

## ORIGINAL ARTICLE

# Evaluating Anatomy Education in Kastamonu Çatalzeytin Vocational Higher Schools through Student Feedbacks

## Anatomi Eğitiminin Kastamonu Çatalzeytin Meslek Yüksekokulunda Öğrenci Geri Bildirimleri ile Değerlendirilmesi

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### ABSTRACT

**Aims:** The aim of this study was to evaluate the opinions of the students in Çatalzeytin Vocational High School about Anatomy course.

**Methods:** This study is a survey-based research aimed at evaluating the opinions of 639 students enrolled in different programs (Disability Care and Rehabilitation, Physiotherapy, and Elderly Care Programs) at Kastamonu University Çatalzeytin Vocational Higher School regarding the Anatomy course, which they have taken theoretically. The survey questionnaire consists of 29 questions related to the evaluation of theoretical classes and 8 questions related to the evaluation of exams. The survey questions were created online, and the participating students were provided with a link to access the survey questionnaire.

**Results:** While 39,6 % of the students agreed with the question 'I believe that practical courses should be included in addition to theoretical courses', 4,1 % disagreed. If there are Anatomy courses again in the later stages of the programme I studied, I would like to take them again to reinforce them. 34,4 % of the students agreed, while 13,6 % disagreed. While 31,8 % agreed, 13,5 % disagreed with the question 'I think that practical exams should be held in addition to theoretical exams in order to learn the subject better.'

**Conclusions:** Based on the findings of this study, which incorporates the opinions of the students, it is emphasized that practical classes should be included alongside theoretical classes in Anatomy education. Furthermore, it is noted that reminder sessions would be beneficial in the following years due to the tendency of forgetting the content of the Anatomy course.

**Keywords:** Anatomy education, Student feedback, Vocational Higher School

### ÖZ

**Amaç:** Bu çalışmanın amacı, Çatalzeytin Meslek Yüksekokulu öğrencilerinin Anatomi dersi hakkındaki görüşlerini değerlendirmektir.

**Yöntem:** Bu çalışma, Kastamonu Üniversitesi Çatalzeytin Meslek Yüksekokulunun farklı programlarında (Engelli Bakım ve Rehabilitasyon, Fizyoterapi ve Yaşlı Bakım Programları) öğrenim gören ve anatomi dersini teorik olarak alan 639 öğrenciye anatomi dersi hakkındaki görüşlerinin değerlendirilmesine yönelik bir anket çalışmasıdır. Anket formunda teorik derslerin değerlendirilmesine yönelik 29 soru, sınavların değerlendirilmesine yönelik 8 soru yer almaktadır. Anket soruları internet üzerinde oluşturulmuş olup çalışmayı kabul eden öğrencilerle anket sorularına ulaşabilecekleri adres linki paylaşılmıştır.

**Bulgular:** Öğrenciler teorik derslerin yanında uygulamalı derslere de yer verilmesi gerektiğine inanıyor sorusuna % 39,6'sı katılırken, % 4,1'i katılmamıştır. Okuduğum programın ilerleyen aşamalarında tekrar Anatomi dersleri varsa, pekiştirmek için tekrar almak isterim sorusuna % 34,4 'ü katılırken, % 13,6 'sı katılmamıştır. Konuyu daha iyi öğrenebilmemiz için teorik sınavların yanı sıra uygulamalı sınavların da yapılması gerektiği kanaatindeyim sorusuna % 31,8 'i katılırken, % 13,5'i katılmamıştır.

**Sonuç:** Öğrencilerin görüşlerini içeren bu çalışma sonucunda, anatomi eğitiminde teorik derslerin yanında mutlaka pratik derslerinde olması gerektiği vurgulanmıştır. Ayrıca anatomi dersinin çabuk unutulmasından dolayı ileriki yıllarda hatırlatma derslerinin faydalı olacağı belirtilmiştir.

**Anahtar Kelimeler:** Anatomi eğitimi, Öğrenci geri bildirimleri, Meslek Yüksekokulu

### Introduction

Education is defined as the process of bringing about desired changes in the behaviour of individuals through their own experiences (1).

Students, one of the most important components of the education system, assume important roles at every stage of education. It is of great importance to consult the opinions of students with appropriate data collection tools in determining the curriculum and objectives of education and evaluating the quality of education (2,3). With the feedback received from

students, new regulations are developed to improve the quality and effectiveness of education, as well as evaluating the elements aimed to be gained by students through written and oral examinations.

