Effectiveness of Virtual Learning Approaches in Nursing Education

Daisy A. Dulay

College of Nursing (CON), Philippines

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ABSTRACT

Evaluation of the efficacy of the virtual learning approaches is essential to improving the teaching-learning process conducted at LORMA Colleges, College of Nursing. This study aimed to investigate the effectiveness of virtual learning approaches in nursing education in terms of academic achievement, learning satisfaction, and academic self-confidence. The study aimed to investigate the significant differences between virtual and face-to-face classes in terms of academic achievement, learning satisfaction, and academic self-confidence, as well as the relationships between these variables. This study employed a quasi-experimental one-group posttest-only and correlational design, and total enumeration was used to determine the participants. Based on the findings, the following conclusions have been drawn: the digital platform education conducted by LORMA Colleges is a conducive learning modality that has proven effective in terms of student academic achievement, learning satisfaction, and academic self-confidence. Academic achievement stems from the student's drive to study, determination to adapt to new learning modalities, and motivation to succeed. The students' confidence did not significantly affect their academic achievement, but it may be due to the amount of time they spent studying. It is imperative to develop frameworks for continuous innovation, assessment, and training to help deliver the quality of education students deserve.

Keywords: virtual learning approaches, academic achievement, learning satisfaction, academic self-confidence

The Problem

Background of The Study

With the rapid advancement of technology, society has experienced tremendous improvement in productivity and efficiency. People can undertake tasks they often put off; communication lines have improved, more work is completed quickly, and many other benefits follow. In today's world, there is a need to explore further how technology can impact teaching and learning. What will happen if the educational system adopts technology to deliver education?

The current technology has enabled the nursing educational system to continue operating despite the worldwide lockdown brought on by the COVID-19 pandemic. The nursing educational system continued in the virtual learning environment after the suspension of all face-to-face instruction, face-to-face clinical skills laboratories, and student clinical internships. A virtual learning environment is a platform where teachers and students transmit and absorb knowledge at a distance (Bernasconi, 2023). It is an online platform that offers a variety of digital technologies to enhance traditional instruction or assist students in learning more effectively.

In the United States, over 2,600 colleges and universities offer nursing degree programs for those who continue learning virtually (Nursing School, 2024). Nursing educators and institutions were able to quickly adapt to the pandemic's challenges and maintain progress toward learning goals, thanks to a robust technology platform and available resources. There was not a significant negative impact on the educational system as it navigated the pandemic.

In Uganda, 86 schools of nursing have been closed, according to the Uganda Nurses and Midwives Council. They have implemented e-learning, known as Open, Distance, and E-Learning (ODeL), to ensure the

continuity of nursing education. Olum et al. (2020) found that about 50% of participants perceived that e-learning diminishes knowledge quality and is inefficient. It was also found that 77% of the participants had negative perceptions of e-learning. Uganda is a developing country where the use of technology in the education industry could be improved. The status of this technology in the country brought negative results and experiences, and the country was unwilling to continue on this platform.

In Iran, 43 government schools of nursing and 63 University schools of nursing either closed or shifted the learning paradigm to virtual. Mousavizadeh's (2021) study suggests that a change in approach to the teaching-learning paradigm could have been more comfortable, resulting in greater uncertainty and increased security. One of the most critical problems in virtual learning is network issues due to limited bandwidth and poor internet speed, frequent disconnections, microphone or camera failures, and the time-consuming process of uploading information.

In China, all nursing schools have initiated comprehensive online education to address students' learning needs. Liu et al. (2021) found that anxiety is one of the barriers that contributes to the efficacy of virtual learning. It was suggested that to improve online education outcomes, medical schools should promote facilitating factors and address barriers by providing support for students and teaching faculty. Moreover, it was also revealed that students needed to improve their faculty's technological skills.

In Singapore, six schools of nursing have adopted home-based learning to ensure continuity of learning (Goh, 2023). Home-based learning incorporates information and computer technologies (ICT) into the learning process, enabling learning to continue despite physical separation between the learner and the teacher. Home-based learning utilizes both synchronous technologies, such as real-time videoconferencing, and asynchronous technology, including emails and pre-recorded lectures.

In the Philippines, a total of 426 schools of nursing were shut down (ADPCN, 2023) and shifted to virtual classes. Lessons were delivered online, skills were developed through creative instrumentation, and internships were delivered through modules. Through this virtual teaching-learning platform, students developed various learning strategies to help themselves succeed despite the absence of their instructors' physical presence. In La Union, two Nursing Schools, including LORMA Colleges, have been utilizing virtual classes. Despite the initial challenges that virtual classes posed, they have proven effective in delivering lessons. The Commission had thus approved them on Higher Education of the Philippines for continued implementation. In the history of LORMA Colleges, it can also be observed that the increased number of enrollees may be attributed to the accessibility of education brought about by the offering of virtual classes.

Virtual education is also known as online or digital education. Car et al. (2019) define virtual education as the teaching and learning process facilitated by digital technologies. It encompasses a range of teaching methods, including offline learning, online learning, serious games, mobile learning, and virtual reality (Kononnicz et al., 2019). Students can participate in classes and engage with peers from anywhere, as it is a remote learning environment. With the use of technology such as podcasting, chat, video conferencing, audio/video streaming, the Internet, and simulations, online learning can occur both within and outside the classroom. Virtual education is a mode of instruction where students engage with classmates and instructors remotely or non-remotely over the Internet.

An effective teaching methodology brings learning to life, enabling students to actively engage with the subject and enhance their knowledge and skills, whether online or face-to-face. It impacts students' behavioral, intellectual, physical, and socio-emotional development. According to Baldwin (2021), effective teaching is a process that utilizes instructional strategies most appropriate for the student's content and is applied proficiently, allowing for authentic learning. Some of the virtual learning approaches that have been utilized in academia are video conferencing, video recordings, self-paced learning, massive open online courses, Interactive Online Learning Simulations, Computer-Managed Learning, Webinars, Cohort-based online courses, and many more. (Escuadro, 2022).

Regardless of the learning approaches used virtually, evaluation should be conducted to improve continually. Evaluation helps identify strengths and areas for improvement while providing feedback to enhance teaching

skills and student outcomes (Machac, 2023). The evaluation will enable teachers to become even more effective in their roles, and students can achieve even greater success in their studies. Several evaluation frameworks exist that employ various methods to gather data, target different participants, and serve diverse functions. Different perspectives regarding the nature of knowledge, the degree of teacher and student involvement, the standards for judging student accomplishment, and the impact of various assessment frameworks on classroom instruction may also be included in each assessment.

Teachers can institutionalize excellent teaching practices while revising ineffective ones in their pedagogy. Academic achievement or examination results measure the quality of teaching students receive and directly reflect the students' knowledge. Examination is a part of learning and lets students "show what they know" and what they can do. It will also show students' weaknesses (Columbia Virtual Academy, 2023). Higher academic achievement scores will indicate that learners have a higher level of knowledge retention and are thus able to apply what they learned during the lecture. A high academic achievement score gives a sense of success, which can increase drive and self-confidence.

Students' satisfaction is a good measure of the quality and effectiveness of learning approaches. Student satisfaction can be interpreted as a feeling of pleasure, satisfaction, and relief for students regarding the physical and non-physical services provided during lectures (Harmen et al., 2019). A high level of learning satisfaction indicates that the lesson was relevant, engaging, and valuable to attaining the curriculum objective. Some studies indicate that online learning is less satisfying than face-to-face learning and that online learners exhibit poorer engagement with online learning (Pickering & Swinnerton, 2019). Poor pedagogy and course design in online learning can lead to decreased satisfaction and lower student engagement.

