

Assessing the Effect of PowerPoint Presentations on Students' Attitude towards Objective Structured Clinical Examination in Calabar, Nigeria

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Received March, 2025 Accepted April, 2025, Published June, 2025

Abstract

The unsatisfactory attitude of students towards the Objective Structured Clinical Examination (OSCE) in Nigeria has always been and continues to call for serious attention. Since OSCE is a vital tool for assessing clinical competence in nursing education, this study investigated the effectiveness of PowerPoint presentations on students' attitude towards objective structured clinical examination in Calabar, Nigeria. The study sought to find out how PowerPoint presentations affect students' attitude towards OSCE. The study adopted quasi-experimental design that involved pre-test, post-test and control groups. One research question guided the study while one hypothesis was formulated and tested. A sample of 93 year 2 nursing students was drawn from two Colleges of Nursing in the study area 2024/2025 session. One intact class was used for the experimental and control groups. The instrument for data collection was Students' Attitude Questionnaire (SAQ). The reliability of the instrument was established using Cronbach Alpha reliability method which gave a reliability index of 0.87. Consequently, the instrument was found to be adequately reliable for use in the study. Mean and Standard Deviation were used to answer the research question. Analysis of Covariance (ANCOVA) was used to analyze collected data to test hypothesis at 0.05 level of significance. The result revealed that PowerPoint presentations had a significant effect on students' attitude towards objective structured clinical examination. It was recommended among others that, Colleges of Nursing should adopt PowerPoint presentations as a core instructional tool in OSCE preparation, ensuring that key clinical concepts, procedures, and assessment criteria are clearly outlined and visually reinforced.

Keywords: PowerPoint Presentations, Students' Attitude, Objective Structured Clinical Examination, Digital tool

Introduction

The Objective Structured Clinical Examination (OSCE) has emerged as a pivotal tool in nursing education for the assessment and enhancement of clinical competence. Designed to evaluate students in a structured and standardized manner, OSCE offers a realistic simulation of clinical scenarios, enabling learners to demonstrate both theoretical knowledge and practical skills. Its incorporation into nursing curricula has shown significant potential in improving student performance, clinical judgment, and overall nursing practice. OSCE is structured to test a wide range of competencies including communication, patient assessment, decision-making, and procedural skills through a series of stations, each focused on specific tasks. According to Al-Ghareeb et al. (2020), the use of OSCE allows educators to assess students objectively using standardized patients and scenarios, which ensures fairness and consistency in clinical evaluations. This standardized approach not only highlights student strengths but also identifies areas for improvement, providing immediate feedback for better learning outcomes.

Recent empirical studies have demonstrated the efficacy of OSCE in enhancing nursing students' practical competencies. For instance, Alharbi et al. (2022) found that OSCE significantly improved the clinical performance of undergraduate nursing students in Saudi Arabia. Their study highlighted that students exposed to OSCE-based assessments showed better preparedness for real-life clinical settings, particularly in areas of patient safety and clinical reasoning.

Additionally, the OSCE method encourages self-reflection and confidence among learners. A study by Memon et al. (2021) emphasized that OSCE facilitated critical thinking and boosted students' confidence in handling complex clinical tasks. This is especially vital in nursing education, where students must transition from theoretical learning to practical application seamlessly. The OSCE also plays a significant role in enhancing communication skills, which are fundamental to effective nursing practice. As highlighted by Bani-Issa et al. (2023), OSCE-based training leads to improved nurse-patient communication, empathy, and professional behavior

among nursing students. Such interpersonal skills are essential in delivering holistic and patient-centered care.

Moreover, integrating OSCE in nursing education aligns well with modern competency-based educational frameworks. It ensures that students are not only assessed based on rote knowledge but are evaluated on the basis of their ability to apply knowledge in clinical settings. According to Ismail et al. (2021), OSCE supports competency-based education by providing a measurable, structured, and practical approach to learning evaluation. Thus, OSCE serves as an invaluable method in nursing education by enhancing students' clinical skills, promoting self-assessment, improving communication abilities, and aligning with modern educational standards. Its adoption in nursing programs has been associated with better preparedness for clinical practice, increased student confidence, and higher standards of patient care.

