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# THE ROLE OF DIGITAL MEDIA IN DEVELOPING AN ONLINE ANATOMY COURSE FOR THE ACQUISITION OF PRE-SERVICE SCIENCE TEACHERS' HEALTH LITERACY

**Abstract.** In the Pandemic, online learning was conducted after the suspension of face-to-face instruction at the educational institutions to eliminate the spread of the disease. Besides, online learning can also be an effective way to carry out education after natural disasters such as earthquakes. This study aimed to detect the effectiveness of an online anatomy course enriched with digital media news on pre-service science teachers' course attitudes and health literacy after two major earthquakes hit the east and southeast of Turkey in 2023. In this direction, a single group pre-test – post-test weak experimental design was conducted with the attendance of 25 senior science education students who studied at a governmental university in Turkey. Data was collected with *Attitudes towards Anatomy Course Scale* and *Health Literacy Scale*. The study lasted for one semester and included data collection and instruction process on an online learning platform. The instruction process covered the systems in human body. Each course began with the examination of several digital media news regarding the focus of the course. Afterwards, the course content was presented to the students and the course ended with the evaluation of the subject with the help of Web 2.0 tools. Collected data was analyzed quantitatively with SPSS 26.0. According to the results, a significant increase was determined both in pre-service teachers' mean anatomy course attitudes and health literacies. Besides, detailed analyses indicated significant improvements in the course attitudes and health literacies of three of four subscales of the instruments. It is recommended to implement a similar instructional design to sustain anatomy education during online learning for undergraduate students in different programs. Also, adapting such a course design to face-to-face applications might make contributions to the development of well-equipped pre-service teachers in addition to sustaining healthy young individuals and a healthy society.

**Keywords:** Anatomy course; online learning; science teacher education.

## 1. INTRODUCTION

**The problem statement**. COVID-19 Pandemic brought the significance of online learning to the agenda of the universities around the world with no exception [1]. In the Pandemic, online learning was conducted after the suspension of face-to-face instruction at the educational institutions to eliminate the spread of the disease. Besides, online learning can also be an effective way to carry out education after natural disasters such as earthquakes. Damage to the buildings of educational institutions, individuals' homes and environment can be mentioned among the reasons to follow such a way as well as the psychological impacts and continuous shocks of the earthquake [2]. Accordingly, online learning was implemented for higher education students in Turkey in the spring term of 2022-2023 academic year with the decision of Turkish Higher Education Council [3] after two major earthquakes with magnitudes of 7.7 at 04.17 a.m. and 7.6 at 13.24 p.m. hit the east and southeast of the country on February 6, 2023 [4].

Although online learning receives criticisms in several aspects such as students' engagement in collaborative learning, student-faculty interactions [5], harm on the mental health of the students and creating digital divides [6], it provides a solution to sustain education [7]. At this aspect, course design might be effective to overcome the negative aspects and

 

improve the quality of the instruction [8]. Hence, it is believed that the instruction might be enhanced in various ways to deliver education more effectively. It can be suggested that digital media news might be utilized for this reason.

**Analysis of recent studies and publications.** Media has a number of functions for different fields in daily life such as economy, politics and health. The superior developments in technology and internet have made it very easy for individuals to access information [9]. Hence, there are various formats of media which are brought with the advancements in the technology. Accordingly, media has also taken place in the field of education. One of the function of media can be stated as it allows the society to be informed about scientific research, innovations and debates [10]. Thus, media might allow individuals to promote their scientific literacy in out-of-school environments. Several media formats such as multimedia, hypermedia and digital media are included in the educational interventions. For example, Klosterman *et al.* [11] state that science teachers use mass media to teach socio-scientific issues and sustainability. Also, Rutherford [12] asserts that social media resources allow learners the facility to communicate, interact and share their opinions effectively. This study considers the integration of digital media news to the online anatomy course instruction to improve students' health literacy and attitudes towards the course.