Anatomy is a medical science that analyses the normal structure of the human body, its organs, their placement and the relationships between them (4). The primary aim of anatomy education is for students to acquire the necessary information in the most effective way and to evaluate it efficiently. In order to achieve this aim,

the necessary information is transferred with different approaches and various learning methods are used (5).

It is known that the learning process of anatomy, which is a basic component of medical education, is challenging. Therefore, it is of great importance to ensure the retention of the information given in the Anatomy course (6).

The aim of this study was to collect the opinions of the students at Çatalzeytin Vocational High School in order to help improve the quality and effectiveness of Anatomy education. Based on the findings, the study aims to provide a better quality education plan for the students and to be a guiding tool for the instructors of the course.

## Methods

This study was approved by Kastamonu University Faculty of Science, Engineering and Health Sciences Scientific Research and Publication Ethics Committee (Approval Date: 12 November 2020, No: 4). A total of 639 students enrolled in various programmes (Disabled Care and Rehabilitation, Physiotherapy and Elderly Care Programmes) at Kastamonu University Çatalzeytin Vocational School and taking the anatomy course participated in the study. Between 1 December 2020 and 1 June 2021, a questionnaire was presented to the students to evaluate their perspectives on the anatomy course. The categories and questions to be evaluated in the questionnaire were determined as evaluation of theoretical courses and evaluation of exams as a result of the review of the relevant literature. The questionnaire included 29 questions focusing on the evaluation of theoretical courses and 8 questions for the evaluation of exams (7-9). The questions were graded from 1 to 5 using Likert-type scaling. The scale is '1=strongly disagree', '2=disagree', '3=undecided', '4=agree', '5=strongly agree'.

Students in the programme receive 2 hours of theoretical anatomy education per week. Participation in the

survey is completely voluntary. The survey questions were created online and the link to access the survey questions was shared with the students who agreed to participate. Personal names were not taken from the participating students, thus protecting the anonymity of the participants.

## Results

In our research, 639 students who have taken the Human Anatomy course responded to a total of 37 questions, including 29 questions related to theoretical classes and 8 questions related to exams.

As seen in Table 1, the participants indicated their agreement or disagreement with various statements regarding the theoretical classes, specifically, 70.2% agreed that the number and duration of theoretical classes were sufficient, while 14.6% disagreed. Regarding the contribution of the course content to professional development, 60.5% agreed, while 18.2% disagreed. When asked about the effectiveness of the teaching methods in facilitating learning, 55.6% agreed, while 21.2% disagreed. In terms of presentation techniques enhancing their interest in the subject matter, 60.1% agreed, while 15.1% disagreed. Participants agreed that instructors came prepared for the classes with a percentage of 83.1, while 3.6% disagreed. Participants indicated their enjoyment of the Anatomy course with 61.1% agreeing and 16.8% disagreeing. Regarding the adequacy of the Anatomy education for the present and future, 58.7% agreed, while 18.9% disagreed. Participants recognized the value of including a terminology course in the curriculum that covers both anatomical terms and other medical terms, with 76.2% agreeing and 7.2% disagreeing. Regarding the inclusion of practical classes alongside theoretical classes, 80.9% agreed, while 7.1% disagreed. Participants pointed out that practical classes, including training with models and cadavers, would be beneficial for the learning of the course, with 85.9% agreeing and 3.9% disagreeing (Table 1).

**Table 1.** Evaluation of Theoretical Classes COVID-19 or not, hospitalized or discharge

No	Survey Questions	Strongly Agree (n/%)	Agree (n/%)	Undecided (n/%)	Disagree (n/%)	Strongly Disagree (n/%)
1	In classes, the content of the course and what will be learned are initially conveyed.	147 / 23	397 / 62.1	50 / 7.8	24 / 3.8	21 / 3.3
2	The number and duration of theoretical classes are sufficient.	126 / 19.7	323 / 50.5	97 / 15.2	67 / 10.5	26 / 4.1
3	The course content contributes to professional development.	103 / 16.1	284 / 44.4	136 / 21.3	77 / 12.1	39 / 6.1
4	Regular attendance in classes is essential for success in the Anatomy course.	270 / 42.3	255 / 39.9	50 / 7.8	38 / 5.9	26 / 4.1

