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Evaluation of physiotherapy students' approaches to functional neuroanatomy and digital educational technologies by survey

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Abstract

Objectives: Functional neuroanatomy is a course that examines the structure and functions of the nervous system, and it constitutes one of the most important cornerstones of basic education in the health field. Anatomy is among the most challenging courses for students in health sciences departments, because of its conceptual density and abstractness. We aimed to support the development of educational practice by assessing students' attitudes and learning strategies with respect to the functional neuroanatomy course.

Methods: A 12-item survey was administered to 120 students in the Department of Physiotherapy and Rehabilitation, Faculty of Health Sciences. Students' attitudes and opinions regarding the functional neuroanatomy course were assessed. Statistical analyses were performed using SPSS 27.0 (IBM Corp., Chicago, IL, USA).

Results: Students generally regarded the functional neuroanatomy course as important for professional development, as requiring practice and regular attendance, and as being linked to other courses. Female students were more likely than male students to endorse the importance of the course for regular attendance and professional development. The great majority of the students who had used digital educational technologies (78.4%) reported that these applications had a positive effect on their learning.

Conclusion: The functional neuroanatomy course provides students with both a professional and a cognitive foundation. Students generally find the theoretical content sufficient, but they also emphasize that practical training is very important. The integration of digital educational technologies may facilitate learning, particularly in a course that covers abstract and complex topics.

Keywords: artificial intelligence; neuroanatomy; physiotherapy; survey

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Introduction

Functional neuroanatomy is a discipline that examines the structure and functions of the nervous system and enables students in the health sciences to understand neurophysiological processes. It constitutes one of the fundamental pillars of health education and plays a crucial role in establishing the professional knowledge base. Learning this subject allows students to comprehend the normal structures of the human body and to apply this knowledge in clinical practice. A thorough understanding of nervous system structures is particularly essential for the evaluation, diagnosis, and effective treatment planning of neuromuscular diseases. Functional neuroanatomy therefore represents one of the fundamental components of physiotherapy education and contributes directly to the development of clinical reasoning and decision-making skills.[1]

In our country, anatomy education is conducted in faculties and vocational schools related to the health sciences, depending on institutional resources, through both theoretical and practical sessions. Theoretical content is delivered through lectures and reinforced with practical applications. Practical training materials include cadavers, models, plastinated specimens, anatomical simulations, radiological images, and mobile augmented reality applications.[2] The integration of practical training with theoretical instruction directly influences individual learning. In particular, three-dimensional visual materials con-

tribute significantly to a more effective understanding of complex anatomical structures.[3]

Anatomy is considered one of the most challenging courses for students in health-related programs. Because of the necessity of learning a large number of anatomical terms within a limited time, and because of difficulties in three-dimensional thinking, students often perceive anatomy as demanding and, at times, tedious.[4]

Recent advances in digital educational technologies have considerably transformed anatomy education. Three-dimensional visualization software, virtual anatomy platforms, simulation systems, and interactive digital resources enable students to explore complex anatomical structures and their spatial relationships repeatedly, beyond traditional classroom settings. These technologies have been shown to improve visualization, learner engagement, and educational satisfaction, particularly when they are integrated with conventional anatomy teaching methods.[5]

All healthcare professionals responsible for maintaining human health and providing patient care are required to acquire a comprehensive understanding of the human body within the scope of this course. The structure and effectiveness of healthcare education, as well as the question of which educational models are most efficient in achieving learning outcomes, remain ongoing topics of discussion. Accordingly, the question of what constitutes an ideal anatomy education continues to be a subject of research.[6]

Studies analyzing the most effective teaching methods in anatomy education have explored various approaches, including cadaver dissection, plastination, medical imaging, learning through live models, and self-directed learning. These studies often aim to compare traditional methods with modern techniques in order to determine which approach is superior.[1]

In this study, we aimed to evaluate physiotherapy students' attitudes toward the functional neuroanatomy course, their learning habits, and their perceptions regarding the digital educational materials used during anatomy education. The study was based on the following hypotheses: (H1) physiotherapy students demonstrate generally positive attitudes toward the functional neuroanatomy course; (H2) students perceive digital educational materials as beneficial for learning functional neuroanatomy; and (H3) positive attitudes toward the course are positively associated with perceptions regarding professional development and the importance of practical education.