In today's conditions, health literacy keeps its place as an important term. This term does not only include specific skills required by an individual to conduct health related tasks but also expands to include groups of individuals beyond individuals [13]. Thus, health literacy acts as a comprehensive reflection of the social and economic development level of a country [14]. On the other hand, a low level of health literacy indicates poor health outcomes [15]. Although various studies report adequate level of health literacy among the individuals [15]-[17], it is also stated that health literacy varies among different student groups [18]-[19]. Hence, it is important to train students with sufficient level of health literacy to sustain a healthy society. In this respect, science and biology teachers are believed to play a key role as they teach students various biology subjects related to human body, the systems in our body, nutrition and so on.

During the teaching process, changing students' attitudes in a positive manner constitutes an important work. Because attitudes affect the patterns of behaviors [20], researchers investigate the impacts of different methods on students' attitudes. Similar to the health literacy, developing students' anatomy attitudes has a significant role to teach anatomy to different student groups such as medical, nursing, science, and biology teaching students. The studies generally address the change in students' attitudes after taking the anatomy course [21]-[22]. Besides, Barry *et al.* [23] discuss integrating social media into anatomy learning of medical and radiation therapy students and indicate that majority of the students use YouTube as a primary source for their anatomy learning and find the videos in this platform as "useful", "very useful" or "extremely useful". In addition, Yousuf *el al.* [24] state that most of the medical students do not consider textbooks as a major source of knowledge; rather they highlight the use of digital media. Although the students point out the use of different media formats for anatomy courses, Chytas [25] specify that there is a gap in the research focusing on the effect of the utilization of social media in anatomy education on students' attitudes. So, it is believed that different media formats might be integrated to anatomy teaching to enhance different student groups' anatomy learning.

In the literature, it is seen that the research mostly focuses on medical students considering the anatomy attitudes [21], [26]-[27]. However, there is a gap in the literature considering pre-service science teachers' anatomy course attitudes. Also, studies regarding health literacy are seen to address different samples such as undergraduate students from all fields [16], health professional students [18], [28]-[29]; teachers [17]; patients [30]; elderly people [31]. On the other hand, no study conducted with pre-service science teachers were encountered in this respect. Thus, with the present study, it is expected to make contributions to sustain anatomy

education of pre-service science teachers in online platforms by enriching the course with digital media news.

**The research goal.** This research intends to figure out the effect of an online anatomy instruction supported with digital media news on pre-service science teachers' course attitudes and health literacy. The research is thought to be significant in terms of providing an alternative instructional design which can be used during online learning effectively to improve students' course attitudes and health literacy. Thus, it is believed to make contributions to science teacher training studies.

The research questions of the study are as follows:

- Is there a statistically significant effect of online anatomy course instruction enriched with digital media news on pre-service science teachers' course attitudes?
- Is there a statistically significant effect of online anatomy course instruction enriched with digital media news on pre-service science teachers' health literacy?

## 2. RESEARCH METHODS

The study was based on a single group pre- and post-test weak experimental design from quantitative methods. This design allows the researchers to test the process on a single group [32]. This study involved a group of pre-service teachers. First, data gathering instruments were administered to the pre-service teachers as pre-test. Then, the instructional design developed for the anatomy course was implemented on them for one semester (14 weeks). Afterwards, the same instruments were administered to the participants as post-tests. Thus, the effectiveness of the course design was examined.

The study sample included 25 senior science education students studying at a governmental university in the west part of Turkey. Four of the students were males whereas 21 of them were female students. The average age of the participants was 22. Convenience sampling method was used to form the study sample since the teacher candidates just happened to be situated, spatially or administratively, near to where the researcher was conducting the data collection [33].

