

# Students' Assessment of Digital Technologies in Nursing Education

## Abstract

**Background:** E-learning, including platforms like Google Classroom and Moodle, has become integral to nursing education, offering flexibility and adapting to the changing educational system. Despite varied student responses, the COVID-19 pandemic accelerated the shift to online nursing education at Karaganda Medical University, prompting an evaluation of platforms like Zoom, WebEx, Google Classroom, and Moodle for their quality and convenience. This study, based on the students' perspective, contributes to ongoing efforts to optimize online platforms for nursing education at Karaganda Medical University. **Materials and Methods:** This cross-sectional study was conducted by a group of lecturers in December 2023 at Karaganda Medical University, Kazakhstan. The study adopted a quantitative approach, employing a survey methodology administered to 154 second-year students enrolled in the academic bachelor's degree program in Nursing. Participants were chosen through convenience sampling, and they were tasked with rating educational platforms and programs based on predefined criteria, utilizing a 5-point scale. Data analysis was carried out using descriptive statistics, calculating relative values for comparative analysis. **Results:** Comparative analysis was conducted on two prominent educational platforms—Google Classroom and Moodle—and two programs designed for online consultations and classes—WebEx and Zoom. All obtained data is presented in tables for clarity. **Conclusions:** An analysis of the preferences of second-year undergraduate students regarding educational platforms and online programs identified the main criteria important for the learning process. This research can be used to further improve educational platforms and enhance the quality of education.

**Keywords:** *Baccalaureate, distance education, education, nursing, online education*

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## Introduction

In today's digital era, medical students must possess digital competencies that include learning, information management, communication, creativity, and digital problem-solving skills. These skills not only allow them to successfully learn information but also to adapt to constant changes in healthcare.<sup>[1]</sup> Research highlights the importance of students' digital skills, especially in an online format, which affects overall academic performance.<sup>[2,3]</sup> Educational institutions must ensure that students develop critical thinking so that they can effectively interact with the digital world and analyze information. According to Brown *et al.* (2020) and Lee *et al.* (2022), digital skills training is a topic of primary importance in university education, and its impact on student performance has recently received significant attention.<sup>[4,5]</sup> E-learning includes the Internet, computers, and smartphones, and provides an alternative

to traditional learning. For example, Iran is introducing various e-learning methods. Rapid changes in the teaching environment make e-learning an integral part of education, offering new opportunities for learning at any time.<sup>[6]</sup>

During the pandemic, nursing students have expressed dissatisfaction with e-learning due to feelings of isolation, according to Mojarad *et al.* (2023). Research highlights emotional impacts such as anxiety levels. The results are varied: some students have negative attitudes towards e-learning, while others express positive experiences.<sup>[7]</sup> According to Campos *et al.* (2021), online education has been effectively used for nursing students.<sup>[8]</sup> The COVID-19 pandemic has significantly changed the approach to the education of nursing specialists in the Republic of Kazakhstan, forcing a transition from traditional face-to-face classes to an online format. This transition entailed changes in

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the educational environment and required the adaptation of the school of nursing faculty to new teaching methods. Consequently, nursing students were faced with a variety of electronic educational resources, which are still used in the educational process of nursing students at Karaganda Medical University (KMU).