Materials and Methods

This descriptive cross-sectional survey was conducted among undergraduate students enrolled in the Department of Physiotherapy and Rehabilitation, Faculty of Health Sciences, Selçuk University, who had completed the functional neuroanatomy course during the 2024–2025 academic year. A total of 120 students voluntarily participated in the study. Since the study aimed to evaluate students' educational experiences and perceptions within a single academic cohort, all eligible students who met the inclusion criteria during the study period were invited to participate. Therefore, no formal sample size or power calculation was performed, which is acknowledged as a limitation of the study. Ethical approval was obtained from the Non-Interventional Clinical Research Ethics Committee of Selçuk University Faculty of Medicine (decision no: 2025/38; date: 28.01.2025).

Participants were asked to complete an online feedback questionnaire prepared using Google Forms. The questionnaire consisted of structured questions and aimed to collect participants' evaluations of the educational process in addition to their demographic information. The survey was completed anonymously, and informed consent was obtained through an introductory statement prior to participation. The questionnaire included items based on a five-point Likert scale (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree).

Questionnaire development

The questionnaire was developed by the authors following a review of the relevant literature on anatomy education, functional neuroanatomy, and digital educational technologies in health professions education. Previously published studies investigating students' attitudes toward anatomy education and educational technologies were considered during item development.

The final questionnaire consisted of 12 items organized into three main domains:

- study habits related to the functional neuroanatomy course;
- erceptions regarding the digital educational materials used during anatomy learning;
- attitudes toward the educational and professional value of the functional neuroanatomy course.

The questionnaire was reviewed by faculty members experienced in anatomy education to ensure face validity and content relevance before administration. As the questionnaire was developed specifically for this educational evaluation, a formal psychometric validation study was not performed; this limitation is acknowledged in the Discussion.

Survey questions

Q1. How much time do you allocate per week to study the functional neuroanatomy course?

Q2. What is the study method you most commonly use to prepare for the functional neuroanatomy course? (You may select more than one option.)

Q3. Do you think that digital educational technologies can be used in functional neuroanatomy courses?

Q4. Have you ever used digital educational technologies (such as Complete Anatomy or Visible Body) to prepare for or review the course?

Q5. If yes, which application did you use?

Q6. The integration of digital educational technologies into functional neuroanatomy courses facilitates understanding of the subject.

Q7. Practical sessions are essential for me to comprehend the functional neuroanatomy course and to integrate it into my profession.

Q8. Attending classes is necessary for me to succeed in the functional neuroanatomy course.

Q9. The functional neuroanatomy course is necessary for my profession.

Q10. The functional neuroanatomy course makes me feel that I am receiving professional training.

Q11. The functional neuroanatomy course improves my professional knowledge and skills.

Q12. Knowledge of anatomy facilitates my understanding of other professional courses.

The questionnaire contained demographic questions (age, gender, and educational background) together with the 12 structured survey items. Questions 1 and 2 evaluated students' study habits. Questions 3–6 explored students' opinions regarding the use of digital educational materials during functional neuroanatomy education and their previous experience with these resources. Questions 7–12 assessed students' perceptions of the importance of the functional neuroanatomy course, of practical education, of class attendance, of professional development, and of interdisciplinary learning. Q3 and Q6 referred to students' perceptions regarding digital educational technologies, whereas Q4 and Q5 investigated the use of digital anatomy learning applications (e.g., Complete Anatomy and Visible Body) and of AI-based conversational tools (e.g., ChatGPT). This distinction was made in order to differentiate three-dimensional anatomy education platforms from generative artificial intelligence technologies.