In the study, two instruments were utilized to gather study data. These were *Attitudes towards Anatomy Course Scale* (ATACS) and *Health Literacy Scale* (HLS). The instruments were used in the study after taking permission from the researchers. ATACS was developed by Bahçeci [34]. The scale was a 5–point-Likert type and involved 24 items under four sub-scales. Thirteen of the items were positive whereas 11 of them were negative items. The items were rated as "never =1", "rarely =2", "sometimes =3", "frequently =4", and "always =5". A reverse coding was made for the negative items. The minimum score that can be obtained from the scale is 24 and the maximum score is 120. A total score of 24-55 indicated a low level of attitudes, a score of 56-88 indicated a medium level of attitudes and a score of 89-120 showed a high level of attitudes. The sub-scales were about determining adherence to anatomy course (items 1, 2, 3, 5, 6, 7, 8, 9, 10, 17, 23 and 24), positive and negative feelings related to anatomy course (items 4, 11, 12 and 22), prejudices towards anatomy course (items 13, 14, 15 and 16) and beliefs about the necessity of anatomy course (items 18, 19, 20 and 21). The scale was determined to be ideal for measuring attitudes of university students (such as nursing, science education, physical education) who were taking anatomy course. Bahçeci [34] calculated the Cronbach alpha value of the total scale as .75. For the sub-scales, the Cronbach alpha values were stated as .68, .77, .81 and .79 in particular.

Example items from ATACS are as follows:

- Anatomy subjects are interesting to me.
- I get bored while studying anatomy course.

- Having my knowledge checked by my instructor motivates me.
- The teaching method applied in the anatomy course impacts my performance.

HLS was adapted to Turkish language by Aras and Bıyık Temel [35] from the simplified form of the original HLS–European Union which involved 47 items [36]. Then, Toçi *et al.* [37] worked on the scale and simplified it to 25 items- Health Literacy Index. The scale aims to determine health literacy level of individuals over 18. So, HLS used in this study included 25 items in the form of Likert-5 style. There was no negative item in the scale. The items were rated as "I never experience difficulty =5", I experience difficulty a little =4", "I experience difficulty a while =3", "I experience difficulty a lot =2", and "I cannot do it =1". Thus, the minimum score that can be obtained from the scale is 25 and the maximum score is 125. An increase in the total score that can be obtained from the scale demonstrates an increase in the health literacy. The sub-scales of HLS were named as access (items 1-5), understanding (items 6-12), appraisal (items 13-20) and application of health information (items 21-25). The researchers calculated the Cronbach alpha value ranged from .90 to .94 for the sub-scales and overall scores.

Example items from HLS are as follows:

- Are you able to find information on how to stay healthy?
- Are you able to understand the content of food labels?
- Are you able to judge what medical advice is best for you?
- Are you able to follow instructions that a doctor/nurse/pharmacist gives you?

The research was conducted in terms of *Human Anatomy and Physiology* course which is one of the field elective courses in undergraduate science education program in Turkey. Both data collection and instruction process were performed on an online education platform. All the students and the instructor attended synchronous meetings according to the weekly course schedule for two course hours (2x45 min). Also, the courses were recorded on the platform for the students who were not able to attend the course synchronously. Whole study was based on ethical considerations and conducted considering the voluntariness of the participants.

The subjects studied in the *Human Anatomy and Physiology* course covered the systems in human body. The subjects began with the introduction to the human anatomy and continued with digestive system, excretory system, respiratory system, circulatory and lymphatic system, nervous system, sensory organs, skeletal and muscular system, endocrine system, and reproductive system. Figure 1 summarizes the flow of an online course in the study.

