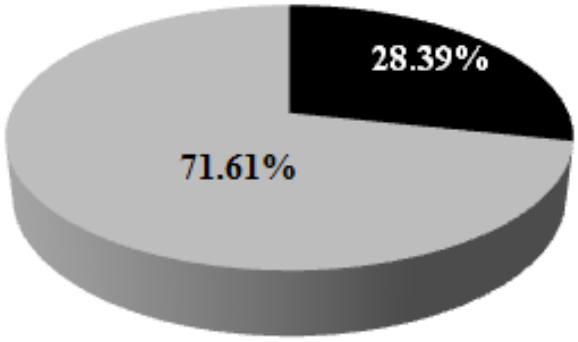

Fig.1: Pie diagram showing % of students' views for drawing in gross anatomy manual (Grey colour: % of students in favour, Black colour: % of students against drawing)

DISCUSSION

Drawing from observation can be used as a vehicle for enquiry and investigation, and can encourage fluid and tactile thinking. It grew out of the understanding that there are fundamental, broad based educational benefits to be gained by learning to draw from observation. For at least six hundred years perceptual drawing has been considered the premier course of study for developing visual sensitivity as it not only provides developing artists with a structured series of exercises that train the eye to be discriminating and the hand to be sensitive in its touch but also provide insight into the very mechanisms of visual perception itself. According to Sidelnick and Svoboda (2000), 'aesthetic, narrative, and reflective inquiries using the arts help children attain new conceptual language to organize and express their learning, and serve as an instrument for acquiring knowledge' (2).

There are few distinct justifications why drawing should sit alongside reading, writing and talking as a key element of medical education. There is evidence that students are more motivated to learn when they draw to explore, coordinate and justify their understandings compared with conventional, more transmissive teaching. Constructing visualizations is a key literacy in science, and constructing their own representations can deepen students' understanding. It also helps learners organize their knowledge and integrate new and existing understandings. By drawing, students make their thinking explicit. Drawing offers a particular window into phenomena and constrains students' attention and choices in coming to understand.

Learning science requires students to develop representational skills either by drawing gross anatomy after observing cadaveric dissection or by sketching cells observed through a microscope. The objective behind introducing gross anatomy manual for the students was that they will learn to draw from observation. Due to time constraint, now students are drawing the diagram from their text books and not by observing dissected cadavers. Even then, majority of students feel benefitted from this exercise.

Students agree that it helps in understanding the subject in a better way and reproducing better diagrams in exams. Students were in opinion that complicated relations are simplified and thus easy to remember. It converts concepts to internalizable chunks and also develops fluent recall with understanding.

CONCLUSION

Along with reading, writing and talking, drawing is also a key element of science education. Visualization and drawing of structures are useful in better understanding, learning and fast, efficient development of memory.

The fundamental, broad based educational benefit i.e. understanding of subject can be gained by learning to draw from observation.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest. The research was self funded by the authors.

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