5	Students are provided with the opportunity to take notes during classes.	68 / 10.6	243 / 38	150 / 23.5	116 / 18.2	62 / 9.7
6	Visual and auditory aids (such as slides) are utilized in classes to enhance the effectiveness of the course.	232 / 36.3	311 / 48.7	53 / 8.3	21 / 3.3	22 / 3.4
7	The teaching method used in classes facilitates my learning.	84 / 13.1	267 / 41.8	152 / 23.8	82 / 12.8	54 / 8.5
8	The presentation techniques used in classes enhance my interest in the subject matter.	101 / 15.8	283 / 44.3	159 / 24.9	63 / 9.9	33 / 5.2
9	The important points are additionally emphasized in the classes.	216 / 33.8	325 / 50.9	63 / 9.9	22 / 3.4	13 / 2
10	The instructors come prepared for the classes.	198 / 31	333 / 52.1	85 / 13.3	13,Sub	10 / 1.6
11	I can easily communicate with the instructors during the classes.	159 / 24.9	329 / 51.5	74 / 11.6	53 / 8.3	24 / 3.8
12	The classes start and end on time.	177 / 27.7	352 / 55.1	65 / 10.2	29 / 4.5	16 / 2.5
13	The physical conditions of the classroom (temperature, lighting, silence, spaciousness, etc.) are suitable for learning.	120 / 18.8	310 / 48.5	112 / 17.5	61 / 9.5	36 / 5.6
14	There is an opportunity to come prepared for the classes.	106 / 16.6	362 / 56.7	95 / 14.9	51 / 8	25 / 3.9
15	I leave the class with a good understanding of the subject matter.	57 / 8.9	232 / 36.3	209 / 32.7	86 / 13.5	55 / 8.6
16	I do not have difficulty in finding reference books or lecture notes.	124 / 19.4	278 / 43.5	119 / 18.6	72 / 11.3	46 / 7.2
17	The topic in class is presented by relating it to other aspects of anatomy.	110 / 17.2	369 / 57.7	113 / 17.7	28 / 4.4	19 / 3
18	The Anatomy course is taught by relating it to clinical subjects.	75 / 11.7	336 / 52.6	156 / 24.4	53 / 8.3	19 / 3
19	I do not consider Anatomy education as a waste of time.	258 / 40.4	267 / 41.8	53 / 8.3	32 / 5	29 / 4.5
20	I enjoy the Anatomy course.	157 / 24.6	233 / 36.5	142 / 22.2	54 / 8.5	53 / 8.3
21	I can easily reach the instructors outside of class.	110 / 17.2	283 / 44.3	124 / 19.4	73 / 11.4	49 / 7.7
22	I am generally satisfied with the delivery of theoretical Anatomy classes.	88 / 13.8	359 / 56.2	118 / 18.5	48 / 7.5	26 / 4.1
23	I find the Anatomy education we receive to be sufficient for the present and future.	96 / 15	279 / 43.7	143 / 22.4	71 / 11.1	50 / 7.8
24	Even if Anatomy is listed as an elective course in the curriculum, I would still choose to take this course.	109 / 17.1	207 / 32.4	163 / 25.5	92 / 14.4	68 / 10.6
25	If there are review Anatomy courses in the later stages of the program I am studying, I would like to take them again for reinforcement.	117 / 11.4	220 / 34.4	162 / 25.4	87 / 13.6	59 / 9.2
26	Having a good understanding of Anatomy terminology is beneficial for my learning of Anatomy.	176 / 27.5	350 / 54.8	81 / 12.7	21 / 3.3	11 / 1.7
27	Having a terminology course in the curriculum that includes not only anatomical terms but also other medical terms would be beneficial for my professional development.	193 / 30.2	294 / 46	106 / 16.6	26 / 4.1	20 / 3.1
28	I believe that practical classes should be included alongside theoretical classes.	264 / 41.3	253 / 39.6	77 / 12.1	26 / 4.1	19 / % 3
29	I believe that if practical classes are included, the use of models and cadaver training in the classes would be effective for learning the subject matter.	311 / 48.7	238 / 37.2	65 / 10.2	11 / 1.7	14 / 2.2

n: Number. %: Percentage

In Table 2, participants indicated their agreement or disagreement with statements regarding the evaluation of exams, specifically, 79.7% of the participants agreed that the questions in the theoretical exams were consistent with the course content, while 7.3% disagreed. In terms of the duration of the theoretical exams, 22.1% agreed that it was sufficient for answering the questions, while 62.2% disagreed. When asked about the inclusion of visual-

based questions in the theoretical exams, 63.8% agreed, while 19.5% disagreed. Participants expressed their belief that practical exams should be conducted alongside theoretical exams to enhance learning, with 50% agreeing and 27.6% disagreeing (Table 2).