Students' attitude plays a critical role in enhancing their performance in OSCE, a high-stakes and performance-based assessment tool used extensively in medical and health-related education. Positive attitudes such as motivation, confidence, preparedness, and a willingness to learn have been identified as key factors influencing students' success in OSCE settings. Firstly, students who possess a positive learning attitude are more likely to engage actively in clinical skill training sessions, which directly enhance their proficiency and performance in OSCE stations. According to Gandomkar et al. (2023), students with a proactive approach to clinical learning reported better self-efficacy and performed more confidently in OSCEs. This correlation is attributed to the reduced anxiety and enhanced preparedness often associated with positive learning dispositions. Moreover, attitudinal readiness helps students perceive OSCEs not as intimidating evaluations but as opportunities for growth and skill demonstration.

Furthermore, attitudes toward feedback significantly influence OSCE outcomes. Students who welcome feedback with a growth mindset are more likely to identify and address their clinical skill gaps. As noted by Shirwaikar and Raheem (2023), students who actively sought and applied feedback during OSCE preparations demonstrated greater improvement in subsequent

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assessments compared to those with indifferent or negative attitudes. However, a negative attitude, characterized by fear of failure, lack of confidence, or aversion to clinical simulations, often hinders performance. Such attitudes may lead to avoidance behaviors, reduced practice, and heightened exam anxiety, all of which detract from optimal performance. This was observed in a Nigerian study by Okonkwo et al. (2022), where students with high exam anxiety and poor attitudes towards simulation-based learning consistently underperformed in OSCEs. Thus, the role of students' attitudes in enhancing OSCE performance is profound.

In Colleges of Nursing Sciences, students' attitude towards OSCE plays a crucial role in shaping their performance, learning outcomes, and overall perception of the nursing profession. Recent studies indicate that students' attitudes towards OSCEs can range from highly positive - seeing them as fair, practical, and realistic - to negative, due to anxiety, perceived subjectivity, and lack of preparation. A study by Ahmad et al. (2023) revealed that nursing students with positive attitudes towards OSCE performed better due to increased confidence and preparedness. The study highlighted that students who viewed the OSCE as a beneficial learning tool demonstrated improved clinical reasoning and communication skills compared to their counterparts who perceived the process as stressful and intimidating.

Another study conducted in Nigeria by Umeh and Eze (2022) found that students who had been adequately oriented and exposed to mock OSCEs developed a more positive outlook and displayed better performance. These students appreciated the hands-on experience and immediate feedback OSCEs provided, which were instrumental in reinforcing their practical knowledge and clinical judgment. Conversely, students with negative attitudes often cited lack of clarity in expectations, fear of being judged, and performance anxiety as major deterrents to success (Okoroafor et al., 2023). This underscores the importance of institutional support, student sensitization, and instructor encouragement in influencing students' attitudes. Effective briefing, debriefing, simulation practice, and positive reinforcement can mitigate apprehension and foster more constructive attitudes towards OSCEs. Thus, students' attitudes towards OSCEs

significantly affect their performance, learning engagement, and professional development. Colleges of Nursing Sciences must therefore prioritize positive attitude cultivation through strategic orientation, supportive faculty interaction, and consistent clinical exposure. A proactive approach in this regard will not only enhance assessment outcomes but also prepare students to meet real-world clinical challenges effectively. In the realm of nursing education, the integration of Information and Communication Technology (ICT) tools has become a central strategy in enhancing student learning outcomes, motivation, and attitudes. One of the most widely utilized ICT tools in this context is Microsoft PowerPoint.

PowerPoint presentations serve as a visually engaging and interactive method of delivering structured content, and their role in shaping positive attitudes towards Objective Structured Clinical Examinations (OSCEs) among nursing students has gained increasing scholarly attention. OSCEs are designed to assess the clinical competencies of nursing students in a standardized, objective, and structured format. However, due to the complexity and high-stakes nature of OSCEs, many students often approach them with anxiety and negative perceptions. The use of PowerPoint as a preparatory tool has been found to positively influence students' attitude by simplifying complex concepts, providing visual cues, and reinforcing procedural knowledge.