Academic self-confidence is defined as the extent to which students differ in their strong belief, firm trust, or sure expectation in their ability to respond to the demands of their study. Studies have shown that higher-confidence learners are more willing to learn, challenge themselves, and exhibit better resilience during difficult transitions, such as changing schools (Gill, 2023). Indeed, self-confidence has been identified as the most significant predictor of academic achievement. Increasing self-confidence enables learners to believe they can succeed and reduces their fear of failure. It will also encourage students to attend classes regularly, pay attention in class, and finish assignments and tests to the best of their abilities.

Teaching is one of the most essential branches of the communication arts. It involves two people, teachers and students, exchanging ideas, building knowledge, and influencing attitudes. Connecting with and responding to students is critical for good teaching and learning. As part of the process, learners should actively create their knowledge by drawing connections between new information and their existing knowledge, experiences, and ideas. As the assessment of virtual learning approaches will mainly focus on the students, it will provide a way to value and build upon students' prior experiences and learning outside their physical or virtual learning environments.

According to Irfan and Iman (2020), virtual education is ineffective and inappropriate during the pandemic. They illustrate this by citing a few issues, including inadequate internet facilities, teachers' inability to implement online learning, and the lack of cooperation from parents. The results are consistent with a study by Muhammad and Kainat (2020), which found that issues with internet connectivity, inadequate student-teacher engagement, and limited technological resources hinder the effectiveness of virtual education. In "The No Significant Differences Phenomenon," Thomas Russell discusses a thought-provoking pattern of research findings regarding the integration of educational technology into classroom instruction that began in 1928. The findings revealed that while technological integration into the core curriculum may not provide immediate educational advantages, it does not damage students' learning experiences. Hafeez et al. (2022) also found that there is no significant difference in the academic achievements of postgraduate students who learn by face-to-face and online modes.

In contrast, Kim et al. (2021) found that the virtual learning effect showed a statistically significant increase in the knowledge score. Their study results show that learning flow can also be achieved through virtual learning, even without the presence of educators or supervisors. Participants in the study who utilized the virtual learning method also reported high satisfaction levels. This finding is consistent with the study by Oducado et

al. (2023), which demonstrates a significant and fair academic performance in virtual education. A meta-analysis by the US Department of Education finds that students who took all or part of their courses online performed better, on average, than those taking the same course through traditional face-to-face instruction (Chisadza, 2021).

With rapid technological advancements, the nursing educational system must adapt. From the literature, little is known about the effectiveness of virtual learning approaches in nursing education on students' achievement, learning satisfaction, and self-confidence. The results of this study will contribute to the existing data on the effectiveness of learning approaches in nursing education. The results will inform the development of an evidence-based nursing curriculum that aims to provide high-quality virtual nursing education. The study results serve as the basis for up-to-date knowledge, rather than relying on traditional methods, advice from colleagues, or personal beliefs. Through its findings, this research will also expand educators' knowledge of virtual learning approaches in nursing education. The results may indicate a need to change the standard delivery of nursing education policy. The research findings will support a significant percentage of the effectiveness of virtual learning approaches in nursing education. They can be a stand-alone venue for further studies to increase the evidence. This study aims to establish an understanding of the effectiveness of virtual learning approaches in nursing education, specifically in terms of students' achievement, learning satisfaction, and self-confidence, among selected nursing students at LORMA Colleges. With the data gathered, the study aims to build comprehensive interventions that will enhance or strengthen virtual nursing education. The data and proposed interventions will be compiled into a booklet, which will be disseminated to the respondents, clinical instructors, administrative personnel, and other relevant stakeholders. Furthermore, the study could be of importance to the following:

Nursing Students. The results presented in the study will enable them to act accordingly when conducting their virtual classes. They will be aware of the efficacy of virtual learning approaches in nursing education, which will help eradicate nuances and negative perceptions towards virtual learning approaches in nursing education. It will also help to emphasize the importance of evaluation in learning approaches.

Clinical Instructor. The study's outcome will facilitate the formulation of efficient strategies and practical approaches to enhance learning comprehensively and make it more effective. Additionally, the results may indicate that they recognize their crucial role in preparing students to become confident, assertive, and well-prepared for their chosen endeavors as future nurses. This will also underscore the importance of gathering feedback from students to help develop more effective learning approaches in the future.

Nursing School. The situation portrayed in this study will assist academic administrators, college curriculum developers, and nursing program developers in assessing and evaluating the status of LORMA Colleges regarding the performance of nursing students in their virtual classes. In this manner, they can make meaningful reviews of the current nursing curriculum. They can make revisions or amendments to the current curriculum, including instructional strategies and activities, to improve and enhance the academic achievement, learning satisfaction, and self-confidence of nursing students. The data collected from the research will lead to an inquiry into new information that will serve as a guide for improving virtual learning approaches.

Future Researchers. The study's results can serve as a reference for conducting new research or evaluating the validity of related findings. The results will also broaden and enrich the existing knowledge and insights about the research topic. The study will also serve as a course reference for them. It will provide them with a background or overview of the effectiveness of virtual learning approaches in nursing education, specifically in terms of academic achievement, learning satisfaction, and self-confidence, at LORMA Colleges.

Additionally, it is recommended that future research examine the long-term impacts of virtual learning on clinical skill acquisition in nursing education. The study will help support the education system in revolutionizing the cost of sending students to a college or university in the future.

Statement of the Problem

This research study aimed to determine the effectiveness of virtual learning approaches in nursing education.

Specifically, it sought to answer the following questions:

1. What is the level of effectiveness of virtual learning approaches in nursing education based on the students' academic achievement?
2. What is the level of learning satisfaction of the students in virtual learning approaches in nursing education?
3. What is the level of academic self-confidence of the students in virtual learning approaches in nursing education?
4. Is there a significant difference between the results of the online class versus the face-to-face class in terms of:
    a. student's academic achievement
    b. level of learning satisfaction
    c. level of academic self-confidence
1. Is there a significant relationship between the students' academic achievement and level of learning satisfaction in the virtual learning approaches in nursing education?
2. Is there a significant relationship between the students' academic achievement and the level of academic self-confidence in the virtual learning approaches in nursing education?
3. What intervention can be proposed to enhance the virtual learning approaches in nursing education?

Hypothesis

1. There is no significant relationship between the students' academic achievement and the level of learning satisfaction of the students in the virtual learning approaches in nursing education.
2. There is no significant relationship between the students' academic achievement and the level of academic self-confidence in the virtual learning approaches in nursing education.

METHODS

This chapter presents the research design, population, and locale of the study, as well as the data gathering tools and procedures, treatment data, and ethical considerations.

Research Design

A quasi-experimental, one-group posttest-only correlational design was employed to determine the effectiveness of virtual learning approaches in nursing education in terms of academic achievement, learning satisfaction, and academic self-confidence. The design aims to establish a cause-and-effect relationship between the independent and dependent variables; the respondents were assigned based on non-random criteria (Thomas, 2024). The correlational method was used to examine the relationships between and among variables in a single group, which can occur at several levels (Devi, 2023).

Population and Locale of the Study

The respondents are the 44 Level 1 student nurses of Lorma Colleges in Carlatan, City of San Fernando, La Union. The convenience sampling method was used to determine the population, and the sample size was determined through total enumeration. The respondents were chosen based on the accessibility of the students and the availability of the assigned Clinical Instructor. Students enrolled in the Health Assessment NCM101 subject for the 2023-2024 academic year, who belong to the chosen class section, have met the inclusion criteria. Exclusion criteria include those students who are second coursers and are repeaters for the subject.

Data Gathering Tools

The study employed a posttest to assess academic achievement. The post-test consisted of 20 multiple-choice questions. The posttest underwent validity and reliability examination by a review committee. A questionnaire was used to assess learning satisfaction and academic self-confidence. The validity and reliability examination was conducted through three critiques and a pilot study, and the Cronbach's alpha score is 0.93, which denotes high reliability.

