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A Comparative Study of Textbook Learning and Online Learning among Undergraduate Medical Students.

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ABSTRACT

Previously textbooks used to be the main source of information. Nowadays, learning has become easier with the use of internet. One needn't to go to the library to find text books ever since the advent of the internet. Hence this study was conducted to compare the effects of text book and online learning on academic performance of medical students. Data was collected by administering a 14-item validated Questionnaire to MBBS students. 58% of students preferred textbook learning over internet learning. Among the students who used text books, 73% students memorized and 27% understood the topic. However, among students who used internet, 57% students understood and 43% memorized the topic. Based on block examination results, students who scored 60% - 80% agreed that text book learning is better, while students who scored above 80%, opined that internet is also useful for better learning. From this study it is clear that students use the internet for self-directed learning to different extents based on their scholastic abilities. This trend should be encouraged, though it may require that teachers guide the students in selecting the references from the vast ocean of knowledge available on the net.

Keywords: Online learning, textbook learning, academic performance, medical students

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INTRODUCTION

Medical education and health care systems have been affected by the revolution of communication and social networks [1]. Traditional student-lecture relationship which has been survived for many years, started changing when students started using internet to acquire information according to their need [2]. Earlier, textbooks used to be the main source of information. Now a days, learning has become easier with the use of internet. One needn't to go to the library or make an effort to find text books ever since the advent of the internet. Traditional textbooks are not sufficient to keep up the data, so medical students search and access the web directly for this purpose [3,4]. Information on the internet can cover a broader range of esoteric subjects for this reason. It is often easier to use educational web sites than textbooks. In a textbook, students can jump from page to page but on-line they can jump from book to book. Internet learning in medical education may help to facilitate and understand the topic clearly if they use proper site which was told by the teacher. More importantly it is a powerful tool on effective learning only when we know how to use it properly. Internet also could provide better understanding through audio and graphic animation where unavailable on text book. Through Encyclopedias, You tube videos and articles they can access a vast quantity of scientific data.

MATERIALS AND METHODS

This cross-sectional study was conducted at Melaka Manipal Medical College(MMMC), Manipal Campus. Institutional ethical clearance was obtained prior to the study. Students were between 20 to 21years of age and belong to three ethnic groups (Malay, Indians and Chinese) Data was collected by administering a 14-item validated Questionnaire to 200 second year MBBS students of Melaka Manipal Medical College, Manipal Campus. Students were asked to respond to the questionnaire after taking their informed consent. The data was analysed using Microsoft Excel. The categorical values were described as percentage or proportion. Results obtained were presented in bar chart and pie charts.

RESULTS

58% of students preferred textbook learning over internet learning (42%) (Figure 1). Among the students who used text books, 73% students memorized and 27% understood the topic (Figure 2) However, among students who used internet, 57% students understood and 43% memorized the topic (Figure 3). Based on examination results, students who scored 60% - 80% agreed that text book learning is better, while students who scored above 80%, opined that internet is also useful for better learning (Figure 4).

Students who used internet for their reference, 40% of students compared the information available in the internet with the text books. 60% of students agreed that internet resources are not sufficient enough to fulfil the answers required to gain full mark however 35% students were not sure. All students (100%) opined that internet will help to understand certain difficult topics . 80% students told internet provide more interactive learning compare to textbooks. 75% students felt that they found it challenging to ignore the distractions while reading online.

Figure 1: Percentage of students who use internet learning and textbook learning

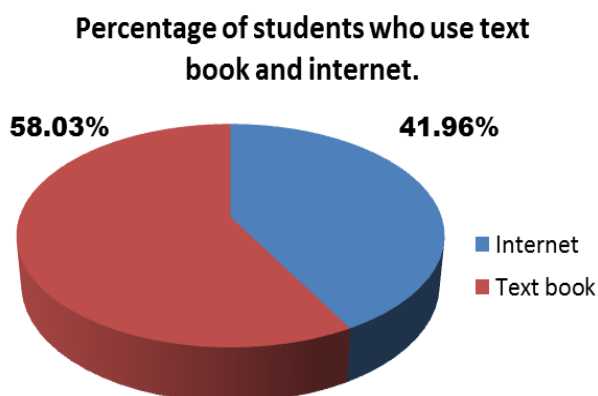


Figure 2: Percentage of students who understands and memorize the topic by using textbook learning.

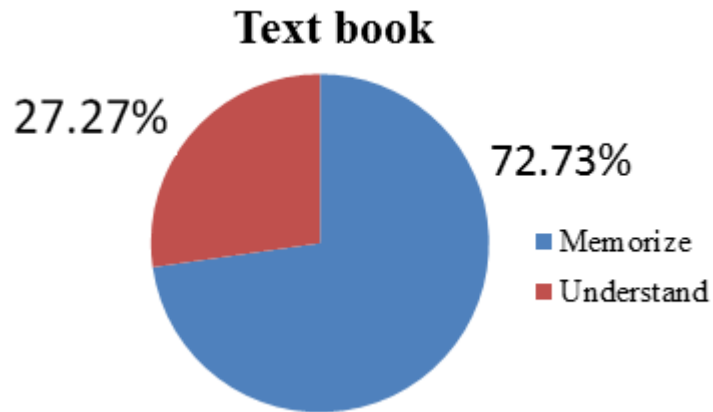


Figure 3: Percentage of students who understands and memorize the topic by using Internet learning.