Statistical analyses were performed using SPSS version 27.0 (IBM Corp., Chicago, IL, USA). Categorical variables were summarized as frequencies and percentages. Internal consistency of the Likert-scale item groups was evaluated using Cronbach's alpha coefficient. Associations between categorical variables were assessed using Fisher's exact test, because several contingency table cells contained small expected frequencies. Correlations between ordinal survey items were evaluated using Spearman's correlation analysis. A type I error rate of 5% was adopted throughout the study, and a p value of <0.05 was considered statistically significant.

Results

In this survey study conducted with 120 physiotherapy and rehabilitation students, the demographic characteristics (age, gender, and graduation status), the time allocated to the course, and the materials used for studying are presented in **Table 1**.

When the time allocated to studying functional neuroanatomy was analyzed across different age groups, the most commonly preferred study duration was 1–4 hours per week.

Survey responses regarding the use of digital educational technologies among physiotherapy and rehabilitation students are presented in **Table 2**. Accordingly, Complete Anatomy was the most commonly used digital educational technology among the students.

Among the students who used digital educational technologies, the majority reported that they had benefited from them. Complete Anatomy received the most positive feedback among the applications. The relationship between students' application experience and their attitudes is illustrated in a heat map (**Figure 1**).

Table 1
Demographic characteristics and study habits of the participants (n=120).

Variable	Response	Frequency	Percentage (%)
Gender	Male	30	25.0
	Female	90	75.0
Age (years)	19	19	15.8
	20	31	25.8
	21	31	25.8
	22	23	19.2
	≥23	16	13.3
High school graduation	Other	117	97.5
	Health vocational high school	3	2.5
Q1: Weekly study time for functional neuroanatomy	1–4 hours	68	56.7
	5–9 hours	26	21.7
	10–14 hours	7	5.8
	≥24 hours	1	0.8
	None	18	15.0
Q2: Most commonly used study method*	3D anatomy software	9	7.5
	Atlases	23	19.2
	Textbooks	24	20.0
	YouTube videos	26	21.7
	Lecture notes	110	91.7

*Multiple responses were allowed; percentages therefore total more than 100%.

Table 2
Evaluation of the questions related to the use of digital educational technologies.

Question	Response	Frequency	Percentage (%)
Q3: Digital educational technologies can be used in functional neuroanatomy courses*	Strongly agree	21	17.5
	Agree	62	51.7
	Neutral	28	23.3
	Disagree	5	4.2
	Strongly disagree	4	3.3
Q4: Have you ever used digital educational technologies (e.g., Complete Anatomy, Visible Body) for course preparation or revision?	Yes	58	48.3
	No	62	51.7
Q5: If yes, which application did you use?	Complete Anatomy	65	57.0
	Visible Body	7	6.1
	3D Anatomy	5	4.4
	Anatomy Learning	5	4.4
	ChatGPT/Copilot	1	0.9
	YouTube	1	0.9
	Not used	21	18.4
	None	9	7.9
Q6: The integration of digital educational technologies facilitates understanding*	Strongly agree	29	24.2
	Agree	65	54.2
	Neutral	24	20.0
	Disagree	1	0.8
	Strongly disagree	1	0.8

*Internal consistency for this group of items: Cronbach's alpha=0.741.