According to Adeyemo et al. (2022), nursing students who were taught using interactive PowerPoint presentations demonstrated more favorable attitudes towards OSCEs compared to those taught with traditional lecture methods. The visual and step-by-step presentation of OSCE stations through slides helped students better understand the expectations and requirements of each task, thereby reducing apprehension. The combination of text, images, diagrams, and embedded multimedia in PowerPoint presentations enhances comprehension and retention, which contributes to a greater sense of readiness and confidence. Similarly, a study by Musa and Ibrahim (2023) in northern Nigeria revealed that nursing students exposed to animated PowerPoint modules covering OSCE stations such as vital signs assessment, wound care, and communication skills showed improved engagement and positive attitudes towards clinical

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assessments. Students reported that the clarity and visual appeal of PowerPoint slides helped them visualize real-life clinical scenarios and understand the practical application of theoretical knowledge.

Moreover, PowerPoint presentations support collaborative and active learning environments, especially when used with interactive features such as quizzes, case studies, and discussion prompts. These elements foster critical thinking and peer learning, which are essential in preparing for OSCEs. In a quasi-experimental study, Okeke and Uche (2023) found that the inclusion of PowerPoint-driven peer presentations significantly enhanced nursing students' confidence and interest in clinical skills evaluation. The role of PowerPoint is further amplified when integrated into blended or hybrid learning models, which have become more prevalent in nursing education post-COVID-19. E-learning modules enriched with PowerPoint content provide flexibility and allow students to revisit key clinical procedures at their own pace, promoting mastery learning (Chukwuma & Eze, 2024). Thus, PowerPoint presentations play a pivotal role in enhancing nursing students' attitudes towards OSCEs by promoting engagement, simplifying complex procedures, and reducing assessment-related anxiety. As a versatile and accessible ICT tool, PowerPoint facilitates a learner-centered approach that aligns well with the dynamic demands of nursing education and assessment.

Previous researches have been carried out by different scholars in different dimensions, for instance Al-Zoubi and Abu-Shanab (2024) carried out a study on the impact of visual learning aids on student perceptions of clinical skills assessment in Jordanian medical education. The study investigated the impact of using PowerPoint presentations as a supplementary teaching tool on undergraduate healthcare students' attitudes towards Objective Structured Clinical Examinations (OSCEs). The study aimed to determine if the integration of visually enhanced information during the learning process could positively or negatively influence students' perceptions and confidence related to this high-stakes assessment method. The study employed a

quasi-experimental design, involving two groups of undergraduate healthcare students in a Jordanian university.

The experimental received instruction on specific clinical skills relevant to the OSCE, supplemented by well-designed PowerPoint presentations. These presentations incorporated key concepts, visual aids (diagrams, images, videos), and structured information related to the skills being taught. The control group received the same instruction on the same clinical skills but without the use of PowerPoint presentations. The teaching methods adopted for the control group relied on traditional lectures methods, demonstrations, and written materials. The outcome (attitude towards OSCEs) was assessed using a validated Likert-scale questionnaire administered to both groups after the instructional period but before the actual OSCE.

The questionnaire captured various dimensions of attitude, such as: perceived difficulty of the OSCE, level of anxiety associated with the OSCE, confidence in their ability to perform well in the OSCE, perceived fairness and relevance of the OSCE and overall perception of the OSCE as an assessment method. Quantitative data collected through the questionnaires was analyzed using independent samples t-tests to compare the mean attitude scores between the experimental and control groups. Additionally, descriptive statistics (means, standard deviations) was used to summarize the data for each group. The researchers also explored correlations between specific aspects of the PowerPoint presentations (e.g., clarity of visuals, organization of information) and student attitudes.

The findings revealed that students in the experimental group, who received instruction supplemented by PowerPoint presentations, have reported significantly more positive attitudes towards the OSCE compared to the control group. This manifested as: lower perceived difficulty of the OSCE, reduced levels of anxiety, higher confidence in their clinical skills and ability to succeed in the OSCE and A more favorable perception of the OSCE as a fair and relevant assessment method.