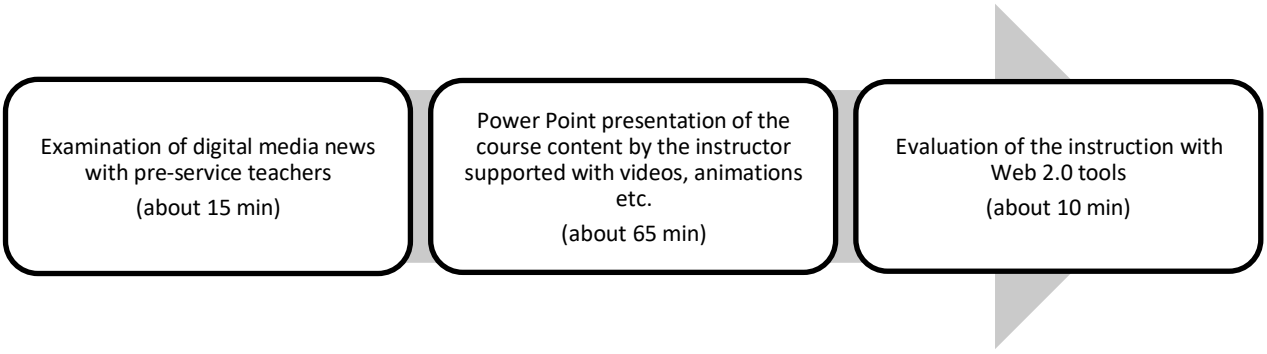


*Figure 1. Flow of an online anatomy course in the study*

In the current study, the courses began with the introduction of digital media news related to each subject. This media news was shared with pre-service teachers in the form of a written report or a video on Web. Several questions were posed to the participants regarding this news to trigger their curiosity and interest towards the course. Also, their pre-knowledge was revealed

in this way. For example, two written news reports were shared with the participants on the subject of endocrine system. These were written news reports on keeping the natural biorhythm of the human body [38] and the effect of light on good sleep quality [39]. The contents of those news were discussed by the students through questions such as

- Why is it important to eat regularly?
- Why is it important to take care of what we eat?
- Why is it important to sleep regularly?
- Is there a connection between our body functions and daily sleeping/eating habits?
- How do our bodies maintain daily functions?
- Why do our body functions change when we change our eating/sleeping habits? For example, what if we begin to sleep in a luminous room rather than a dark room?

After taking the participants' responses, the contents of the digital media news were associated with the weekly course subject. The instructor presented the course content in the form of Power Point presentation to the students. In this process, the course presentation was supported with several animations, videos etc. Also, various questions were asked to the students to make them participate in the course. In the end of the course, a short assignment activity was shared with the students to make the evaluation of the teaching. This activity was conducted with the help of Web 2.0 tools and involved short-answer questions related to the subject.

Collected data was analyzed with SPSS 26.0. First, Shapiro Wilk test was utilized to analyze normality distribution of each data set. The results are presented in Table 1.

*Table 1*

**Normality analyses for the overall scale and sub-scale scores**

| Scales | Application | Statistic | *df* | *p* |
|---|---|---|---|---|
| ATACS | Pre-test | .991 | 25 | .997 |
| | Post-test | .968 | 25 | .590 |
| i. Adherence to anatomy course | Pre-test | .970 | 25 | .640 |
| | Post-test | .973 | 25 | .731 |
| ii. Positive and negative feelings | Pre-test | .959 | 25 | .386 |
| | Post-test | .926 | 25 | .701 |
| iii. Prejudices | Pre-test | .851 | 25 | .002* |
| | Post-test | .857 | 25 | .002* |
| iv. Beliefs about the necessity | Pre-test | .930 | 25 | .087 |
| | Post-test | .929 | 25 | .084 |
| HLS | Pre-test | .973 | 25 | .725 |
| | Post-test | .897 | 25 | .016* |
| i. Access | Pre-test | .961 | 25 | .442 |
| | Post-test | .802 | 25 | .0001* |
| ii. Understanding | Pre-test | .953 | 25 | .287 |
| | Post-test | .862 | 25 | .003* |
| iii. Appraisal | Pre-test | .947 | 25 | .210 |
| | Post-test | .861 | 25 | .003* |
| iv. Application of health information | Pre-test | .946 | 25 | .199 |
| | Post-test | .905 | 25 | .024* |

According to Table 1, overall scores obtained from ATACS showed normal distribution both for pre- and post-tests, $p>.05$. Also, Shapiro-Wilk test analyses indicated normal distributions for the data sets obtained from the first, second and fourth sub-scales of ATACS,

p>.05. Hence, paired sample t-test was used in the comparison of those scores. On the other hand, the analyses indicated that the distributions differed significantly from the normal distribution for the data sets obtained from the third sub-scale, p<.05. Hence, Wilcoxon-signed rank test was used for the comparison of the scores obtained from the third sub-scale.

The normality analyses conducted for HLS scores indicated normal distributions for pre-test application of the whole scale as well as the sub-scales, p>.05 whereas post-test scores differed significantly from normal distribution, p<.05. Hence, Wilcoxon-signed rank test was utilized in the comparison of the health literacy scores. All the analyses were conducted at .05 significance level for p values.