The main platforms used in the teaching of KMU nursing students are Google classroom and Moodle; these programs are also used for educational purposes by other institutions.<sup>[9-13]</sup> Thus, in the study by Chamane *et al.* (2022),<sup>[9]</sup> Moodle was used to deliver a course on point-of-care diagnostics in Africa, and feedback was received from trainees. Moreover, the Moodle platform was used to teach Nursing students at the University of KwaZulu-Natal and the School of Nursing and Public Health. According to Harerimana A. *et al.* (2019),<sup>[14]</sup> the prevalence of students has led to great expectations for nurse educators to use Moodle and other electronic resources. On the contrary, Google classroom was used for educational purposes and to promote international collaboration between attending pathologists and trainees as part of The Breast Case Challenge program, according to Balakrishnan *et al.* (2020).<sup>[12]</sup> Also, Google classroom was used to provide teaching materials and tests to students, according to Chin *et al.* (2021).<sup>[15]</sup> A study by Kalaimathi *et al.* (2023)<sup>[16]</sup> also examined the effectiveness of Google classroom as a tool for online education among nursing college students. Jadhav *et al.* (2022)<sup>[17]</sup> study also assessed the effectiveness of Google classroom as a tool for teaching a general embryology course to undergraduate students. The programs for conducting online classes in teaching nursing students at KMU were WebEx, Zoom, and Teams. In Nowell *et al.*'s (2022)<sup>[13]</sup> study, the authors observed that audio and video conferences took precedence in terms of the significance of implemented educational technologies. Among the platforms highlighted were Microsoft Teams and Zoom. According to Garrood *et al.* (2023),<sup>[18]</sup> it has also been used to train parents of children with disabilities. In their study, the authors assessed the acceptability and capabilities of online learning through the Zoom platform. The experience of using the Zoom platform for conducting Objective Structured Clinical Examination (OSCE) was also described. Avraham *et al.* (2023)<sup>[19]</sup> developed a virtual OSCE preparation program and assessed student satisfaction with the virtual program. As well, Chin *et al.* (2011),<sup>[15]</sup> chose WebEx as a platform to deliver videoconferences. WebEx served as an excellent “virtual room” where the fellows and the attending could meet to continue their clinical and scholarly activities. Nevertheless, despite the wide use of educational platforms in pandemic conditions across the world, In Kazakhstan, studies with the same purposes were not running. Thus, this study aims to assess the quality and convenience of online educational platforms in nursing education at KMU, for future improvement.

## Materials and Methods

The design of the study was descriptive cross-sectional; it was conducted by a group of lecturers in December 2023 at Karaganda Medical University, Kazakhstan. The target population was 171 (total number of students) second-year nursing students enrolled in a 2-year nursing program at Karaganda Medical University. For inclusion criteria, respondents needed to be: at least 18 years old, currently enrolled, and able to understand either Russian or Kazakh. Using the online calculator, a minimum of 119 participants was required for the study with a 95% confidence interval and a 5% margin of error. Participants were recruited using a convenience sampling technique. The response rate among invited participants was 90%.

To study issues of satisfaction with the use of digital platforms during the educational process among “Nursing” students, a questionnaire was created and consisted of 4 parts for assessing Moodle, Classroom, WebEx, and Zoom, with a total of 36 questions and 5 questions regarding the socio-demographic characteristics of the respondents (gender, age, marital status). The criteria for assessing Moodle and Google classroom were as follows: Functionality, Stability, Convenient knowledge assessment system, Ease of use, Availability, Adaptability (possibility to make individual settings), Variety of multimedia content (possibility of using audio and video materials in the system), Uniqueness of materials (N), Design (N), Technical support. Criteria for assessing Zoom and WebEx were as follows: Reliability, Quality of Video and Audio, Ease of Use, Interactive Features, Scalability (suitable for large meetings), Information Security, Integration with other tools: the ability to integrate with other necessary tools, such as content management systems, video conferencing systems, and online registration systems, and Technical Support. All programs were assessed through these criteria using a five-point Likert scale, in which 1 point = does not meet the criterion, 2 = slightly meets, 3 = satisfactorily, 4 = does not meet enough, 5 = completely meets.

Data analysis: Data were analyzed using IBM SPSS Statistics software version 17.0 (IBM SPSS Inc., Chicago, IL, USA). Descriptive statistics were the main method of analysis in this study. Mean and SDs, and categorical variables as numbers and percentages, were expressed.

## Ethical considerations

The study was conducted in accordance with relevant ethical guidelines, including an oral explanation and written informed consent from the participants. Students’ assessment of digital technologies in nursing education study was approved by the local bioethical committee (Bioethics Committee of NCJSC “KMU,” Karaganda, Kazakhstan; Act No. 2, 26.02.2024).