The questionnaire used for evaluating learning satisfaction was adapted from the National Centre for Vocational Education Research (NCVER) Students' Outcome Survey. Necessary adjustments had been made to extract the salient data from the respondents. The questionnaire asked the respondents to rate their satisfaction with different aspects of their unit discussion, grouped under three indicators: teaching, assessment, and learning efficacy. The questionnaire for academic self-confidence was also adopted from Jones, Holly Kristine's Academic Self-Confidence Scale and General Self-Efficacy Scale. Essential modifications were made to gather the appropriate data from the respondents. The questionnaire asks respondents to evaluate their academic self-confidence in various aspects, including grade, studying, verbalizing, attendance, understanding, requesting, and social interactions.

Data Gathering Procedures

Data gathering started by obtaining permission and authorization from the school to conduct the research through the Dean of the College of Nursing. Upon approval, a request letter was forwarded to the research technical panel and ethics committee. Once approved, the respondents were determined through convenience sampling. Consent forms were distributed to the respondents to discuss the information on the permission form. A thorough orientation was done before the start of the study to establish rapport and gather the accuracy and veracity of the responses. The respondents were encouraged to ask questions. The researcher honestly addressed their concerns and reassured them that the data they collect will only be used for research purposes. The researcher reiterated that data privacy will be strictly observed. Any concerns the respondents raised about the study's results were clarified. The respondents were informed of their right to withdraw from the study at any time. The respondents were notified that photo documentation would be done throughout the research. Each respondent received equal respect and courtesy. The study was conducted for one online class and one face-to-face class. The two lessons were chosen to be of the same level of difficulty. The study started with a face-to-face class followed by an online class. The post-test for every class was administered according to the schedule. The questionnaires for learning satisfaction and academic self-confidence were administered alongside the post-test.

Treatment of Data

Averaging was used to get the average post-test scores for virtual and face-to-face classes. The level of learning satisfaction and academic self-confidence was determined using a five-point Likert scale, with the average weighted mean calculated for both classes.

The following data categorizations were used:

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Academic Achievement

Score	Interpretation
16 – 20	Very Effective
12 – 15.99	Effective
8 – 11.99	Moderately Effective
4 – 7.99	Slightly Effective
0 – 3.99	Not Effective

Learning Satisfaction

Score	Description	Mean range	Interpretation
5	Very Highly Satisfied	4.20- 5.00	Very High
4	Highly Satisfied	3.40 – 4.19	High
3	Moderately Satisfied	2.60 – 3.39	Moderate
2	Somewhat Satisfied	1.80 – 2.59	Low
1	Not Satisfied at all	1.0 – 1.79	Very Low

Academic Self-confidence

Score	Description	Mean range	Interpretation
5	Very Highly Confident	4.20- 5.00	Very High
4	Highly Confident	3.40 – 4.19	High
3	Moderately Confident	2.60 – 3.39	Moderate
2	Somewhat Confident	1.80 – 2.59	Low
1	Not Confident at all	1.0 – 1.79	Very Low

A T-test was employed to determine the significant difference in academic achievement, learning satisfaction, and academic self-confidence scores between online and face-to-face classes. Pearson's r correlation was employed to determine the significant relationship, and the Pearson's r coefficient was used to assess the degree of strength and direction of the linear relationship between students' academic achievement and their level of satisfaction and confidence in the virtual learning approaches.

Ethical Considerations

Ethical principles were applied to ensure the respondents' rights were protected. Their rights were maintained, and they were not harmed during the study. Necessary information was shared with the respondents to maintain dignity and integrity. The respondents' participation did not affect their academic relationship with the researcher. The researcher funded the study. The data was for academic purposes, and the study results were shared with the respondents.

Moreover, Full consent was obtained from the respondents before the study. The respondents signed the consent form, expressing their willingness to participate in the study without coercion. They were informed that they were not obliged to participate against their will and may withdraw their participation at any time without harming their future services or relationship with the researcher's body. The information shared by the

respondents was kept confidential. Only the researcher had access to the collected data, but the findings were presented.

Physical and psychological harm was not imposed during the research to protect the respondents' well-being. The respondents were asked for their permission to document the course of research. The respondents were also informed about any potential risks and the sensitive nature of the research. The researcher respected the cultural and religious backgrounds of the respondents. The researcher did not apply any disturbances that would disrespect the respondent's answers. Any use of discriminatory and offensive language was discouraged. Moreover, the respondents were free to decline to answer if they found it uncomfortable, and the researcher would accept their decision.

To ensure the confidentiality of the research, the information and test results of the respondents were only accessible to the researcher. The respondents' data was kept anonymous and confidential. The data were secured on a thumb drive, which the researcher had access to alone. The collected test results and responses were deleted, and the hard copies of the data were appropriately disposed of through shredding after the completion of the research.

RESULTS AND DISCUSSION

This chapter presents the results and discussion of the findings on the effectiveness of virtual learning approaches in nursing education.

Level of Effectiveness of Virtual Learning Approaches in Nursing

Education Based on Academic Achievement

Table 1 Level of Effectiveness of Virtual Learning Approaches in Nursing Education Based on Academic Achievement

Score Range	Descriptive equivalent	frequency	%	Total Score
16 -20	Very effective	8	18.18	137
12 – 15.99	Effective	24	54.55	309
8 – 11.99	Moderately effective	12	27.27	128
4 – 7.99	Slightly effective	0	0	0
0 – 3.99	Not effective	0	0	0
Total		**44**	**100.00**	**574**
General weighted mean	**Effective**			**13.05**

Academic achievement or examination results measure how well students comprehend, understand, and apply the subject matter covered in that specific test. They are a numerical depiction of the students' evaluations or performance.

Table 1 shows the frequency distribution of students' test scores. Most of the students attained scores in the range of 12–15.99, making up 54.55% of the population, which indicates a descriptive equivalent of being effective. Those who achieved a score of 8–11.99 had a frequency of 12, accounting for 27.27 percent of the total population. Lastly, 18.18 percent of the total population scored in the range of 16–20, corresponding to a descriptive equivalence of very effective. The table implies that the students understood their lesson in the virtual learning modality. A high academic score indicates that the students possess strong academic skills. The

test scores reflect how effectively the learning approaches support students in their learning process and retention. However, high exam results do not always indicate student comprehension (Tunnell, 2022). According to past studies, up to 80% of test score gains might have little to do with long-term learning improvements.

Table 1 also shows the respondents' mean score of 13.05, which is a descriptive equivalent of 'effective'. The above result implies that the teaching modalities used during the virtual class were effective. An effective instructor knows how to utilize learning modalities that suit every student's needs and positively influences students to apply their knowledge and enhance their learning. The learning approaches used during the class have substantially improved the students' retention and analytical thinking. According to Kirabo (2024), though student tests are often the best available measure of a student's academic standing, they capture only a fraction of the overall effect of the learning modalities. Various external and internal factors can influence a test score. Test scores can indicate what students can accomplish on a paper-and-pencil exam. However, they need to measure other vital types of student learning, such as writing and problem-solving abilities. It was supported by Bardack and Klasen (2020), who stated that scores have negative associations with learning approaches, specifically teacher effectiveness. Moreover, statisticians, psychometricians, and economists generally recognize that student test scores alone are not sufficiently reliable and valid indicators of effectiveness in learning modalities, particularly in terms of teacher effectiveness.

However, numerous studies have demonstrated that students who have teachers who employ high-quality teaching methods experience significant and lasting academic gains. In a study conducted by Hafeez et al. (2022), the researchers found that students performed well using virtual learning modalities in an online class. This means that even though the environment was virtual, it did not affect how the teachers conducted their lessons, which in turn impacted the students' test scores. The learners may have channeled their effort into studying rather than preparing to go to school and traveling to campus. On the contrary, Camp (2023) found that students enrolled in full-time online learning experienced a reduced pass rate of 8–13 percentage points.