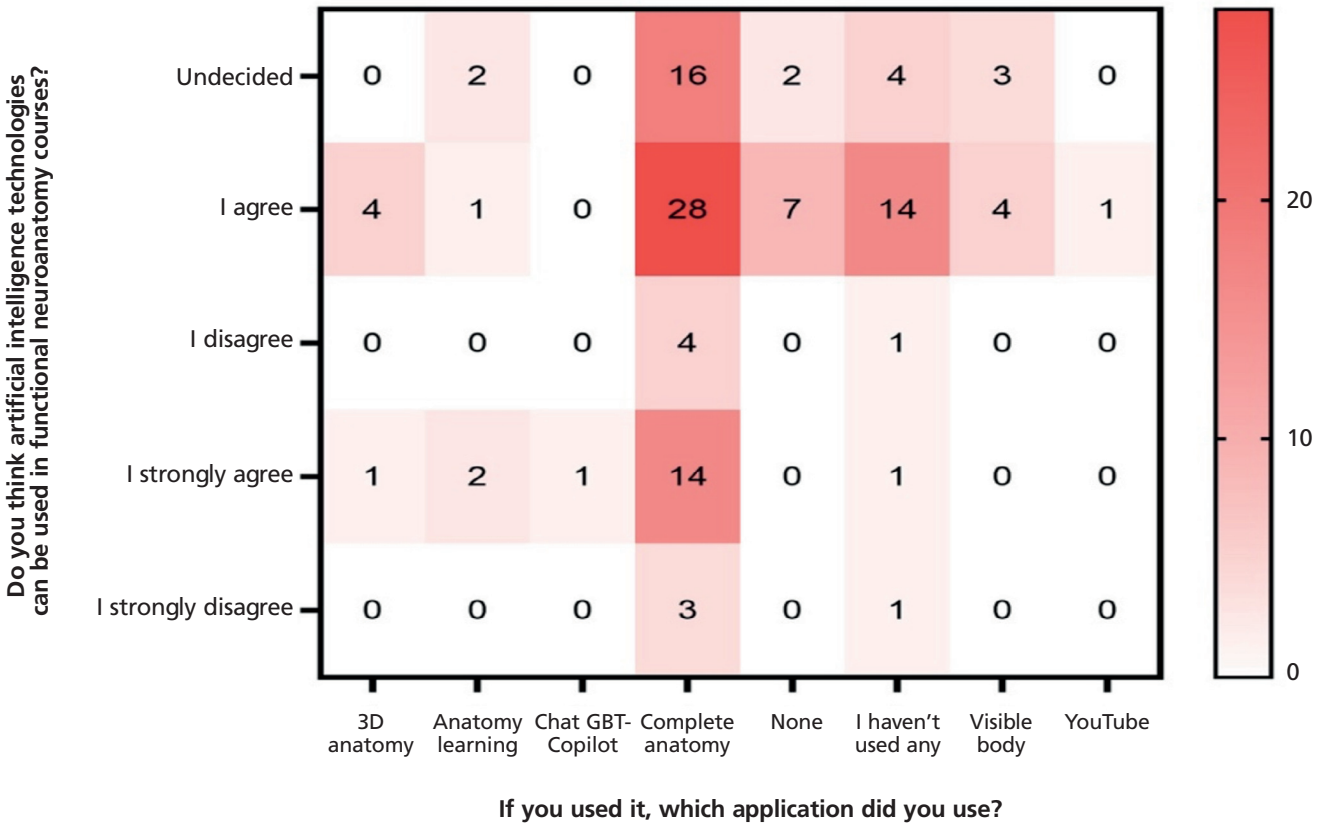

Figure 1. Heat map illustrating the relationship between the items investigating the use of digital educational technologies in the functional neuroanatomy course and the digital educational technologies actually used.

Regarding students' attitudes toward digital educational technologies in the classroom and their usability and educational benefits, 45% of those who agreed with the statement that these technologies facilitate understanding of the course also agreed that they can be used in courses (32% of the whole sample). Similarly, 36% of those who strongly agreed with the former statement also strongly agreed with the latter (11% of the whole sample). When these groups are considered together, approximately 65% of the students believed that digital educational technologies can both be used in courses and facilitate learning. Overall, students demonstrated a positive attitude toward digital educational technologies.