## Results

The study involved 154 second-year students in a shortened academic bachelor's program with a duration of 2 and a half year. The survey identified the demographic characteristics of our respondents: age, gender, and marital status. The students' ages ranged from 23 to 59 years. The majority of respondents—55 people—were aged from 41 to 50 years, which amounted to 35.71%. The second largest group of respondents was 31–40 years old—43 people, which amounted to 27.92%.

30 students aged 23–30 participated, accounting for 19.48%, respectively. The smallest group was the group of respondents aged 51–60 years—26 students, 16.88% of the total number of respondents. Regarding marital status, 84 are married, which is 54.55%; the rest are single, respectively. The overwhelming majority of respondents were women—152 students, while 2 respondents were men, 98.70% and 1.30%, respectively.

In the educational process, students and teachers very often resort to the help of educational platforms and programs for conducting classes. KMU mainly uses the educational platforms Moodle and Google classroom. In this regard, we asked students which platform they use most often. The majority of students preferred the educational platform Moodle—115 people, 74.68%; Google classroom was chosen by 22.73% of respondents, and 2.60% of all students choose another portal [Figure 1].

When it comes to conducting classes and consultations, teachers at KMU mainly use two programs: WebEx and Zoom. According to the data obtained, the programs are used with almost the same frequency. Eighty-five respondents answered that they use WebEx more often, which was 55.19%, and 69 students indicated that they use Zoom more often, which amounted to 44.81%, respectively, [Figure 2].

**Evaluation of the Moodle platform** (data presented in Table 1). The first criterion we considered was “Functionality.” According to this criterion, the Moodle platform received an average score of 3.90 points. 45.45%

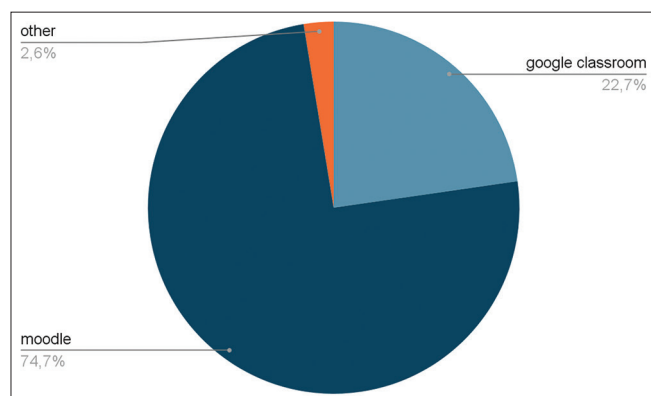


Figure 1: The structure preferences of educational platforms

of respondents indicated that the platform fully meets this criterion.

The next criterion is “Stability;” the average score is 3.73 out of 5. Of all the students surveyed, 8.44% were dissatisfied with working on this platform and rated this criterion as 1 point. We attribute this to the fact that many students actually had difficulty logging into the platform from their home network. At the same time, students noted that this platform fully complies with the criterion “Convenience of the knowledge assessment system;” 50.65% of respondents rated this criterion as 5 points.

The “Ease of Use” criterion had an average score of 3.95 points, and 48.05% of students rated this criterion as 5 points, while only 5.84% of respondents rated “Ease of Use” with the lowest score. The accessibility of the Moodle educational platform was rated on average at 3.77 points, while less than half of the respondents rated this criterion at 5 points. Additionally, 20.13% of students gave 1–2 points, which means that the system does not sufficiently meet this criterion.

The “Adaptability” criterion also has a fairly low average score of 3.72; about 20.13% of respondents also gave this criterion 1–2 points; however, 40.26% of all respondents rated this criterion as excellent.

The criteria “Variety of multimedia content,” “Design,” “Technical support” received almost the same ratings. The average score of all three criteria was 3.81, 3.78, and 3.80 points, respectively. The distribution of points is also almost the same.

The last criterion we would like to mention is “Uniqueness of the material,” which receiving a fairly high average score—4.70%. Of all respondents, this criterion was rated 4–5 points. However, this criterion is quite subjective and depends on the teacher's added material.