In contrast, Housaini & Shokur (2023) found that low entry grades, family support, accommodation, student gender, previous assessment grade, student internal assessment grade, GPA, and students' e-learning activity are the most significant factors influencing students' academic performance, instead of the efficacy of learning approaches. Subsequently, Shajahan et al. (2021) also found that poor academic performance was significantly correlated with irregular class attendance, a father’s low educational level, partial family cooperation, social media use, and excessive time spent gossiping. It was suggested that an appropriate counseling strategy be implemented to follow up on the academic performance of students who are underperforming academically.

Level of Learning Satisfaction in Virtual Learning Approaches in Nursing Education

Table 2 Level of Learning Satisfaction in Virtual Learning Approaches in Nursing Education

Indicators	WM	DE
1. My instructors had a thorough knowledge of the subject content.	4.59	Very highly satisfied
2. My instructors provided opportunities to ask questions.	4.57	Very highly satisfied
3. My instructors treated me with respect.	4.66	Very highly satisfied
4. My instructors understood my learning needs.	4.39	Very highly satisfied
5. My instructors communicated the subject content effectively.	4.48	Very highly satisfied
6. My instructors made the subject as interesting as possible.	4.59	Very highly satisfied
7. I knew how I was going to be assessed.	4.34	Very highly satisfied

8. I was assessed fairly to test my skills.	4.45	Very highly satisfied
9. I was assessed at appropriate intervals.	4.41	Very highly satisfied
10. I received useful feedback on my assessment.	4.32	Very highly satisfied
11. I agree that the assessment used was a good test of what I was taught.	4.64	Very highly satisfied
12. My learning experience developed my problem-solving skills.	4.41	Very highly satisfied
13. My learning experience improved my skills in written communication.	4.36	Very highly satisfied
14. My learning experience has made me feel more confident about tackling unfamiliar problems.	4.39	Very highly satisfied
15. My learning experience has made me more confident about my ability to learn.	4.36	Very highly satisfied
GWM	**4.46**	Very highly satisfied

Student satisfaction refers to the feeling of pleasure, satisfaction, and relief that students experience from the physical and non-physical services provided during lectures (Harmen et al., 2019).

Table 2 presents the level of learning satisfaction in virtual learning approaches, with a general weighted mean of 4.46, corresponding to a descriptive equivalent of 'very highly satisfied'. The score indicates that students are explicitly satisfied with teaching, assessment, and learning efficacy. This implies that the virtual learning approaches used in the teaching modality are highly effective. The indicator, teaching modality, garnered the highest GWM. This means that the pedagogical skills of their instructor were very high, enabling them to enhance the process of effective teaching and learning. Effective teachers positively influence their students and apply their knowledge to boost learning. With practical teaching, proper evaluation of the students' requirements, and determination of which classroom teaching strategies or techniques would be beneficial. The findings align fully with Asad et al.'s (2020) finding that teachers' pedagogical skills are equally crucial for enhancing students' participation and motivation in classroom activities, as well as their satisfaction with the applied teaching methods.

According to Gopal et al. (2021), if the teacher can deliver the course content correctly, it affects the student's satisfaction and performance. The teachers' perspective is critical because their enthusiasm contributes to a more effective online learning process. Furthermore, it can be concluded from the result that, despite the lack of physical meetings and contact, students are delighted. This means that most students have secured an excellent internet provider, making interactions within the virtual platform as easy as possible.

The indicator with the lowest GWM among the three is self-efficacy. This means that their virtual learning experience has equipped them to achieve a high level of efficacy, which results in their confidence in their capabilities to perform significant tasks and learn, equipping them for future endeavors. It guides the students to persevere and overcome obstacles to effectively complete an assignment when they have confidence in their ability. According to Kendra (2023), people with a strong sense of self-efficacy tend to develop a strong sense of commitment to the activities they participate in. Additionally, they recover quickly from setbacks and disappointments and view challenging problems as tasks to be mastered. According to Zamri (2021), learners who are more satisfied with the quality of teaching materials, assessment strategies, and workload tend to be more satisfied with the overall learning experience. Barber (2020) found that satisfied learners proactively engaged with online learning activities and felt comfortable with the online learning environment.

Level of Academic Self-Confidence in Virtual Learning Approaches in Nursing Education

Table 3 Level of Academic Self-Confidence in Virtual Learning Approaches in Nursing Education

Indicators	GWM	DE
1. How confident are you that you will be able to get high scores before taking the test?	4.02	Highly confident
2. How confident are you that you will be able to get a high score after taking the test?	3.98	Highly confident
3. How confident are you that you will have a high grade at the end of the semester?	3.80	Highly confident
4. How confident are you that you can learn all the material presented during the discussion?	4.07	Highly confident
5. How confident are you that you can do the most challenging work that is assigned?	3.91	Highly confident
6. How confident are you in answering the questions during the discussion?	3.89	Highly confident
7. How confident are you to raise questions during discussion?	3.66	Highly confident
8. How confident are you that you can complete all the work that is assigned on time?	4.09	Highly confident
9. How confident are you that you can understand complicated ideas when presented during discussion?	3.89	Highly confident
10. How confident are you that you will remember what you learned in the current lesson next year?	3.59	Highly confident
11. How confident are you that you will be able to attain your goal academically?	4.07	Highly confident
12. How confident are you in approaching your instructor if you disagree with the grade received?	3.77	Highly confident
13. How confident are you in leading academic group activities?	3.95	Highly confident
14. How confident are you that you will be able to take extra school activities?	3.82	Highly confident
15. How confident are you that it will not affect you if you answer wrongly during the discussion?	3.75	Highly confident
GWM	3.88	Highly confident

Academic self-confidence is defined as the extent to which students differ in their strong belief, firm trust, or sure expectation in their ability to respond to the demands of their study. Studies have shown that learners with higher confidence are more willing to learn, challenge themselves, and exhibit better resilience during difficult transitions, such as changing schools (Gill, 2023).

Table 3 shows the level of academic self-confidence in virtual learning approaches, with a general weighted mean of 3.88 corresponding to a descriptive equivalent of "Highly confident." This indicates that students have a strong belief in their grades, effective study methods, expressing their concerns, attending classes, understanding lessons, seeking help from their instructor, and leading their social circles. The highest indicator is confidence in studying, with a GWM of 3.99, suggesting that students are very confident they will achieve their desired passing scores by the end of the semester. They are convinced that their hard work and dedication to studying will result in substantial grades. Prior achievements and a consistently positive attitude may have contributed to their confidence. According to Ballane (2019), students' performance on an exam led to an increase or decrease in self-confidence.

The understanding indicator has the lowest GWM of 3.74, with a descriptive equivalent of 'highly confident'. This indicator particularly examines their confidence in comprehending the simple to the most complex lessons presented and remembering them in the distant future. This means their judgment about their ability to remember and use their lessons in their future endeavors is high. Students also have high confidence in obtaining a significant score before and after the examination. This implies that they know their studying skills are sufficient to obtain a passing score. They also have high confidence in their abilities to perform academic tasks, such as quizzes, seatwork, and individual or group assignments. These students have substantial confidence in applying their lessons to the desired activities that follow them.

Subsequently, students also have high confidence in participating in class discussions and in whether their answers are correct. They are also highly confident in taking up different extracurricular activities and leading their social circle. According to Buckley & Lee (2020), extracurricular activities support the acquisition and development of so-called 'soft' skills such as interpersonal skills, project and time management, and motivation management skills. Students are also highly confident in approaching their instructor to make a few requests. This indicates that the instructor has an excellent interpersonal relationship, which helps students communicate their needs effectively. According to Sword (2020), teachers equipped with good communication skills have been proven to have an immeasurable impact on students' improvement, especially in their academic achievement and the teacher's career success.