In data analyses, the effect sizes were also calculated to examine the impact of the instruction on the participants' course attitudes and health literacy. For the analyses conducted with paired sample t-tests, Cohen's d statistic is calculated via dividing t value by the square root of the number of the participants [40]. According to Cohen [41], this value implies a small, medium, and large effect for the statistics .02, .05 and .08 in particular. For non-parametric data (such as the analyses conducted with Wilcoxon signed rank test), the effect size (r) is determined via dividing z value by the number of the participants [42]. This value is evaluated as small, medium and large impact for the statistics .01, .03 and .05 [43].

To ensure the reliability of data, Cronbach alpha coefficient was calculated as .76 for pre-test and .85 for post-test application of ATACS. Besides, the Cronbach Alpha coefficient was found to be .92 for pre-test and .95 for post-test application of the HLS. These values indicated the reliability of data as they exceeded .70 [44].

## 3. THE RESULTS AND DISCUSSION

### 3.1. Pre-service teachers' anatomy course attitudes

The results obtained from the comparison of pre-service teachers' anatomy course attitude scores with paired sample t-test are shown in Table 2.

*Table 2*

**Comparison of anatomy course attitude scores with paired sample t-test**

| Application | *N* | Mean | SD | *df* | *t* | *p* | Cohen's d |
|---|---|---|---|---|---|---|---|
| Pre-test | 25 | 77.68 | 8.23 | 24 | 5.259 | .0001* | 1.05 |
| Post-test | 25 | 89.64 | 10.73 | | | | |

As can be seen in Table 2, paired sample t-test results demonstrate a statistically significant difference between pre- (M=77.68) and post-test application (M=89.64) of ATACS, t(24)=5.259, p<.05. Hence, the results imply a significant increase in pre-service teachers' mean anatomy course attitudes as a result of the implementation. Also, Cohen's d statistic (d= 1.05) implies a large impact on the participants' attitudes. When the mean scores are considered, it is realized that the participants possess a medium level of attitudes, M=77.68 (56-88 points) in the pre-test. However, after the implementation, their attitudes raise to the high level, M=89.64 (89-120 points). So, this result is in line with the fact that the characteristics of science media coverage have the potential to influence the knowledge, beliefs, and attitudes that laypersons develop about and toward science [10]. Also, media may inform professional, popular and lay perceptions of anatomy and its relation to medical knowledge and practice, and attitudes towards health and illness, life and death [45]. Thus, the result obtained from the present study also supports students' previous suggestions to include digital media, which is another media format in anatomy learning [24], [46].

Learning human anatomy supports pre-service science teachers' biology content knowledge which one of the fundamental fields in their profession. Similarly, in their study,

Hennessy *et al.* [47] utilized social media to support medical students' neuroanatomy learning which constituted a major field for the medical students. On the other hand, Pearson and Hoagland's [22] study demonstrated no significant change on the professionalism attitudes of medical students after participating the gross anatomy course. As Bin Abdulrahman *et al.* [48] conclude, it might be better to teach modern anatomy by using multiple teaching methods for undergraduate students rather than one method.

When the comparisons are conducted for each sub-scale of ATACS, statistically significant differences are detected between pre- and post-test application of the second sub-scale (positive and negative feelings related to the course), $t(24)=10.628$, $p<.05$; the third sub-scale (prejudices towards the course), $z=4.385$, $p<.05$ and the fourth sub-scale (beliefs about the necessity of the course), $t(24)=5.279$, $p<.05$. All of those findings are in the favour of the post-tests. On the other hand, no statistical difference is determined between the pre- and post-test of the first sub-scale (determining adherence to the course), $t(24)=1.085$, $p>.05$, although there is an improvement in the mean attitudes of the participants from the pre-test ($M=45.92$) to post-test ($M=47.08$).