**Evaluation of the Classroom platform** (data presented in Table 2). To compare the two platforms, the same criteria were used. At the stage of calculating the average ratings for each criterion, it can be said that Moodle is

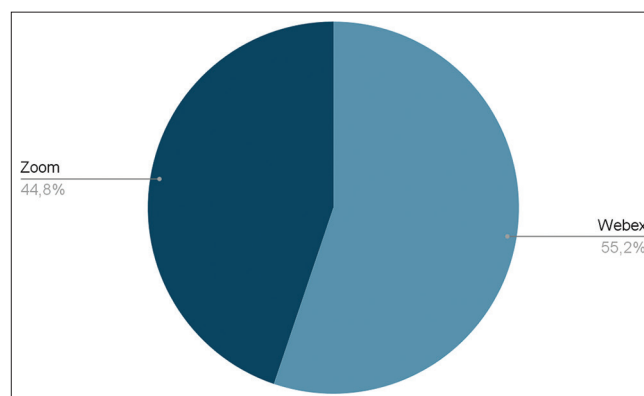


Figure 2: Structure of preferences for programs for online classes

**Table 1: The characteristic of the educational platform “Moodle”**

Criteria	Average rate	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)
Functionality	3.90	7 (4.55)	21 (13.64)	23 (14.94)	33 (21.43)	70 (45.45)
Stability	3.73	13 (8.44)	21 (13.64)	24 (15.58)	33 (21.43)	63 (40.91)
Convenient knowledge assessment system	4.05	5 (3.25)	16 (10.39)	24 (15.58)	31 (20.13)	78 (50.65)
Ease of use	3.95	9 (5.84)	18 (11.69)	19 (12.34)	34 (22.08)	74 (48.05)
Availability	3.77	15 (9.74)	18 (11.69)	18 (11.69)	36 (23.38)	67 (43.51)
Adaptability (possibility to make individual settings)	3.72	15 (9.74)	18 (11.69)	24 (15.58)	35 (22.73)	62 (40.26)
Variety of multimedia content (possibility of using audio and video materials in the system)	3.81	12 (7.79)	17 (11.04)	23 (14.94)	39 (25.32)	63 (40.91)
Uniqueness of materials	3.92	7 (4.55)	19 (12.34)	20 (12.99)	41 (26.62)	67 (43.51)
Design	3.78	13 (8.44)	17 (11.04)	22 (14.29)	41 (26.62)	61 (39.61)
Technical support	3.80	12 (7.79)	17 (11.04)	20 (12.99)	41 (26.62)	64 (41.56)

**Table 2: The characteristics of the educational platform “Google Classroom”**

Criteria	Average rate	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)
Functionality	3.84	7 (4.55)	17 (11.04)	26 (16.88)	47 (30.52)	57 (37.01)
Stability	3.87	6 (3.90)	18 (11.69)	26 (16.88)	44 (28.57)	60 (38.96)
Convenient knowledge assessment system	3.86	7 (4.55)	18 (11.69)	26 (16.88)	42 (27.27)	61 (39.61)
Ease of use	3.89	5 (3.25)	19 (12.34)	26 (16.88)	42 (27.27)	62 (40.26)
Availability	3.92	9 (5.84)	13 (8.44)	22 (14.29)	47 (30.52)	63 (40.91)
Adaptability (possibility to make individual settings)	3.80	9 (5.84)	18 (11.69)	24 (15.58)	47 (30.52)	56 (36.36)
Variety of multimedia content (possibility of using audio and video materials in the system)	3.85	7 (4.55)	18 (11.69)	23 (14.94)	49 (31.82)	57 (37.01)
Uniqueness of materials	3.83	6 (3.90)	21 (13.64)	22 (14.29)	48 (31.17)	57 (37.01)
Design	3.82	6 (3.90)	21 (13.64)	22 (14.29)	50 (32.47)	55 (35.71)
Technical support	3.79	7 (4.55)	21 (13.64)	25 (16.23)	45 (29.22)	56 (36.36)

still ahead of Google Classroom. The average values for all criteria for Google Classroom did not rise above 3.90. The “Functionality” of Google Classroom was rated at 3.84 points on average, with only 37% of respondents giving the highest score. “Stability” received an average of 3.87 points, with 67% of students giving 4–5 points. The criteria “Convenient Knowledge Assessment System” and “Ease of Use” were also rated at 3.86–3.89 points, and their percentage ratings practically correspond to the previous criterion.

