



RESEARCH ARTICLE

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## USING DIGITAL PLATFORM FOR HUMAN ANATOMY TEACHING FOR MEDICINE ACADEMICS

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### ABSTRACT

Higher Education Institutions are every day looking for new technologies, aiming at more dynamic classes. Due to this increased demand for new technologies. Objective: was to evaluate the negative and positive points of using digital simulator complementing the traditional methodology in anatomy modules. **Methodology:** A total of 120 students (second period 60 students and third period 60 students) of the University of Brazil campus Fernandópolis Medical School were considered in order to verify the degree of student satisfaction with the use of digital simulators in the study of human anatomy. **Results:** In the results obtained with the 120 surveyed, we have: 95% of students think the use of simulators in class is valid, in addition, 88% of students said that there was an improvement in teaching. However, 75% disagree that the use of simulators may replace traditional teaching methods. Based on this, it is clear that the students questioned have adapted positively. However, the replacement of traditional methods by new technologies was not unanimous. **Conclusion:** Therefore, based on the data collected, it can be considered that the digital platform adds to the new active methodology as a pedagogical learning tool.

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## INTRODUCTION

The teaching-learning process has undergone several changes, especially with the constant presence of technology in academic teaching (Giselle Foureaux, 2018). In early times, the teacher was responsible for all pedagogical work, using handout materials, books, chalk on the blackboard, visual aids such as movies, slides and other teaching aids. Today, teachers can count on many features and applications to assist in teaching (Giselle Foureaux, 2018). Teaching has become a target of change, such as the traditional methodology, which is sometimes related to the lack of educational strategies that encourage the active involvement of students in the classroom, forcing the teacher to look for some alternatives (Krasilchik, 2004). Due to the difficulty of traditional methods, he prioritized the search for other resources to facilitate the teaching process, favoring mobile applications and tablets, digital simulators, digital library, which has the ability to unite three-dimensional image, movement, sounds that enables

students to create knowledge very close to the real form, having great interaction, as well as causing great interest and thus a profitable performance of students in the classroom (Ribeiro, 2017). However, materials such as atlases, textbooks, roadmaps, as well as corpses and lectures are still the main means of teaching in many private and public universities (Kuhn, 2018). But, the number of institutions that are changing the teaching method has been increasing, using digital platforms, such as simulators that are very dynamic, providing active student interaction in the practical and theoretical classes (Acuna, 2019). Therefore, by using the digital platform in teaching, the study aimed to evaluate the negative and positive points of using digital simulator complementing the traditional methodology in anatomy modules.

## METHODS

A total of 120 students (second period 60 students and third period 60 students) from the Fernandópolis campus Brazil

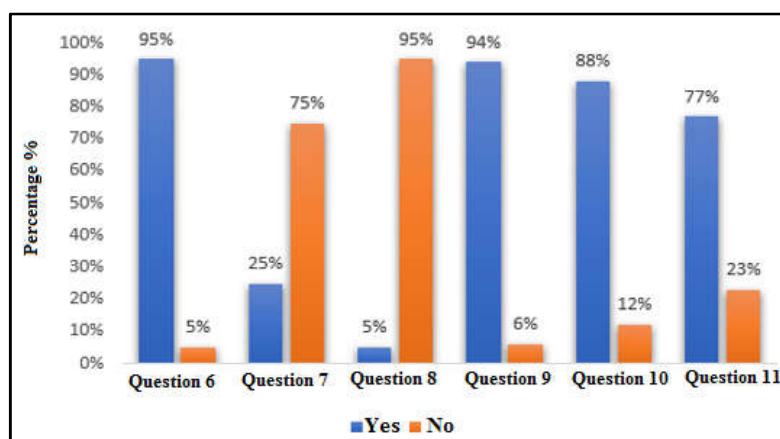
Medical School were considered, in order to verify the degree of student satisfaction with the use of digital simulators in the study of human anatomy. Inclusion criteria included students enrolled in the second and third semesters of the course and agreed to participate in the questionnaire. Exclusion criteria, students who had no contact with the digital platform. A questionnaire consisting of 11 items was applied, constituting a cross-sectional epidemiological study. Variables were considered: sex (1), age (2), previous college (3), marital status (4), current period (5), use of digital platforms in the anatomy study (6), if the digital platform can replace the traditional methods (books) (7), if the use of the digital platform replaces the practice in corpses (8), agrees with the digital platforms in the human anatomy laboratories for teaching (9), there were improvements in the learning with the use of digital platforms (10), the capabilities of digital platforms coincide with books (11).