In the current study, first, pre-service teachers' attitudes showed significant improvement in terms of the feelings related to the anatomy course. Similarly, de Bere and Peterson [45] drew attention to use news media for teaching anatomy and mention their potential for great emotional response. Second, the study was efficient in terms of eliminating teacher candidates' prejudices towards anatomy course. Although the course was not conducted in the classical laboratory environment with face-to-face applications, the design of the instruction was successful to overcome any negative opinions of the students regarding the course. On the other hand, Mitchell et al. [27] reported that working in the dissecting room was thought to be disquieting by medical students. Third, the course had a meaningful impact on improving teacher candidates' beliefs about the necessity of anatomy course. This result is very important considering the fact that the study sample is made of teacher candidates. Most of the medical students also believed that anatomy course is significant in terms of their profession [21], [24] in addition to dental students [21].

As well as the abovementioned positive effects, the participants' attitudes did not show a significant difference in terms of adherence to the anatomy course. This result might stem from the nature of online learning. As well as its advantages, online learning also brings a number of difficulties for the students, instructors and the institutions. Maintaining students' attention and participation is a pedagogical challenge of online learning [49]. So, pre-service teachers might have felt isolated in this process since they attended courses from their homes or the places other than school environment. On the other hand, online learning supplies the students the opportunity to listen the courses non-simultaneously which might be another factor for not feeling more adherence to the course.

### 3.2 Pre-service teachers' health literacies

Descriptive statistics obtained from the health literacy scores of pre-service teachers are shown in Table 3.

*Table 3*

**Descriptive statistics for health literacy scores**

| Application | *N* | Mean | SD | SE |
|---|---|---|---|---|
| Pre-test | 25 | 93.16 | 17.17 | 3.43 |
| Post-test | 25 | 104.32 | 17.17 | 3.43 |

As can be seen in Table 3, the mean score obtained from HLS is 93.16 in the pre-test and 104.32 in the post-test. It is seen that the implementation results in an improvement in the health

literacy of the participants. The results obtained from the comparison of the health literacy scores with Wilcoxon signed rank test are shown in Table 4.

*Table 4*

**Comparison of teacher candidates' health literacy scores with Wilcoxon signed rank test**

| Post-test – Pre-test | *N* | Mean Rank | Sum of Ranks | *z* | *p* | r |
|---|---|---|---|---|---|---|
| Negative Ranks | 5 | 10.70 | 53.50 | 2.934* | .003* | 0.59 |
| Positive Ranks | 20 | 13.58 | 271.50 | | | |
| Ties | - | | | | | |

*Based on negative ranks

According to Table 4, Wilcoxon signed rank test analysis indicates a statistically significant difference between pre- and post-test application of HLS, z=2.934, p<.05. The findings are in favor of post-test when pre-service teachers' mean rank and sum of ranks are considered. In addition, r value shows a large impact of the instruction on the participants' health literacy (r=0.59). Similarly, Kaper *et al.* [28] reported a meaningful increase in the health literacy of undergraduate medical students after an eleven-hour training intervention. Also, teachers with a Master's or above degree were detected to have higher health literacy than the teachers with Bachelor's degree [17]. Hence, training process might be concluded to be more effective in this respect. On the other hand, the study of Dolozel *et al.* [15] indicated that the professional healthcare certifications had no statistical effect on the health literacy scores of the college students.

When the comparisons are conducted for each sub-scale of HLS, statistically significant differences are also detected between pre- and post-test applications of the first sub-scale (access health information), z=2.990, p<.05; the second sub-scale (understanding health information), z=3.359, p<.05 and the third sub-scale (appraisal), z=2.055, p<.05. All of these findings are in the favor of the post-tests when the mean ranks and sum of the ranks are considered. On the other hand, no statistical difference is determined for the pre- and post-test of the fourth sub-scale (application of health information), z=1.107, p>.05, although there is an improvement in the post-test mean score (M=19.80) of the teacher candidates when compared to the pre-test mean score (M=18.64).