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The study concluded that the integration of well-designed PowerPoint presentations as a supplementary instructional tool can have a significant positive influence on undergraduate healthcare students' attitudes towards Objective Structured Clinical Examinations. The use of visual aids and structured information appears to enhance understanding, reduce anxiety, and boost confidence related to this important assessment method. These findings have implications for educators in healthcare disciplines, highlighting the potential benefits of incorporating technology-enhanced learning strategies to improve students' learning experiences and perceptions of clinical skills assessments.

Similarly, Balogun et al (2017) carried out a study on students' Attitude Towards Interactive Whiteboard, PowerPoint and Chalkboard for Learning Basic Technology in Abuja. The study examined the impact of different instructional media - specifically Interactive Whiteboards, PowerPoint presentations, and Chalkboards - on students' attitudes toward learning Basic Technology. The researchers employed an ex post facto research design, targeting 139 junior secondary school students from three purposively selected secondary schools in Abuja. Participants were stratified by gender and ability levels (high, medium, and low). Data collection involved the Basic Technology Attitude Questionnaire (BTAQ), a 20-item instrument using a four-point Likert scale. The BTAQ demonstrated high reliability, with a Cronbach's alpha coefficient of 0.88. Data analysis was conducted using one-way Analysis of Variance (ANOVA) to determine the influence of the instructional media on students' attitudes.

The study revealed that students exposed to Interactive Whiteboards, PowerPoint presentations, and Chalkboards all exhibited positive attitudes toward learning Basic Technology. Notably, exposure to PowerPoint presentations significantly enhanced students' interest and engagement in the subject matter. Furthermore, the study found that neither gender nor ability levels significantly influenced students' attitudes after exposure to Interactive Whiteboards and PowerPoint presentations. These findings suggest that the use of PowerPoint as an instructional

medium can positively affect student attitudes, potentially leading to improved learning outcomes.

Although the study focused on Basic Technology education, the positive impact of PowerPoint presentations on student attitudes may have implications for medical education, particularly in the context of OSCEs. Incorporating PowerPoint presentations into OSCE preparation and instruction could enhance student engagement, reduce anxiety, and improve overall attitudes toward these assessments. Given that OSCEs are structured evaluations requiring clear communication and understanding, the use of PowerPoint could facilitate better comprehension of clinical scenarios and assessment criteria.

Shen et al (2024) investigated the impact of situational simulation teaching on dental students' performance in Objective Structured Clinical Examinations (OSCEs) and their non-operational clinical competencies. While the study did not focus exclusively on PowerPoint presentations, it highlighted the role of structured teaching methods, which often incorporate tools like PowerPoint, in enhancing students' attitudes and performance in clinical assessments. The study employed a cross-sectional design involving 70 dental students who participated in a situational simulation course. Data were collected through questionnaires assessing students' attitudes across five dimensions: situational simulation planning, supervision and teaching, improvement of self-efficacy, interdisciplinary learning, and professionalism. Additionally, the study analyzed the relationship between participation in the simulation course and performance in OSCEs and clerkship evaluations.

The results indicated that students exhibited positive attitudes across all five dimensions, with high average scores in areas such as supervision and teaching (29.21 out of 30) and improvement of self-efficacy (19.47 out of 20). Notably, participation in the situational simulation course was significantly associated with better OSCE performance ($\beta = 0.356$, $P < 0.001$). The study concluded that structured teaching methods, which may include the use of PowerPoint

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presentations, effectively enhance students' clinical competencies and performance in objective assessments like OSCEs.