The criterion “Accessibility” received an average of 3.92 points, with 5.84% of students giving the lowest score, despite not needing a special account to access Classroom, only a Google account. The remaining criteria, such as “Adaptability,” “Variety of multimedia content,” “Uniqueness of materials,” “Design,” and “Technical support,” were rated on average at 3.80 points, with the percentage content almost identical and not having significant discrepancies. Just like Moodle, a lot depends on the teacher and the content attached to the platform, giving new ground to study the issue from the teacher’s side.

Overall, the Google classroom platform was rated worse by students, with the average score not exceeding 3.90 points in any of the criteria. The Moodle platform received 4

points each according to the criteria “Convenient knowledge assessment system” and “Uniqueness of materials.”

**Evaluation of the Zoom program** (data presented in Table 3). The Zoom program received an average rating of 3.90 points based on the following criteria: “Reliability,” “Quality of Video and Audio,” “Ease of Use,” “Information Security,” “Interactive Features,” “Scalability (suitable for large meetings),” and “Information Security.” The criteria “Information Security” and “Technical Support” received an average rating of 3.85 out of 5 points.

For the criterion “Reliability,” 46.10% of respondents indicated that the program fully meets this criterion. For “Quality of Video and Audio,” only 3.25% of students were dissatisfied, rating it 1 point. This dissatisfaction may be attributed to difficulties in joining meetings due to a lack of digital skills. However, students noted that the platform fully meets the criterion of “Ease of Use,” with 43.51% of respondents rating it 5 out of 5 points.

For the criterion “Interactive Features,” 40.91% of students rated it 5 out of 5 points, while only 3.90% of respondents gave it the lowest rating.

The criterion “Scalability (suitable for large meetings)” was rated 5 out of 5 points in 45.45% of cases, with only 5.19%

of respondents giving it the lowest rating. For “Information Security,” 42.21% of respondents rated it 5 out of 5 points, with only 3.25% rating it 1 out of 5.

Less than half of the respondents rated “Integration with other tools: the ability to integrate with other necessary tools, such as content management systems, video conferencing systems, online registration systems, etc.” 5 out of 5 points, indicating limited use of this feature in most cases. “Technical Support” received similar ratings.

User evaluations of the Zoom platform were higher for criteria such as “Reliability,” “Quality of Video and Audio,” “Ease of Use,” and “Scalability (suitable for large meetings).”

**Evaluation of the WebEx program** (data presented in Table 4). All 10 assessed criteria were, on average, rated at 4.1 out of 5, except for the “Technical Support” criterion, which received a rating of 4. The highest-rated criteria include “Reliability,” with 53.25% of respondents giving it the highest rating of 5 points, “Quality of Video and Audio,” with 52.60% giving it 5 points, “Ease of Use,” with 53.90% giving it 5 points, “Scalability (suitable for large meetings),” with 51.95% giving it 5 points, and “Integration with other tools: the ability to integrate with other necessary tools such as content management systems, video conferencing systems, online registration systems, etc.,” with 50.60% giving it 5 points.

For the other criteria, the preference for those giving 5 points was slightly lower. These include “Interactive Features,” with 48.70% giving it 5 points, and “Information Security,” with 48.70% giving it 5 points. The lowest-rated criterion was “Technical Support,” with 46.75% giving it 5 points, possibly due to difficulties in connecting to meetings, specifically the need to download the program to the device. Users of the WebEx platform prefer criteria such as “Reliability,” “Quality of Video and Audio,” and “Ease of Use” Evaluation of the WebEx program (data presented in Table 4). All 10 assessed criteria were, on average, rated at 4.10 out of 5, except for the “Technical Support” criterion, which received a rating of 4.