Academic self-confidence may be related to intrinsic factors, but cultivating self-confidence within the classroom helps it flourish. Having good self-confidence is essential for someone to develop and nurture their potential. On the contrary, according to Abdullah (2019), students with low self-confidence tend to withdraw, become easily frustrated when faced with difficulties, appear awkward when interacting with others, and struggle to accept reality. According to Saidah (2024), students with low academic self-confidence tend to exhibit behaviors such as shutting down, withdrawing from the environment, avoiding communication, engaging little in group activities, and being aggressive towards others. Together with the findings of Nguyen et al. (2019), students' low self-esteem was caused by high academic stress and physical and emotional abuse by parents or other adults in the home.

The instructors are viewed as the students' second parents and are responsible for molding their students' confidence. According to Orkulas (2024), educators must be involved in nurturing this invaluable trait in students. Promoting a healthy sense of self-confidence can be achieved through setting achievable goals, celebrating small wins, encouraging self-expression, promoting resilience, and providing constructive feedback; this enables us to empower our students to succeed academically and confidently navigate life's broader challenges. It implies that it is invaluable to continue fostering students' academic self-confidence within the classroom.

An American Psychological Association (2023) study revealed that self-confidence can improve students' memory and information retention. Students who are confident in their learning abilities are likely to engage in effective study strategies and retain what they have learned. Having high self-confidence in students can help them achieve good learning outcomes. That way, there will be a change process in students, not only in learning achievement but also in their behavior and attitudes, namely their courage, activity, and self-actualization during the teaching and learning process. Cadiz-Gabejan (2021) also suggested that giving more speaking opportunities in the classroom led to learners feeling more confident.

Significant Difference Between the Virtual Class and the Face-to-Face Class in Terms of Academic Achievement, Learning Satisfaction, Academic Self-confidence

Table 4 Significant Difference Between the Virtual Class and the Face-to-Face Class in Terms of Academic Achievement, Learning Satisfaction, Academic Self-Confidence

Indicator	Virtual GWM	Face-to-Face GWM	T-stat	2-tailed	Significance
Academic Achievement	13.05	12.76	-0.88	2.02	Not significant
Learning Satisfaction	4.46	4.77	-16.31	2.144	**Significant**
Academic Self-confidence	3.88	3.72	3.07	2.144	**Significant**

Online classes are a learning mode where students learn entirely in a virtual environment, using the Internet for support. In contrast, face-to-face classes are traditional classroom settings where students and instructors interact physically. Variables that include the learning modalities are being compared to identify significant findings. Table 4 shows a notable difference between virtual and face-to-face classes in terms of academic achievement, learning satisfaction, and academic self-confidence. The GWM score of the virtual class is slightly higher than that of the face-to-face class. The Geng & McGinley (2021) study suggests that online education, although currently less favored by students, is equally or more effective in achieving learning outcomes than face-to-face education.

On the contrary, many researchers have found that students are performing better in face-to-face classes than in virtual classes. Firstly, Maas (2022) found that students who attended face-to-face classes performed significantly better on tests than those who were taught online, according to a study conducted in 12 US states. Additionally, Foo (2021) and Beebe (2024) found that the performance of students using online learning was lower than that of students participating in the conventional face-to-face approach.

There is no significant difference in academic achievement between virtual and face-to-face classes, with a two-tailed p-value of 2.02. The result aligns with Geng & McGinley (2021) and Paul & Jefferson (2019), who found no statistically significant difference in students' scores between the two delivery methods. This finding is consistent with Thomas Russell's, which states that there is no significant difference in final course grades between traditional and technology-aided instruction. The above results suggest that the online learning environment has little impact on students' academic performance compared to face-to-face classes. According to Abeysekera (2024), the environment in which a student learns influences their learning. The learning environment encompasses the psychological, social, cultural, and physical settings where learning occurs and where experiences and expectations are co-created among participants (Rusticus et al., 2020).

Additionally, Rusticus et al. 2023 highlighted the importance of engagement and motivation as key factors in creating a positive learning environment. Engagement, when fostered in the learning setting—whether virtual or face-to-face—helps promote a practical learning experience. According to Dexway (2024), online learning has significantly impacted students' academic success due to the flexibility it offers. Students can schedule their studies around their existing responsibilities and commitments, interacting with multimedia content and learning materials at times that are most convenient for them. Even better, they do not need to travel to attend classes and can log into the virtual classroom from the comfort of their own home.

Learning satisfaction in virtual classes has been slightly lower than in face-to-face classes, with a statistically significant difference. It was found that students who participated in face-to-face classes rated their instructor higher than those who participated in online classes. This result aligns with Wright et al. (2023), who found that students in face-to-face classes rated their academic satisfaction higher than those in virtual classes. Additionally, Lin (2022) indicated that students' overall satisfaction with the course and instructor was greater in face-to-face settings than in virtual ones. The significant difference is likely due to increased interaction in face-to-face environments, which enhances students' perceptions of teaching quality and their sense of connection to the instructor.

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Sun (2023) argues that face-to-face instruction enables students to interact more physically with their classmates and teachers, making them more willing to participate in classroom dialogue and to ask and answer questions. This increased interaction motivates students to learn more, resulting in improved learning outcomes. The notable difference is due to the heightened interaction in a face-to-face setting, which enhances students' perception of teaching quality and fosters a stronger sense of connection. Additionally, Sun (2023) states that face-to-face instruction allows students to connect more physically with their peers and teachers, increasing their likelihood of asking and answering questions in class. The greater interaction encourages more learning, resulting in improved outcomes.

The level of satisfaction with the assessment method is more favorable than that of the face-to-face class. This result can be attributed to the exam environment. Virtual exams offer students greater flexibility in managing their workload, such as attending the online class from any location and watching recordings as needed, which they might prefer over face-to-face classes. This contrasts with Sun (2023), who states that students feel more comfortable with online exams because they can stay in familiar environments, such as their homes or libraries, rather than the classroom. The available online materials provide students with more opportunities to plan their assessments, allowing for a deeper consideration of how to improve their academic performance without needing to ask instructors.

According to the self-efficacy indicator, the score favors face-to-face classes. This is likely due to increased interaction between instructors and students. While face-to-face classes promote greater engagement, they also help students become more comfortable and confident, enabling them to tackle more complex problems. According to Pajares (2019), peers are the second most influential factor on self-efficacy beliefs. Conversely, the measure of academic self-confidence reveals a significant difference between the two classes, with a two-tailed p-value of 2.144. Academic self-confidence, as measured by GWM, is slightly higher in the virtual class compared to the face-to-face class. Nine indicators—such as grades, verbalization, attendance, understanding requests, and social engagement—show higher GWM scores in the virtual class.

The results can be linked to the technological skills of these generations. Students from this generation are very familiar with the development of technology-based education, which has boosted their academic self-confidence. They felt more confident about achieving higher scores due to the freedom and flexibility of the learning hours they could use asynchronously. Students are also more confident in participating in their virtual classes, probably because of the comfort their homes provide. The comfort of their homes creates a supportive learning environment free from physical intimidation and emotional frustration. This is also supported by Trifocus (2024), who found that academic self-confidence offers learners freedom of interaction, safety, and respect when learning new skills.

Additionally, students feel more confident participating in certain school activities without compromising their academic performance, as virtual classes offer flexible scheduling. They are also more confident in understanding complex lessons during their virtual classes. Over time, students developed more crucial self-directed learning skills, and with virtual classes, they could also seek help from any online source. Since learning happened within themselves, lessons became more deeply ingrained, making recall easier in the future. Students also feel more comfortable approaching their clinical instructors about their grades. This may be due to the improved communication system enabled by internet-based platforms; students can reach out to their teachers anytime, from anywhere. It is also noted that students are more confident leading group activities in their virtual classes, probably because the learning materials are easily accessible online. Conversely, in the indicator study, face-to-face interactions were slightly higher. This difference might be linked to better peer relationships developed through face-to-face classes. Self-efficacy can be strengthened when you see in face-to-face settings that you are not alone in tackling complex tasks and that everyone is thriving.