A quasi-experimental study among undergraduate nursing students in Egypt was conducted by Abd El-Raouf et al. (2022) to evaluate the impact of PowerPoint-based instructional methods on their attitudes toward OSCEs. The study found a statistically significant improvement in students' attitudes after exposure to PowerPoint-supported teaching. The mean attitude scores increased from pre-test to post-test, indicating a favorable perception of the OSCE process following the intervention ($p < 0.05$). The researchers concluded that the visual clarity and structured nature of PowerPoint helped demystify the OSCE format and boosted student confidence. Ogunyemi and Okeowo (2021) explored the effect of multimedia instructional approaches, including PowerPoint, on medical students' attitudes and preparedness for OSCEs in a Nigerian university. Their findings revealed a significant main effect of treatment on students' attitudes. Those exposed to PowerPoint-based tutorials showed higher levels of enthusiasm, confidence, and reduced anxiety about OSCEs compared to those who received traditional lecture formats ($F(1,198) = 7.56, p < 0.01$). The study emphasized the role of structured visual aids in enhancing cognitive readiness and affective orientation toward clinical assessments.

Sharma et al. (2023) investigated the impact of PowerPoint-based preparatory sessions on the attitudes of final-year MBBS students toward OSCEs in an Indian teaching hospital. The intervention group, which received systematic OSCE training through PowerPoint presentations and animations, demonstrated significantly more positive attitudes (Mean = 4.2, SD = 0.7) compared to the control group (Mean = 3.4, SD = 0.9), with $p < 0.05$. The study attributed the improvement to the interactive and organized delivery of content, which made the examination process more transparent and less intimidating. Nuhu et al. (2024) conducted a study at Ahmadu Bello University, Nigeria, to assess the influence of PowerPoint-enhanced clinical lectures on nursing students' perception of OSCEs. A pretest-posttest control group design revealed a significant main effect of the PowerPoint intervention on students' attitude scores. The

intervention group reported increased motivation and perceived fairness of the OSCE after receiving instruction through PowerPoint slides ($p = 0.003$).

The researchers have observed the lukewarm attitude of students towards objective structured clinical examination in Colleges of Nursing, Calabar, Cross River State and other Colleges of Nursing in the country at-large. This negative attitude towards objective structured clinical examination is not unconnected with the dwindling level of performance in the examination overtime. The researchers observed that a remarkable percentage of nursing students do not still measure up to the expected level of knowledge and pass in OSCE. Precisely, in the results of Class October, 2020 Set of 2nd November, 2022 revealed that only 44.55% of the second year nursing students scored between 50 to 100 (Passed) in GNS: 211: Foundation of Nursing III from the College of Nursing Sciences, Calabar, while the remaining 55.45% of students scored between 0 to 49 (Failed).

Also, the results of Class October, 2021 Set of 28th November, 2023 revealed that only 68.70% of the second year nursing students scored between 50 to 100 (Passed) in GNS: 211: Foundation of Nursing III from the College of Nursing Sciences, Calabar, while the remaining 31.30% of students scored between 0 to 49 (Failed). Even though nursing sciences is acknowledged as a profession that is playing a crucial part in Nigeria's healthcare business, this disheartening performance has left parents, students, and the general public wondering why there is such a discrepancy.

The researchers also observed that the poor attitude of students towards OSCE may be due to the lack of integration of technological tools such as PowerPoint presentations in the teaching and learning procedures that are captured in OSCE. This negative attitude often manifests through behaviors such as persistent absenteeism during clinical preparatory sessions, lack of enthusiasm during simulations, poor time management during stations, and reluctance to engage in peer assessments or feedback processes. Additionally, students may express anxiety, undervalue the relevance of OSCE to real-life clinical practice, or regard the process as overly mechanical and

punitive. As observed by the researcher, this poor attitude has significantly impacted students' overall performance in nursing sciences.

Many students display inadequate clinical reasoning, poor communication skills, and low confidence in patient care scenarios - skills that OSCE is designed to develop and assess. Consequently, their competence in practical examinations, clinical postings, and even real-world healthcare settings is compromised. This results in a performance gap between theoretical knowledge and clinical application, ultimately affecting the quality of patient care and the professional readiness of nursing graduates. Cross River State Government is said to have made tremendous efforts in improving infrastructures in the colleges of nursing to aid learning and improve students' academic performance in OSCE. Yet, there has been a decline in students' OSCE performance. This study aimed to address several gaps in the existing literature on the effectiveness of PowerPoint presentations on students' attitude towards objective structured clinical examination in Calabar, Nigeria.