Students' evaluations of the course and their responses to items Q7–Q12 are presented in **Table 3**, and their distribution by gender is shown in **Table 4**. Overall, students perceived the functional neuroanatomy course as important for professional development, as requiring both practical sessions and regular attendance, and as being interconnected with other courses. The highest level of agreement was observed for the statement that knowledge of anatomy facilitates the understanding of other courses. Statistically significant gender differences were found in relation to class attendance and to the contribution of the course to professional knowledge and skills. Female students demonstrated a higher level of agreement than male students regarding the importance of attendance and professional development. No statistically significant gender differences were observed in the other domains.

The results of the correlation analysis between students' age and their attitudes toward the functional neuroanatomy course (Q1, Q7–Q12) are presented in **Table 5**. Accordingly, positive attitudes toward the course increased with age. Perceptions regarding the professional benefits of the course, its contribution to other courses, and its role in skill acquisition were strongly correlated with one another.

Table 3
Evaluation of and feedback on the functional neuroanatomy course (n=120).

Question	Response	Frequency	Percentage (%)
Q7: Practical sessions are essential*	Strongly agree	30	25.0
	Agree	51	42.5
	Neutral	29	24.2
	Disagree	7	5.8
	Strongly disagree	3	2.5
Q8: Attending classes is necessary*	Strongly agree	32	26.7
	Agree	64	53.3
	Neutral	16	13.3
	Disagree	7	5.8
	Strongly disagree	1	0.8
Q9: The course is necessary for my profession*	Strongly agree	32	26.7
	Agree	61	50.8
	Neutral	17	14.2
	Disagree	8	6.7
	Strongly disagree	2	1.7
Q10: The course makes me feel that I am receiving professional training*	Strongly agree	22	18.3
	Agree	54	45.0
	Neutral	24	20.0
	Disagree	18	15.0
	Strongly disagree	2	1.7
Q11: The course improves my professional knowledge and skills*	Strongly agree	22	18.3
	Agree	67	55.8
	Neutral	20	16.7
	Disagree	10	8.3
	Strongly disagree	1	0.8
Q12: Knowledge of anatomy facilitates my understanding of other courses*	Strongly agree	36	30.0
	Agree	68	56.7
	Neutral	12	10.0
	Disagree	3	2.5
	Strongly disagree	1	0.8

*Internal consistency for this group of items: Cronbach's alpha=0.895.

Discussion

The present study evaluated physiotherapy students' perceptions of the functional neuroanatomy course, their study habits, and their views regarding the use of digital educational materials in anatomy education. Overall, students regarded functional neuroanatomy as an essential component of their professional education and expressed positive perceptions regarding practical training, regular class attendance, and the use of digital educational resources. These findings provide insight into students' educational experiences and may contribute to future curriculum development.

When students' study habits for the functional neuroanatomy course were examined, it was observed that the majority allocated limited time to studying and relied predominantly on traditional learning materials. According to the findings, 56.7% of the participants reported studying 1–4 hours per week, whereas 15% reported not studying at all. Only 0.8% reported studying more than 24 hours per week. These findings indicate that most students dedicate limited and irregular time to this course. This situation may be associated with low learning motivation and with the perceived difficulty of the course. In addition, insufficient supportive

Table 4
Distribution of selected survey items according to gender.