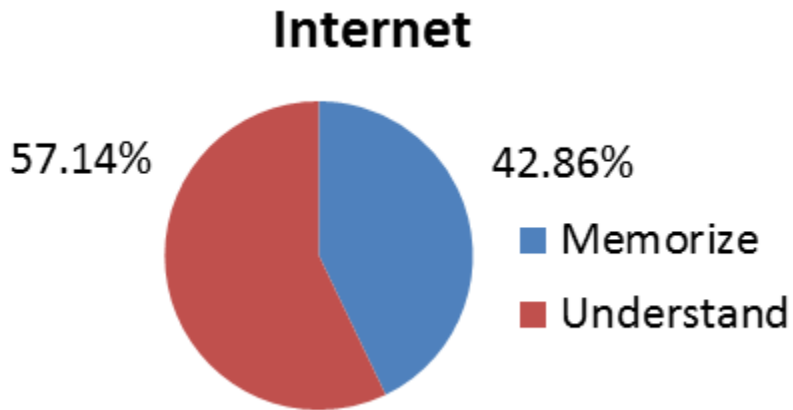
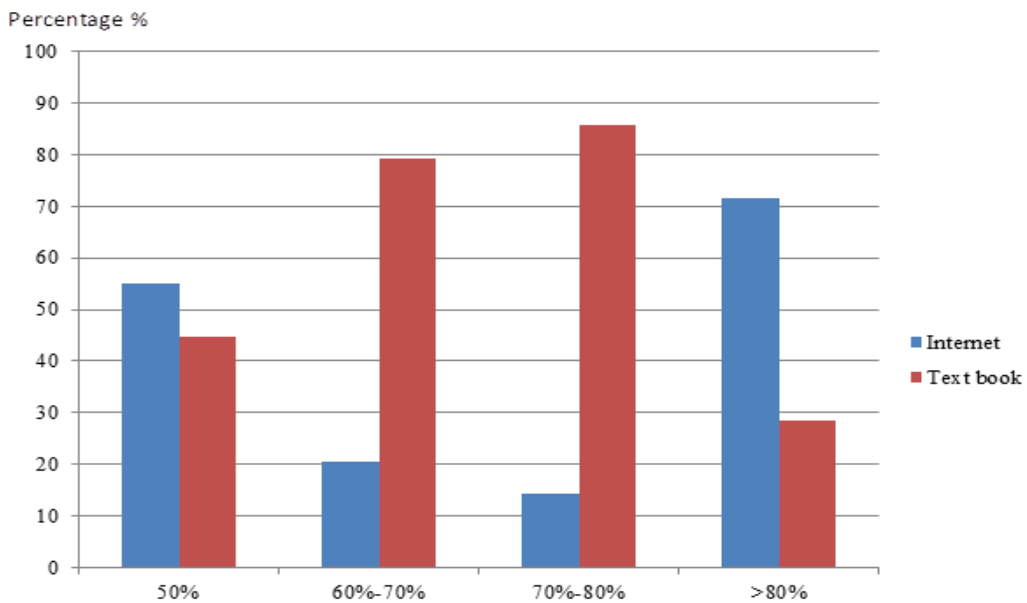


Figure 4: Percentage of students who use internet learning and textbook learning according to examination results.





DISCUSSION

Use of online learning in medicine is beneficial and achieved better results than those found with traditional methods [5]. According to Guarino S et.al, internet is an important aid to support students' learning needs, but textbooks are still their resource of choice [6]. Amanda J states that there was no difference in cognitive learning and grades between the two groups, suggesting that the electronic textbook is as effective for learning as the traditional textbook. The mean scores indicated that students who chose e-textbooks for their education courses had significantly higher perceived affective learning and psychomotor learning than students who chose to use traditional print textbooks [7]. However according to Matthew J. Werhner, there was no significant difference in student performance on exams between the students who use online and students who follow traditional teaching [8]. Khogali says students used different e-learning resources and opined that internet is useful to understand the difficult topic. Also it provides interactive learning and helping them to find the information easily [9]. Most of the MMC students felt that textbook learning is better than internet learning. This might be due to various reasons. Students believe that text book is sufficient enough to cover up all topics without using internet. Textbook information is accurate than internet sources. Students admit that they can pay more attention to textbook learning than internet learning. Students may pick up unreliable information because they didn't compare the information with text book.

CONCLUSION

From this study it is clear that students use the internet for self-directed learning to different extents based on their scholastic abilities. This trend should be encouraged, though it may require that teachers guide the students in selecting the references from the vast ocean of knowledge available on the net.

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