Significant Relationship Between Academic Achievement and Level of Learning Satisfaction in Virtual Learning Approaches In Nursing Education

Table 5 Significant Relationship Between Academic Achievement and Level of Learning Satisfaction in Virtual Learning Approaches in Nursing Education

	r value	Interpretation	Test of significance (p<.05)	Significance
Learning Satisfaction	-0.0227	Weak negative linear correlation	0.4419	Not significant

Academic achievement or test results are a numerical reflection of students' performance or evaluations, while learning satisfaction measures a student's perception of the quality of instruction they receive. The relationship between these two variables is being examined to establish a cause-and-effect link. Table 5 shows a weak negative linear correlation of -0.0227, indicating that as academic achievement increases, learning satisfaction decreases. It also shows no significant relationship between the variables, with a p-value of 0.4419.

The results show that students' test scores do not influence their level of satisfaction with their learning experience. Test scores are directly linked to intrinsic factors such as IQ, motivation to study, and drive to succeed. This finding supports Zamri et al. (2021), who found that student satisfaction does not affect academic achievement, but perceived performance does. Similarly, Chinomona and Macongue (2021) discovered that the connection between students' satisfaction and academic success is weak; instead, there is a strong relationship between students' motivation and their performance. These results also align with those of Gopal et al. (2021) and Wei (2020), who found no significant link between student satisfaction and academic performance.

In contrast, several studies have shown that academic achievement is connected to learning satisfaction—the higher the learning satisfaction, the more motivated students are to succeed academically. This is supported by studies from Gopal et al. (2021) and Wei (2020), which demonstrate that students' satisfaction with their learning directly impacts their course grades, particularly regarding course design, online discussions, and content.

Significant Relationship Between Academic Achievement and Academic Self-Confidence in Virtual Learning Approaches in Nursing Education

Table 6 Significant Relationship Between Academic Achievement and Academic Self-Confidence in Virtual Learning Approaches in Nursing Education

	r value	Interpretation	Test of significance (p<.05)	Significance
Academic Self-confidence	-0.1389	Weak negative linear correlation	0.1842	Not Significant

Academic achievement is the numerical measure of students' evaluations of their retained learning. In contrast, academic self-confidence is defined as the extent to which students strongly believe, trust, or confidently expect they can meet the demands of their studies. The relationship between these two variables is being examined. Table 6 shows a weak negative correlation with an r value of -0.1389, which is neither very strong nor consistent, indicating that as one variable increases, the other tends to decrease. It can be interpreted that as academic achievement rises, academic self-confidence tends to decrease. Additionally, the table indicates that there is no significant relationship between these two variables, with a p-value of 0.1842.

The results suggest that a student's self-belief does not directly relate to their academic performance. A student's academic performance does not necessarily improve their level of academic self-confidence. The study suggests that a student's academic self-confidence can be influenced by factors other than their actual

academic results. For example, a student might perform fairly well academically but still have high academic self-confidence due to a supportive environment created by the classroom and teachers. A highly competent teacher who motivates students can significantly contribute to the development of their academic self-confidence. Additionally, a student's clear academic goals can also impact their self-confidence; for some students, the goal may not be to achieve the highest grades possible but to do so fairly.

On the contrary, numerous studies have shown that students with high levels of self-confidence also tend to perform better academically. Their ability to learn and overcome various academic tasks likely leads to improved academic outcomes. Confidence has been cited as the most important indicator of academic success, according to Gill (2024). This aligns with Driver's (2023) claim that students who are more confident in themselves are likely to perform better academically because they believe they possess or can acquire the necessary skills to reach their goals and because they are aware of their abilities and know how to use them most effectively. Research by Tabe (2019) and Yu et al. (2022) also demonstrated a significant positive relationship between a student's academic achievement and self-confidence.

Proposed Intervention to Enhance the Virtual Learning Approaches in Nursing Education.

Based on the study's findings, the effectiveness of virtual nursing approaches in terms of academic achievement was adequate, as evidenced by the high level of satisfaction. In terms of academic self-confidence, the students were highly confident, as evaluated by the BSN I students. According to the criterion set, key areas are identified to maximize the level of effectiveness of virtual nursing education; the following are proposed:

Seminar-Workshop on Teaching-Learning Approaches and Assessment Methods of Virtual Learning

Rationale

A seminar-workshop is proposed for instructors to improve students' academic achievement. The seminar-workshop will also be designed to train, motivate, and empower instructors for professional development and progress. Seminar workshops are particularly valuable to instructors, as they enable them to evaluate, stay current on current events, build relationships with one another, and understand the principles of virtual teaching and the empirical value of evaluation methods. During the sessions, instructors will broaden their skills by attending exciting talks, demonstrations, and role-playing on pertinent subject matter. Instructors will learn from each other through practical activities on virtual teaching strategies that are typically included in the training.

Key Result Area: Academic Achievement – Seminar-Workshop on Teaching-LearningApproaches and Assessment Methods of Virtual Learning

Situational Analysis

To increase students' academic achievement, one key area being addressed is providing a variety of test designs. Several factors can lead to students' poor academic performance, including birth order, mental ability, personality, and study habits. Test and evaluation provide feedback about the student's learning. Exams are a crucial part of the learning process, providing opportunities for students to demonstrate their understanding and assess their progress. A good test can be created to enhance a student's learning outcomes. According to Murphy et al. (2023), different test design approaches can impact students' ability to improve their learning. Using an instrument of learning is not just a means of assessment, but it can also benefit long-term learning.

Furthermore, test results can be helpful in pinpointing areas that require development and directing students toward more productive study techniques. Creating a well-designed exam is crucial for both the maker and the taker. It is a difficult task that requires time, effort, and creativity. The test aims to get a valid interpretation of its result. The test should be prepared in a manner that yields the desired outcomes. Instructors should strive to provide the most effective techniques to enhance students' learning, particularly in terms of long-term retention

and transfer. Specifically, it can be agreed that tests as a mechanism for assessment are one of the most powerful tools for learning.

Rationale

The primary goal of seminars and workshops is to bring together instructors who share similar interests, thereby enhancing their understanding, exchanging ideas, opinions, and views, and showcasing their areas of expertise. With the foregoing seminar-workshop, skill transfer can commence among participants, thus linking everyone to a common goal: improving the students' academic achievement.

Long Term Goal

To promote a high level of effectiveness of virtual learning approaches in nursing education through improved teaching-learning approaches and assessment methods of virtual learning.

CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the study's overall findings, conclusions, and recommendations based on the results produced from the previous chapter.

Findings

The following are the salient findings of the study.

1. The general average of the effectiveness of the virtual learning approaches in nursing education based on academic achievement is 13.05, with a descriptive equivalent of effective.
2. The level of learning satisfaction of the students in virtual learning approaches in nursing education has a general weighted mean of 4.46 with a descriptive equivalent of very high.
3. The students' academic self-confidence level in virtual learning approaches in nursing education has a general weighted mean of 3.8 with a descriptive equivalent of high.
4. There is no significant difference between the virtual class and the face-to-face class in terms of academic achievement, with a 2-tail score of 2.02; there is a significant difference in terms of level of learning satisfaction, with a 2-tail score of 2.144; and there is a significant difference in terms of level of academic self-confidence, with a 2-tail score of 2.144.
5. There is no significant relationship between academic achievement and the level of learning satisfaction of the students in the virtual learning approaches in nursing education, with a p-score of -0.02.
6. There is no significant relationship between academic achievement and the level of academic self-confidence of the students in the virtual learning approaches in nursing education, with a p-score of -0.14.
7. A seminar-workshop is being proposed to address the key areas that have been identified to enhance the effectiveness of virtual learning approaches in nursing education.