Question	Response	Male (n=30)	Female (n=90)	p-value*
Q1: Weekly study time	1–4 hours	14 (46.67)	54 (60.00)	0.217
	5–9 hours	6 (20.00)	20 (22.22)	
	10–14 hours	2 (6.67)	5 (5.56)	
	≥24 hours	1 (3.33)	0 (0.00)	
	None	7 (23.33)	11 (12.22)	
Q6: Digital materials facilitate understanding	Strongly agree	10 (33.33)	19 (21.11)	0.145
	Agree	12 (40.00)	53 (58.89)	
	Neutral	7 (23.33)	17 (18.89)	
	Disagree	0 (0.00)	1 (1.11)	
	Strongly disagree	1 (3.33)	0 (0.00)	
Q7: Practical sessions are essential	Strongly agree	10 (33.33)	20 (22.22)	0.411
	Agree	13 (43.33)	38 (42.22)	
	Neutral	6 (20.00)	23 (25.56)	
	Disagree	0 (0.00)	7 (7.78)	
	Strongly disagree	1 (3.33)	2 (2.22)	
Q8: Attendance is necessary	Strongly agree	12 (40.00)	20 (22.22)	0.004
	Agree†	8 (26.67)	56 (62.22)	
	Neutral	6 (20.00)	10 (11.11)	
	Disagree	3 (10.00)	4 (4.44)	
	Strongly disagree	1 (3.33)	0 (0.00)	
Q9: The course is necessary	Strongly agree	9 (30.00)	23 (25.56)	0.110
	Agree	10 (33.33)	51 (56.67)	
	Neutral	7 (23.33)	10 (11.11)	
	Disagree	3 (10.00)	5 (5.56)	
	Strongly disagree	1 (3.33)	1 (1.11)	
Q10: Feeling of professional training	Strongly agree	8 (26.67)	14 (15.56)	0.146
	Agree	10 (33.33)	44 (48.89)	
	Neutral	4 (13.33)	20 (22.22)	
	Disagree	7 (23.33)	11 (12.22)	
	Strongly disagree	1 (3.33)	1 (1.11)	
Q11: Improves knowledge and skills	Strongly agree	8 (26.67)	14 (15.56)	0.026
	Agree†	11 (36.67)	56 (62.22)	
	Neutral	5 (16.67)	15 (16.67)	
	Disagree	5 (16.67)	5 (5.56)	
	Strongly disagree	1 (3.33)	0 (0.00)	
Q12: Facilitates other courses	Strongly agree	11 (36.67)	25 (27.78)	0.258
	Agree	14 (46.67)	54 (60.00)	
	Neutral	4 (13.33)	8 (8.89)	
	Disagree	0 (0.00)	3 (3.33)	
	Strongly disagree	1 (3.33)	0 (0.00)	

Values are presented as n (%) within each gender. *Fisher's exact test. †Responses contributing to the statistically significant difference.

Table 5
Spearman correlations between age and the ordinal survey items.

	Age	Q1	Q7	Q8	Q9	Q10	Q11	Q12
Age	—							
Q1	0.076 (0.412)	—						
Q7	0.173 (0.059)	0.011 (0.905)	—					
Q8	0.224 (0.014)	–0.035 (0.704)	0.552 (<0.001)	—				
Q9	0.304 (0.001)	0.065 (0.478)	0.298 (0.001)	0.534 (<0.001)	—			
Q10	0.219 (0.016)	0.074 (0.424)	0.460 (<0.001)	0.494 (<0.001)	0.670* (<0.001)	—		
Q11	0.206 (0.024)	0.102 (0.266)	0.351 (<0.001)	0.509 (<0.001)	0.678* (<0.001)	0.705* (<0.001)	—	
Q12	0.288 (0.001)	–0.040 (0.666)	0.472 (<0.001)	0.521 (<0.001)	0.661* (<0.001)	0.594 (<0.001)	0.597 (<0.001)	—

Values are presented as Spearman's rho (p value). *Strong positive correlations in the same direction.

learning materials and lack of individual motivation may contribute to these outcomes. More than 90% of the students reported using traditional materials such as lecture notes and slides, suggesting that content provided by instructors is perceived as reliable and serves as the primary learning resource. The use of alternative resources was considerably lower. However, it is well established that three-dimensional digital applications facilitate the understanding of complex anatomical structures. The low usage rate of 3D anatomy programs (7.5%) may indicate limited access to these tools or insufficient awareness among students. Accordingly, the integration of digital educational technologies into the curriculum may benefit students.