The highest-rated criteria include “Reliability,” with 53.25% of respondents giving it the highest rating of 5 points, “Quality of Video and Audio,” with 52.60% giving it 5 points, “Ease of Use” with 53.90% giving it 5 points, “Scalability (suitable for large meetings),” with 51.95% giving it 5 points, and “Integration with other tools: the ability to integrate with other necessary tools, such as content management systems, video conferencing systems, online registration systems, etc.,” with 50.65% giving it 5 points.

For the other criteria, the preference among those giving 5 points was slightly lower. These include “Interactive Features,” with 48.70% giving it 5 points, and “Information

**Table 3: The characteristics of the Zoom program for online classes**

Criteria	Average rate	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)
Reliability	3.94	9 (5.84)	14 (9.09)	26 (16.88)	34 (22.08)	71 (46.10)
Quality of Video and Audio	3.94	5 (3.25)	18 (11.69)	26 (16.88)	38 (24.68)	67 (43.51)
Ease of Use	3.96	4 (2.60)	19 (12.34)	23 (14.94)	41 (26.62)	67 (43.51)
Interactive Features	3.92	6 (3.90)	19 (12.34)	20 (12.99)	46 (29.87)	63 (40.91)
Scalability (suitable for large meetings)	3.94	8 (5.19)	17 (11.04)	22 (14.29)	37 (24.03)	70 (45.45)
Information Security	3.92	5 (3.25)	18 (11.69)	26 (16.88)	40 (25.97)	65 (42.21)
Integration with other tools: the ability to integrate with other necessary tools, such as content management systems, video conferencing systems, online registration systems, etc.	3.88	8 (5.19)	19 (12.34)	21 (13.64)	41 (26.62)	65 (42.21)
Technical Support	3.91	8 (5.19)	16 (10.39)	21 (13.64)	46 (29.87)	63 (40.91)

**Table 4: The characteristics of the WebEx program for online classes**

Criteria	Average rate	1 n (%)	2 n (%)	3 n (%)	4 n (%)	5 n (%)
Reliability	4.11	5 (3.25)	13 (8.44)	24 (15.58)	30 (19.47)	82 (53.25)
Quality of Video and Audio	4.12	2 (1.30)	17 (11.04)	22 (14.29)	32 (20.78)	81 (52.60)
Ease of Use	4.15	2 (1.30)	15 (9.74)	24 (15.58)	30 (19.47)	83 (53.90)
Interactive Features	4.10	3 (1.95)	16 (10.39)	19 (12.34)	41 (26.62)	75 (48.70)
Scalability (suitable for large meetings)	4.13	1 (0.65)	18 (11.69)	21 (13.64)	34 (22.08)	80 (51.95)
Information Security	4.10	2 (1.30)	15 (9.74)	24 (15.58)	34 (22.08)	75 (48.70)
Integration with other tools: the ability to integrate with other necessary tools, such as content management systems, video conferencing systems, online registration systems, etc.	4.14	2 (1.30)	17 (11.04)	17 (11.04)	40 (25.97)	78 (50.65)
Technical Support	4.05	5 (3.25)	14 (9.09)	22 (14.29)	41 (26.62)	72 (46.75)

Security,” with 48.70% giving it 5 points. The lowest-rated criterion was “Technical Support,” with 46.75% giving it 5 points, possibly due to difficulties in connecting to meetings, specifically the need to download the program onto the device. Users of the WebEx platform prefer criteria such as “Reliability,” “Quality of Video and Audio,” and “Ease of Use.”

## Discussion

The survey revealed that students and teachers actively use educational platforms and programs to conduct classes. The main platforms used by students are Moodle and Google Classroom. The majority of students, 74.70%, prefer the Moodle platform, while Google Classroom is chosen by 22.70% of respondents.