## Discussion

The discussion about how anatomy education should be in schools that train healthcare professionals, both

**Table 2.** Evaluation of Exams

No	Survey Questions	Strongly Agree (n/%)	Agree (n/%)	Undecided (n/%)	Disagree (n/%)	Strongly Disagree (n/%)
30	The questions in the theoretical exams are consistent with the course content.	132 / 20.7	377 / 59	83 / 13	25 / 3.9	22 / 3.4
31	The questions in the theoretical exams are clear and easily understandable.	82 / 12.8	257 / 40.2	157 / 24.6	86 / 13.5	57 / 8.9
32	The duration of the theoretical exams is sufficient for answering the questions.	37 / 5.8	104 / 16.3	100 / 15.6	130 / 20.3	268 / 41.9
33	The theoretical exams should consist only of multiple-choice questions.	290 / 45.4	181 / 28.3	90 / 14.1	42 / 6.6	36 / 5.6
34	The theoretical exams should consist only of traditional/essay-type questions.	24 / 3.8	30 / 4.7	70 / 11	165 / 25.8	350 / 54.8
35	The theoretical exams should include both multiple-choice and traditional/essay-type questions.	64 / 10	129 / 20.2	122 / 19.1	121 / 18.9	203 / 31.8
36	The theoretical exams should include visual-based questions.	170 / 26.6	238 / 37.2	107 / 16.7	54 / 8.5	70 / 11
37	I am of the opinion that practical exams should also be conducted alongside theoretical exams to enhance our learning of the subject.	116 / 18.2	203 / 31.8	144 / 22.5	86 / 13.5	90 / 14.1

n: Number. %: Percentage

in our country and worldwide, continues. There are debates on which educational methodology should be used to achieve the objectives, how much time should be allocated, and who should be responsible for delivering the education. In both national and international communities, efforts are being made to improve the effectiveness of anatomy education (9). In this context, obtaining feedback from students is important as it contributes to improving the quality of education, addressing deficiencies, and developing new strategies (10).

Anatomy education holds significant importance in the departments of Health Services Vocational Higher Schools (such as Anesthesia, First Aid and Emergency Care, Dialysis, Elderly Care, Medical Imaging, Child Development, etc.) as they train students in the field of healthcare. Students are required to learn a large number of anatomical terms in a very short period, typically two years. Several studies have pointed out that learning anatomy is challenging (11-13). In our study, 82.2% of the participating students believe that having a good knowledge of anatomy terminology would be beneficial for learning anatomy. Additionally, 76.2% of the students believe that including a terminology course in the curriculum would be beneficial.

In a study conducted by İnce (14) evaluating the anatomy lesson in Biology, Pre-school, and Science Education, 82% of the students considered the lesson duration to be sufficient. On the other hand, Sarçin et al. (13) conducted a study at Van Yüzüncü Yıl University Health Services Vocational Higher School and found that only 45% of the students considered the anatomy lesson to be sufficient. In our study, 70.2% of the

students found the number and duration of theoretical lessons to be sufficient, while 80.9% pointed out that practical lessons should also be included alongside theoretical lessons. Consistent with our findings, Sarçin et al. (13) emphasized the importance of visuals and practical lessons, stating that 95.4% of the participants considered them to be significant.

Atay et al. (12) stated in their study that 63.2% of medical students pointed out that the anatomy lesson provided a foundation for understanding other courses. Similarly, Sarçin et al. (13) reported that 75.8% of students in Health Services Vocational Higher School pointed out that the anatomy lesson would contribute to their professional careers. In our study, 60.5% of the students expressed the opinion that the content of the lesson would contribute to their professional development.

In the study conducted by Sarçin et al. (13), 76.4% of the students pointed out that attendance was necessary to succeed in the anatomy lesson. In our study, however, 82.2% of the students expressed the opinion that attending classes and avoiding absenteeism is necessary for success in the anatomy lesson.

## Conclusion

Based on the feedback received from the students, meaningful and significant results have emerged that can guide the instructors, the students believe that practical lessons should be provided alongside theoretical lessons in Vocational Higher Schools. They also express the opinion that practical lessons incorporating the use of models and cadavers would be beneficial for the learning process. Furthermore, they emphasize the importance of including a

terminology course to enhance the comprehensibility of anatomy education. These findings indicate the need for improvement in the current anatomy education.

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