Conclusions

1. Digital platforms successfully bridge the gap between theoretical knowledge and practical application, preparing student nurses for complex and ever-evolving healthcare. Virtual learning in nursing education empowers future nurses with the knowledge, skills, and confidence necessary to navigate the dynamic healthcare landscape.
2. The learning modality is positive and conducive to engagement, motivation, and a sense of fulfillment, and the educational program effectively meets the needs and expectations of the student nurses.
3. High academic self-confidence in student nurses is a positive sign indicating a strong belief in their abilities to succeed, which can lead to greater motivation, engagement, and success in their studies and future careers.

4. The virtual platform education that LORMA Colleges had been offering had bridged the gap between the ideological norm of a traditional educational setup and a new perspective. Due to the high technological literacy of the students, learning and skill transfer were made possible in a virtual classroom. Although the students had highly favored the traditional physical classroom setup, it did not impact their academic performance.
5. In a new light, students' academic achievement is not the result of normative extrinsic factors such as the environment of the learning modalities. Academic achievement is a result of students' drive to study, their persistence in overcoming new learning modalities, and their motivation to succeed, as well as their innate intelligence.
6. The students' academic self-confidence did not affect their academic status, but it may be due to how much time they spent studying. The belief in one's ability did not necessarily equate to quantifiable factors, such as the time spent studying.
7. Quality teaching modalities are essential, regardless of the platform we are using. Continuous innovation, assessments, and training are essential for providing students with the education they deserve.

RECOMMENDATIONS

1. Varied test designs should be encouraged during student evaluation quizzes. This will help increase students' study hours and study habits.
2. A safe and encouraging learning environment with open and interactive communication should be cultivated as a norm of the learning ground for virtual classes.
3. Continuous evaluation of the learning paradigm regarding academic achievement, learning satisfaction, and self-confidence should be implemented.
4. A scheduled comprehensive set of training competencies is highly encouraged to develop the instructors' personalities and to improve professionally.
5. Utilization of the proposed intervention is encouraged. The suggested intervention encompasses a range of targeted strategies that can be applied to support instructors at all academic attainment levels. These strategies can assist students in overcoming obstacles to learning, acquiring new skills, and enhancing their overall academic achievement.
6. Future studies are suggested to obtain more samples representative of the population to gain more accuracy. A large sample size will raise the study's statistical power, improving estimation precision and lowering error margins. Future studies are also recommended to test different sets of variables to evaluate the effectiveness of virtual learning approaches and investigate the significance of relationships among the variables.

INSTRUMENTS

Post-Test Questionnaire

Face-to-face Class

HEALTH ASSESSMENT QUIZ GCS/BMI

Name: _____ Score: _____

Direction: Encircle the right answer.

1. GCS was proposed by neurosurgeons from the University of Glasgow way back in 1975. Who developed the Glasgow Coma Scale?

a) Dr. James Glasgow b) Dr. William Coma

c) Dr. Graham Teasdale and Dr. Bryan Jennett d) Dr. Alexander Scale

2. A post-operative patient is assessed using the Glasgow Coma Scale, and their score is

14. What interpretation can be made based on this score?

a) The patient is in a coma b) The patient is fully conscious

c) The patient has moderate impairment d) The patient has severe impairment

3. A trauma patient is brought to the emergency room with a GCS score of 9. What is the appropriate action based on this score?

a) Immediate discharge b) Close observation and further assessment

c) Transfer to a psychiatric facility d) Initiation of palliative care

4. Martin is a new nurse in the Intensive Care Unit (ICU). A patient is unconscious, unresponsive, and can be aroused by pain and verbal stimuli. What is the purpose of Nurse Martin in conducting the Glasgow Coma Scale (GCS) to the patient?

a) Assessing heart rate b) Assessing level of consciousness

c) Measuring blood pressure d) Assessing respiratory rate

5. A patient is brought into the emergency room with suspected drug overdose. Which assessment tool would be most appropriate for evaluating their neurological status?

a) Glasgow Coma Scale b) Pittsburgh Sleep Quality Index

c) Modified Rankin Scale d) Barthel Index d) Modified Rankin Scale d) Barthel Index

6. During the Glasgow Coma Scale (GCS) assessment, the nurse applies a central painful stimulus to test the best motor response. Which of the following is not this type of stimulus?

a) Trapezius squeeze b) Fingernail bed pressure

c) Supraorbital pressure d) Palpation of the peri-orbital area

7. A patient with a traumatic brain injury has sustained multiple fractures to the face and eyes. When testing the best motor response, the nurse notes the patient is unable to perform a motor command based on a verbal stimulus. The nurse attempts to use a pressure stimulus to test the motor response. What type of pressure or painful stimuli should the nurse avoid in this patient?

a) Fingernail bed pressure b) Trapezius squeeze

c) Supraorbital pressure d) Toenail bed pressure

8. The Glasgow Coma Scale (GCS) assesses what areas of response to stimuli? Select all that apply:

a) Auditory response b) Verbal response c) Tactile response

d) Eye-opening response e) Motor response

9. A patient is admitted to the ICU after a stroke. The GCS score on admission is 6. What does this score suggest?

a) Mild impairment b) Moderate impairment

10. A patient is unresponsive to any form of stimulation. They do not open their eyes, utter sounds, or display purposeful movements. What is the appropriate term for this level of consciousness?

a) Coma b) Obtundation c) Stupor d) Somnolence

11. A patient is responsive, alert, and oriented to person, place, and time. Which level of consciousness does this patient exhibit?

a) Confusion b) Somnolence c) Obtundation d) Alert and oriented

12. You're assessing a patient's Glasgow Coma Scale at the bedside. What is the patient's score based on these findings: when you arrive at the patient's bedside, the patient is looking around, the patient tells you they are at a concert hall in 1960 (it is 2022), but they state their correct name, and they can open their mouth and stick out their tongue.

a) GCS 14 (E4 V4 M6) b) GCS 11 (E3 V3 M5) c) GCS 15 (E4 V5 M6) d) GCS 13 (E4 V3 M6)

13. A trauma patient arrives at the emergency department with a head injury. Which of the following is the primary indication for using the Glasgow Coma Scale?

a) Assessing blood pressure b) Evaluating respiratory rate

c) Determining level of consciousness d) Measuring body temperature

14. A patient presents to the emergency department following a head injury. The GCS assessment reveals a score of 7. What does this score indicate?

a) Mild impairment b) Moderate impairment

15. An elderly patient with a history of dementia presents to the clinic after a fall. Their GCS score is 15. What does this score indicate?

a) The patient is in a coma b) The patient is fully conscious

c) The patient has moderate impairment d) The patient has severe impairment

16. What best describes Body Mass Index (BMI)?

a) A measure of body weight alone b) A measure of body weight relative to height

c) A measure of body fat percentage d) A measure of muscle mass

17. A patient's BMI is calculated to be 28.7. What category does this BMI fall into?

a) Underweight b) Normal weight c) Overweight d) Obese

18. A patient is confused, disoriented, and exhibits inappropriate behaviors. They have difficulty following commands and may have impaired memory. Which term describes this level of consciousness?

a) Obtundation b) Delirium c) Lethargy d) Somnolence

19. A person has a BMI of 17.5. What does this BMI suggest?

a) Underweight b) Normal weight c) Overweight d) Obese

20. A nutritionist is designing a weight loss plan for a client. Which assessment tool would be most helpful in monitoring the effectiveness of the plan over time?

a) BMI calculation b) Waist circumference measurement

c) Body composition analysis d) Skinfold thickness measurement

INSTRUMENTS

Post-Test Questionnaire

Virtual Class

Mental Status Examination (MSE)

Directions:

- Choose or type in the best answer. For fill-in-the-blanks or Identification, write your answer in small letters.
- If you find the word "SATA" it means Select All that Apply.