In this study, 69.2% of the students believed that digital educational technologies could be used in the course, whereas only 7.5% expressed negative opinions. This suggests that negative perceptions are limited and that the overall attitude toward technology is positive. The literature similarly supports the view that digital educational technologies and augmented reality tools facilitate the understanding of complex anatomical structures.[7] Nearly half of the participants reported using digital educational technologies, most commonly Complete Anatomy. In contrast, AI-based conversational systems such as ChatGPT were used less frequently. This finding indicates that students still prioritize visual-spatial simulation tools over learning tools based on natural language processing. In addition, institutional access to Complete Anatomy probably contributes to its higher recognition and usage. Moro et al. also reported that digital educational technologies are positively correlated with academic performance and learning satisfaction.[5] With the widespread use of smartphones and tablets, these technologies have made anatomy learning more accessible, enabling interactive and personalized learning experiences. However, certain limitations have also been reported, particularly when low-quality applications fail to provide realistic three-dimensional experiences or offer limited content.[8]

The functional neuroanatomy course aims to establish a foundation for professional practice. It therefore requires not only theoretical instruction but also practical training. More than half of the students (67.5%) stated that practical sessions are essential. Azer and Eizenberg demonstrated that dissection, as a component of practical training, enhances students' understanding of anatomy, improves three-dimensional visualization, facilitates retention, and increases engagement in the learning process.[9]

Previous studies have shown that practical training encourages active student participation, leading to more durable cognitive learning. This suggests that theoretical content is better understood through interactive classroom instruction than through individual study alone.[7]

A total of 77.5% of the students considered this course essential for their profession, which highlights its importance within health sciences education. Similarly, most students reported that the course contributed to their knowledge and skills. The 8.3% of students who reported no contribution may be explained by individual learning difficulties or by the intensive nature of the

course content. In addition, 86.7% of the students stated that the course facilitated their understanding of other professional courses, indicating that functional neuroanatomy serves as a foundational component of physiotherapy education. Saltarelli et al. emphasized that anatomical knowledge contributes significantly to clinical reasoning and decision-making skills.[10]

When study duration was compared by gender, female students appeared to study more regularly at moderate levels; however, this difference was not statistically significant. In contrast, female students demonstrated significantly higher attendance rates than male students. This may indicate that female students are more consistent in attending classes and perceive regular attendance as beneficial for academic success.

According to the survey results, class attendance increased with age, suggesting that older students better recognize the professional importance of the course. The strong positive correlations between Q9 and Q10, and between Q10 and Q11, indicate that students' perceptions regarding professional identity, skill development, and integration into their profession are closely aligned. This consistency suggests that students view theoretical courses not only as academic requirements but also as essential components of professional training. Furthermore, the positive correlations between Q7 and the other variables highlight the importance of practical training, not only for learning but also for professional skill acquisition. These findings indicate that students' positive attitudes toward the functional neuroanatomy course are strongly interconnected. Academic success appears to be associated with class attendance, and students' attitudes toward the course positively influence their academic performance.[11]

In a study conducted by Orha and Rende, physiotherapy and rehabilitation students demonstrated more positive attitudes toward anatomy than other health science students, probably because of their awareness of the direct application of anatomical knowledge in their professional practice.[4] Similarly, Arı and Şendemir reported that 89.6% of students considered anatomy necessary, although 28.3% indicated that they would not choose it if it were elective. More than half of the students also expressed a preference for active participation and emphasized the importance of practical training.[12] Consistent with these findings, more than half of the students in our study also reported that practical training is necessary.

Several limitations should be considered when interpreting the present findings. First, the study employed a descriptive cross-sectional survey design based on self-reported responses; therefore, causal relationships cannot be established. Second, the questionnaire was developed specifically for this educational evaluation and did not undergo comprehensive psychometric validation. Third, the study was conducted at a single institution with one cohort of physiotherapy students, which may limit the generalizability of the findings. Finally, students' perceptions of digital educational materials were evaluated without directly measuring academic achievement or objectively comparing users and non-users of these resources.