The evaluation criteria for the Moodle platform showed that it generally meets the requirements of functionality, convenience of the knowledge assessment system, and ease of use. However, students expressed dissatisfaction with the criteria of stability, accessibility, and adaptability of the platform. These results agree with the findings of Chamane *et al.* (2022) and de Melo *et al.* (2022), who reported that students had problems with the network and ease of use from a computer rather than from a phone; otherwise, the experience was positive.<sup>[9,10]</sup>

A comparative analysis of the Google Classroom platform showed that the average ratings for all criteria were lower than those of the Moodle platform. Google Classroom users gave relatively low scores for functionality, usability, and accessibility. However, assessments based on the stability criterion showed better results. This result agrees with the findings of Chin *et al.* (2021),<sup>[19]</sup> who noted the main disadvantage of the educational platform is the complex interface and the need to find the most effective way of teaching students. However, this contrasts with the findings of Balakrishnan *et al.* (2020),<sup>[12]</sup> who noted that their respondents indicated a positive experience of using Google classroom. Respondents had access to interesting, challenging, and unique breast pathology cases from multiple institutions across the world. This discrepancy might be due to the fact that the impression of these platforms is highly dependent on the teacher who decides what material to present to students. Thus, the same group of students can evaluate work with the same platform differently but under the guidance of different teachers.

The Zoom program was rated lower on the criteria of “Ease of Use” and “Interactive Features” compared to the WebEx program. This may be attributed to insufficient training and a lack of digital skills. Despite this, Zoom received high scores in the criteria of “Reliability,” “Video and Audio Quality,” and “Scalability (suitable for large meetings),” indicating that the program meets users’ expectations in these aspects. Contrary to this, Nowell *et al.*’s (2022) findings present a different perspective, with students

exclusively highlighting positive outcomes from using the Zoom program, including increased confidence and comfort in creating a conducive learning environment. This difference might be due to Nowell *et al.* (2022) analyzing general feedback on the applicability of online platforms in education without focusing on specific criteria.<sup>[13]</sup>

The WebEx program received high ratings across all criteria, including “Reliability,” “Video and Audio Quality,” “Ease of Use,” “Scalability (suitable for large meetings),” and “Integration with other tools.” This indicates that users prefer using WebEx in these aspects. However, the criterion of “Technical Support” received a slightly lower score, possibly due to difficulties in connecting to meetings. Chin *et al.* (2021) confirmed that a major advantage of WebEx is the opportunity to teach remotely and record conferences for permanent information storage. However, they also noted that the quality of video conferences depends on internet speed, and some students had difficulties accessing the conference. Also, Chin *et al.* (2021)<sup>[15]</sup> noted a lack of interaction.

So, the choice between Zoom and WebEx depends on the specific needs and preferences of the user. The experience and evaluations may vary depending on the level of digital skills and program requirements. Ultimately, for optimal results, it is recommended to conduct your own research and evaluate the programs personally.

One limitation of studying educational platforms in nursing education could be a potential bias in participant feedback. Students who actively engage with and benefit from the platform may be more inclined to provide feedback, leading to a skewed representation of user satisfaction. Additionally, the study might not capture the diverse needs and preferences of all nursing students, as certain demographics or academic levels might be underrepresented in the sample. Moreover, the rapidly evolving nature of technology may render the study’s findings time-sensitive, as new features or updates to educational platforms could impact user experiences after the study concludes.

The results obtained from this study do not provide in-depth data on the experiences of nursing students using online technologies in their education. Therefore, in the future, a more thorough study of students’ experiences in online learning through qualitative research is needed.

## Conclusion

In conclusion, the study of educational platforms and online programs among second-year academic bachelor students has allowed us to identify their preferences and evaluate various criteria in alignment with the learning process. This research also underscores the role of the instructor in creating and attaching content to platforms, which is crucial for meeting the students’ needs. Criteria such as functionality, ease of the grading system, and user-friendliness proved to be the most significant for

students, while stability, accessibility, and platform adaptability raised some dissatisfaction. These findings can serve as a foundation for the further development of educational platforms and enhancing the quality of education.

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### Conflicts of interest

Nothing to declare.

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