During the examination, the students should do the following:

1. never screenshot the exam and forward it to anybody
2. no opening of other applications/links during the exam.
3. if done, submit, log out, and turn in.

1. Which term describes the ability of a person to understand and interact appropriately with their environment during a mental status examination?

a. Insight b. Judgment c. Orientation d. Perception

2. Student nurse Fifi is observing the patient who is just recently arrived at the Emergency Room with his posture, body movements, dress, grooming, and hygiene. All of the following are included in which part of the MSE?

a. cognition b. appearance c. thought process d. behavior

3. When asked about their current mood, the patient expresses feeling intense fear, apprehension, and worry about various aspects of their life. Which of the following best describes the patient's mood?

a. Euphoric b. Depressed c. Anxious d. Angry

4. A patient presents with rapid and disjointed speech, switching topics frequently without a clear connection. This observation is indicative

a. Flight of ideas b. Poverty of speech c. Clang associations d. Echolalia

5. Patient arrived at Lorma Medical Center ER unit via wheelchair accompanied by significant others. When assessing older adults, the nurse knows that one of the first things that should be assessed before drawing conclusions about their mental status is

a. the presence of irrational thinking patterns. b. their general intelligence.

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c. their sensory-perceptive abilities. d. the presence of phobias.

6. Thought content, perceptions, anxiety disorders, depression, suicidal thoughts are essential parts of MSE under the component of

a. appearance b. cognition c. behavior d. thought process

7. Nurse Kimkim is doing her MSE to her patient. Which of the following questions would nurse Kimkim best assess a person's judgement?

a. What does the saying 'People in glass houses shouldn't throw stones' mean to you?

b. What would you do if you found a stamped, addressed envelope on the sidewalk?

c. Tell me about what you plan to do once you are discharged from the hospital.

d. Do you feel that you are being watched, followed, or controlled?

8. During the examination, the patient displays excessive and unwarranted suspicion toward others, believing that they are being persecuted or conspired against. This symptom is indicative o

a. Paranoid ideation b. Delusions of reference

c. Grandiose delusions d. Somatic delusions

9. Athena is looking after her boyfriend who has been in the Intensive Care Unit (ICU) for 12 days due to vehicular accident. He has just been moved to the Surgical Ward and the admitting nurse is planning to perform a mental status examination (MSE). During the cognitive function evaluation, the nurse would expect that he

a. might state, " I am so relieved to be out of intensive care."

b. might show evidence of some clouding of consciousness.

c. might display some disruption in thought content.

d. might be oriented to place and person but not to be certain of the date.

10. "I can a hear a voice, telling I will stab you to death " the patient uttered during the MSE, this is what manifestation?

a. Tactile Hallucination b. Gustatory Hallucination

c. Visual Hallucination d. Auditory Hallucination

11. Observing patient orientation, attention span, recent and remote memory are included in which essential component of the MSE?

a. behavior b. appearance c. thought process d. Cognition

12. The patient demonstrates difficulty in recalling past events and frequently repeats the same questions during the examination. This symptom is indicative of:

a. Retrograde amnesia b. Anterograde amnesia

c. Confabulation d. Executive dysfunction

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13. During a mental status examination, a clinician observes that the patient is fidgety, constantly moving their legs, and tapping their fingers. Which of the following best describes the patient's psychomotor activity?

a. Hypoactive b. Hyperactive c. Normal d. Sluggish

14. The Patient said, " Run for your life, here are the pirates again, they will kill me". This is ?

a. Delusion of Persecution b. Delusion of grandeur

c. Delusion of action d. Delusionary tactic

15. A person is seeing an object differently," That is not an electric fan, that is a Boeing 747 plane."

a. Delusion b. neologism c. Illusion d. Hallucination

16. Which component of a mental status examination evaluates a person's ability to make sound decisions and choices?

a. Insight b. Judgment c. Orientation d. Perception

17. The clinical instructor checked the documentation made by student nurse prior to place in the patient individual chart. The student nurse states a description of physical impression, client's posture, poise, clothing, grooming, and signs of patient anxiety are under the component of

a. motor activity b. affect c. mood d. appearance

18. Student Nurse Zanjo was assigned at ICU for his Related Learning Experience (RLE). His clinical instructor ask him to perform a mental status examination to a patient who is newly admitted. To assess affect, the student nurse should ask the patient,

a. Have these medications had effect on your pain?

b. Would you please repeat the following words?

c. How do you feel today?

d. Has this pain affected your ability to dress yourself?

19. During a mental status examination, a clinician asks a patient about their current mood. The patient responds by stating that they feel extremely sad and hopeless, have lost interest in activities they used to enjoy, and have trouble sleeping and concentrating. Which of the following best describes the patient's mood and affect?

a. Euphoric and elated b. Depressed and dysphoric

c. Anxious and agitated d. Irritable and angry

20. During the examination, the patient describes experiencing hallucinations, reporting hearing voices that others do not hear. Which sensory modality is affected in this scenario?

a. Visual b. Auditory c. Tactile d. Olfactory

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INSTRUMENTS

Questionnaire

Learning Satisfaction

Direction: Please rate your learning satisfaction you experienced after the unit course. Refer your scoring on the scale given below:

5 Very highly satisfied **4 Highly satisfied** **3 Moderately satisfied**

2 Somewhat satisfied **1 Not satisfied at all**

Indicators	**Very highly satisfied**	**Highly satisfied**	**Moderately satisfied**	**Somewhat satisfied**	**Not satisfied at all**
	5	4	3	2	1
1. My instructors had a thorough knowledge of the subject content.					
2. My instructors provided opportunities to ask questions.					
3. My instructors treated me with respect.					
4. My instructors understood my learning needs.					
5. My instructors communicated the subject content effectively.					
6. My instructors made the subject as interesting as possible.					
7. I knew how I was going to be assessed.					
8. I was assessed fairly to test my skills.					
9. I was assessed at appropriate intervals.					
10. I received useful feedback on my assessment.					
11. I agree that the assessment used was a good test of what I was taught.					
12. My learning experience developed my problem-solving skills					
13. My learning experience improved my skills in written communication					
14. My learning experience has made me feel more confident about tackling unfamiliar problems					
15. My learning experience has made me more confident about my ability to learn					
TOTAL					

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INSTRUMENTS

Questionnaire

Academic Self-Confidence

Direction: Please rate the academic self-confidence you experienced after the unit course. Refer your scoring on the scale given below:

5 Very highly confident **4 Highly confident** **3 Moderately confident**

2 Somewhat confident **1 Not confident at all**

Indicators	Very highly confident	Highly confident	Moderately confident	Somewhat confident	Not confident at
	5	4	3	2	1
1. How confident are you that you can complete all the work that is assigned on time?					
2. How confident are you that you can understand complicated ideas when presented during discussion?					
3. How confident are you that you can learn all the material presented during the discussion?					
4. How confident are you that you can do the hardest work that is assigned?					
5. How confident are you that you will remember what you learned in the current lesson, next year?					
6. How confident are you in answering the questions during discussion?					
7. How confident are you that you will be able to get high scores before taking the test?					
8. How confident are you that you will be able to get a high score after taking the test?					
9. How confident are you in leading academic group activity?					
10. How confident are you in approaching your instructor, if you don't agree with the grade received?					
11. How confident are you that you will have a high grade at the end of the semester?					
12. How confident are you that you will be able to take extra school activities?					
13. How confident are you that you will be able to attain your goal academically?					

14. How confident are you that it will not affect you if you answer wrongly during discussion?					
15. How confident are you to raise question during discussion?					
TOTAL					

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