Despite these limitations, the present study provides valuable information regarding physiotherapy students' perceptions of functional neuroanatomy and their experiences with digital educational materials. These findings may assist educators in planning anatomy curricula that better integrate practical teaching and appropriately selected digital learning resources. Future multicenter studies employing validated questionnaires and objective educational outcome measures are warranted, in order to clarify further the educational value of digital technologies in anatomy education.

Conclusion

In conclusion, the functional neuroanatomy course constitutes a fundamental component of both professional and cognitive development. Although students generally find the theoretical content sufficient, they also emphasize the necessity of practical training. Traditional materials remain the primary learning tools, but students demonstrate a positive attitude toward digital educational technologies. The integration of such technologies, including virtual brain models, into neuroanatomy education is expected to enhance learning outcomes and to facilitate the understanding of complex content. Access to these technologies should therefore be expanded by educational institutions, and opportunities for practical training should be increased. Our findings suggest that the functional neuroanatomy course is evolving toward a structure that is open to digital and AI-based innovations, with strong recognition of the importance of practical training and broad consensus on its role as a foundational component of professional education.

Conflict of Interest

The authors declare that they have no financial or personal conflict of interest related to this study.

Author Contributions

All authors contributed to the design of the study and to the collection, analysis, and interpretation of the data. The first draft of the manuscript was written by Betül Sevindik, and the other author reviewed the text and provided scientific input. All authors read and approved the final version and collectively accept full responsibility for the study.

Ethics Approval

Approval for this study was obtained from the Non-Interventional Clinical Research Ethics Committee of Selçuk University Faculty of Medicine (decision no: 2025/38; date: 28.01.2025).

Informed Consent

Students were informed that their personal data would not be used, and consent was obtained from those who declared that they wished to participate in the survey of their own free will.

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References

1. Buru E. Evaluation of students' attitudes towards anatomy aourse: The case of Van Yüzüncü Yıl University Faculty of Medicine. [Article in Turkish] Journal of Medical Clinics 2021;4:143–55.
2. Elvan Ö, Çayan D, Yıldırım DD, Ögenler O. Predictions and experiences of midwifery and nursing students about online anatomy education. [Article in Turkish] Mersin Üniversitesi Sağlık Bilimleri Dergisi 2021;14: 320–33.
3. Tam MDBS, Hart AR, Williams S, Heylings D, Leinster S. Is learning anatomy facilitated by computer-aided learning? A review of the literature. Med Teach 2009;31:e393–6.
4. Orha AYL, Rende B. The effects of attitudes towards anatomy course on exam anxiety of university students in health fields. [Article in Tukish] Acta Med Nicomedia 2024;7:23–9.
5. Moro C, Štromberga Z, Raikos A, Stirling A. The effectiveness of virtual and augmented reality in health sciences and medical anatomy. Anat Sci Educ 2017;10:549–59.
6. Mutluay ŞD, Açıkgöz AK. Evaluation of students 'midwives and murses' views on anatomy education. [Article in Turkish] Lokman Hekim Dergisi 2020;10:201–8.
7. Estai M, Bunt S. Best teaching practices in anatomy education: a critical review. Ann Anat 2016;208:151–7.
8. Demirtaş İ, Onay T, Günerigök F. Developed mobile applications for anatomy education. [Article in Turkish] Tıp Eğitimi Dünyası 2019;18:41–9.
9. Azer SA, Eizenberg N. Do we need dissection in an integrated problem–based learning medical course? Perceptions of first- and second-year students. Surg Radiol Anat 2007;29:173–80.
10. Saltarelli AJ, Roseth CJ, Saltarelli WA. Human cadavers vs. multimedia simulation: a study of student learning in anatomy. Anat Sci Educ 2014;7:331–9.
11. Kaplan A, Gheen M, Midgley C. Classroom goal structure and student disruptive behaviour. Br J Educ Psychol 2002;72:191–211.
12. Arı İ, Şendemir E. Students' views on anatomy education. [Article in Turkish] Uludağ Üniversitesi Tıp Fakültesi Dergisi 2003;29:11–4.

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