## RESULTS

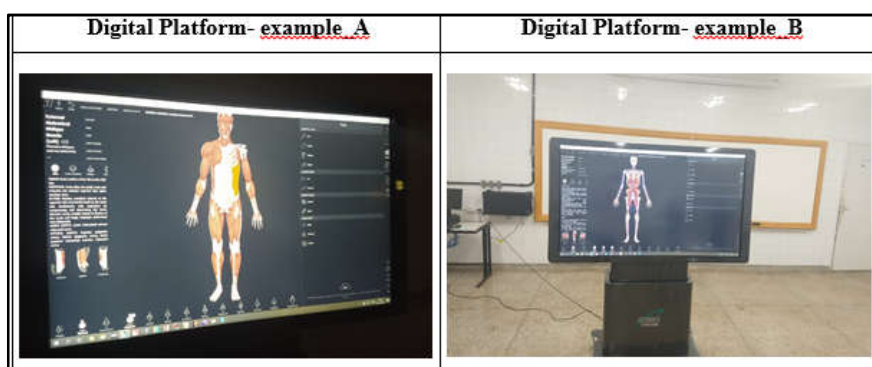
Of the 120 participants, 75% were female, 25% were male, 43% were between 18 and 20 years old, 35% between 21 and 23 years old and 23% between 24 and 40 years old. Among the students also 89% do not have a college degree, already 6% have in the Health area and 5% outside the Health area. Regarding marital status, 96% are single and only 4% married, with 1% attending the 1st semester of Medicine, 53% attending the 2nd, 43% attending the 3rd and 3% attending the 4th, as shown in Table 1. As illustrated in Figure 1, in question 6, 95% answered yes and 5% no. In question 7, 25% answered yes and 75% no. In question 8, 5% answered yes and 95% no. In question 9, 94% answered yes and 6% no. In question 10, 88% answered yes and 12% no and finally, in question 11, 77% answered yes and 23% no. Figure 1. Shows two examples of our digital platform.

**Table 1. Epidemiological characteristics of medical students participating in a questionnaire about the use of a digital platform for learning the anatomy module in medical school (absolute and relative values)**

	Participating Students 120
Gender	Female (75%) Male (25%)
Age	Between 18 and 20 years old (43%) Between 21 and 23 years old (35%) Between 24 and 40 years old (23)
Previous Higher Course	None (89%) In Health (6%) Out of Health (5%)
Marital status	Single (96%) Married (4%)
Current Period	1 Semester (1%) 2 Semester (53%) 3 Semester (43%) 4 Semester (3%)



**Figure 1.** Question 6: Do you find the use of digital platforms valid for anatomy study?; Question 7: Do you think the digital platform can replace the traditional methods (books)?; Question 8: Does the use of the digital platform replace the practice on corpses?; Question 9: Do you agree with digital platforms in human anatomy labs for teaching?; Question 10: Do you think there have been learning improvements with the use of digital platforms? Question 11: Do the features of digital platforms matchbooks?



**Figure 2.** Example of the digital platform

## DISCUSSION

Given the results, it is noticeable that most medical students have adapted positively with the introduction of digital platforms in the study of human anatomy. However, the replacement of traditional materials by them has not been adhered to, making it clear that platforms should complement books, not lag them. According to Giselle Foureaux (2018), and Ribeiro (2017), in their published reports, the results are in line with those obtained in this research, demonstrating that the use of the digital platform has brought benefits to learning with students in the subject of anatomy. As well as, it can be observed that the association of traditional media together with new technologies obtained positive results contributing to a better academic performance (Shabli, 2019; Howard, 2016; Margaryan, 2011; Hodson, 2001; Boeker, 2016 and Tolks, 2016). Despite the results, some points have not yet been studied. How can students report on the adaptation and even the opinion of the teachers who were trained to handle the digital platform?

## Conclusion

The academics approved the digital resource, and thus, the digital platform is a teaching strategy that can be enriched with a set of teaching techniques, such as books, atlas and scripts, which makes the teaching materials indispensable for itself. maintenance of the school space and the development of a technical awareness, manager and educator of teaching.

**Declaration of conflicts of interest:** The authors declare nothing.

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