As in the anatomy attitudes, the study was effective on developing pre-service teachers' health literacy in three of four sub-scales. First, the instruction was significant in terms of developing pre-service teachers' abilities to access and understand the information. Similarly, the training conducted for medical students was effective for them to provide comprehensible information for the patients [28]. Moreover, the instruction was significant in terms of developing pre-service teachers' appraisal. Similarly, in another study, the majority of the college students valued the importance of health literacy [16]. On the other hand, no significant difference was determined in terms of the sub-scale, application. Mullan *et al.*'s [18] research also depicted that medical and nursing students' health literacy in terms of actively managing their health stayed below the mean score. This result shows parallelism with the current study. The participants were determined not to apply their health information in their daily life significantly although they had been trained in this respect. Further studies might focus on this issue to make individuals apply their theoretical health knowledge in daily practice.

## 4. CONCLUSIONS AND PROSPECTS FOR FURTHER RESEARCH

In sum, this study outlines how to enhance pre-service science teachers' anatomy course attitudes and health literacy through an online course design. Digital media news can be accessed easily, and they present a wide range of cases from daily life. Students can connect them to their own lives. So, it can be concluded that digital media news might be an effective

material during online anatomy instruction process. Improving anatomy course attitudes and health literacy are believed to be very important because the participants of the study will teach the systems in human body to middle school students in the near future.

In the future, the implementation of similar instructional designs in case of online education are recommended for undergraduate students in different programs. Also, adapting such a course design to face-to-face instructional applications might make contributions to the development of well-equipped teachers in addition to sustaining healthy young individuals and a healthy society.

One limitation of this study can be stated as the research lacks a control group to compare the study findings. However, considering the conditions in which the current study was performed, it was not possible to add a control group to the study since the whole country experienced a devastating shock after a natural disaster. Further studies might deal with a similar instructional design conducted with both experimental and control groups. Besides, students' academic achievement can also be considered in the future studies in addition to the factors examined in this study.

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# РОЛЬ ЦИФРОВИХ МЕДІА В РОЗРОБЦІ ОНЛАЙН-КУРСУ З АНАТОМІЇ ДЛЯ ПІДВИЩЕННЯ РІВНЯ МЕДИЧНОЇ ГРАМОТНОСТІ ВЧИТЕЛІВ ПРИРОДНИЧИХ ДИСЦИПЛІН

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**Анотація.** В умовах пандемії з метою усунення поширення хвороби в навчальних закладах після призупинення очного проводилось онлайн-навчання. Онлайн-навчання може бути ефективним способом отримання освіти після стихійних лих, таких як землетруси. Це дослідження мало на меті виявити ефективність онлайн-курсу анатомії з використанням цифрових медіа під час підготовки вчителів природничих дисциплін, їх ставлення до курсу, набуття медичної грамотності після двох потужних землетрусів, що сталися на сході та південному сході Туреччини у 2023 році. Були проведені тестування однієї обраної групи учасників з 25 студентів старших курсів з природничої освіти, які навчалися в державному університеті Туреччини. Тестування проводилось до і після проведення дослідження. Дані

були зібрані за допомогою *Шкали ставлення до курсу анатомії* та *Шкали медичної грамотності*. Дослідження тривало один семестр і передбачало збір даних та процес викладання на платформі онлайн-навчання. Процес навчання охоплював системи людського організму. Кожен курс розпочинався з вивчення декількох новин у цифрових медіа, що стосувались теми курсу. Потім студентам презентували зміст курсу, а завершувався курс оцінюванням предмета за допомогою інструментів Веб 2.0. Зібрані дані були проаналізовані кількісно за допомогою SPSS 26.0. Згідно з результатами було виявлено значне підвищення як середнього рівня ставлення майбутніх учителів до курсу анатомії, так і рівня їхньої медичної грамотності. Крім того, детальний аналіз показав значне покращення ставлення до курсу та медичної грамотності за трьома з чотирьох субшкал опитувальника. Рекомендується впровадити подібний навчальний дизайн для підтримки освіти з анатомії під час онлайн-навчання для студентів бакалаврату на різних програмах. Крім того, адаптація такого дизайну курсу до очного навчання може сприяти підготовці вчителів, а також підтримці здоров'я молодих людей і здорового суспільства.

**Ключові слова:** курс анатомії; онлайн-навчання; підготовка вчителів природничих дисциплін.