Despite numerous scholarly works investigating the use of PowerPoint presentations in medical and clinical education, as well as the general attitude of students toward Objective Structured Clinical Examinations (OSCEs), several critical gaps remain in the existing body of literature. The current study on the effectiveness of PowerPoint presentations on students' attitude towards OSCE in Calabar, Nigeria, seeks to address the following gaps geographical relevance, powerpoint use and attitudinal measurement gap, technological pedagogy gap, demographic variability gap, curriculum-specific gap, among others.

Thus, the study makes several important contributions to medical education and instructional technology including bridging the gap between instructional strategy and assessment preparedness, evidence-based support for PowerPoint in clinical training, contribution to attitude theory in medical education, guidance for curriculum developers and medical educators, context-specific insight, among others. This study is a call to nursing instructors to help students to avail the opportunity of better learning of nursing through technological tools - PowerPoint

presentations. Based on this backdrop, the researchers deemed it fit to determine the effectiveness of PowerPoint presentations on students' attitude towards objective structured clinical examination in Calabar, Nigeria.

Purpose of the Study

The main purpose of this study is to assess the effectiveness of PowerPoint presentations on students' attitude towards objective structured clinical examination in Calabar, Nigeria

Research question

What will be the effects of PowerPoint presentations and the conventional strategy on students' attitude towards objective structured clinical examination?

Research Hypothesis

There is no significant difference in the mean scores of students' attitude towards objective structured clinical examination using PowerPoint presentations and those taught using conventional strategies.

Research design and method

The study adopted a quasi-experimental research design. The population of the study comprised of all the year 2 student nurses (Nursing department) for 2024/2025 in Colleges of Nursing Sciences in the study area. A sample of 93 year 2 nursing students was drawn from two Colleges of Nursing in the study area 2024/2025 session. The teaching covered six (6) weeks concurrently with the PowerPoint presentations on students' attitude towards objective structured clinical examination. One intact class was used for the experimental group (n = 44), while one intact class for the control group participated in a conventional method (n = 49). The instrument for data collection was Students' Attitude Questionnaire (SAQ) to measure students' attitude in OSCE. SAQ was designed to find out students' feelings, and values in OSCE.

It was constructed using a four-point Likert scale response options of Strongly Agree (SA), Agree (A), Disagree (D) Strongly Disagree (SD) coded 4, 3, 2, and 1. The scale had twenty (25) and was validated by experts by Language Education and Measurement and Evaluation experts

respectively. The reliability coefficient of SAQ yielded a high-reliability coefficient of 0.87 and it was obtained via Cronbach alpha reliability. Consequently, the instrument was found to be adequately reliable for use in the study. Mean and Standard Deviation were used to answer the research question. Analysis of Covariance (ANCOVA) was used to analyze collected data for the hypothesis at 0.05 level of significance.

Results

Research question

What will be the effects of PowerPoint presentations and the conventional strategy on students' attitude towards objective structured clinical examination? To answer this research question, descriptive statistics was employed, and the result presented in Table 1.

Table 1: Mean of pre-test and post-test scores of the use PowerPoint presentations in students' attitude towards Objective Structured Clinical Examination and those taught using conventional method

Treatment groups	N	Pre-test mean scores	Post- test mean scores	Mean gain scores
PowerPoint	44	36,3182	74.9091	38.5909
Conventional method	49	34.7959	51.4694	16.6735

The result presented on Table 1 revealed that the mean scores of students' attitude towards objective structured clinical examination using PowerPoint presentations 38.5909 is greater than the mean gain score of students' who are taught with conventional method 16.6735. This implies that students taught OSCE contents using PowerPoint presentations has greater positive attitude towards objective structured clinical examination than those taught with conventional method. This suggests that PowerPoint presentations may be a more effective instructional tool in shaping students' attitudes positively towards clinical evaluations like the OSCE, possibly due to better engagement, clarity of contents and visual appeal.

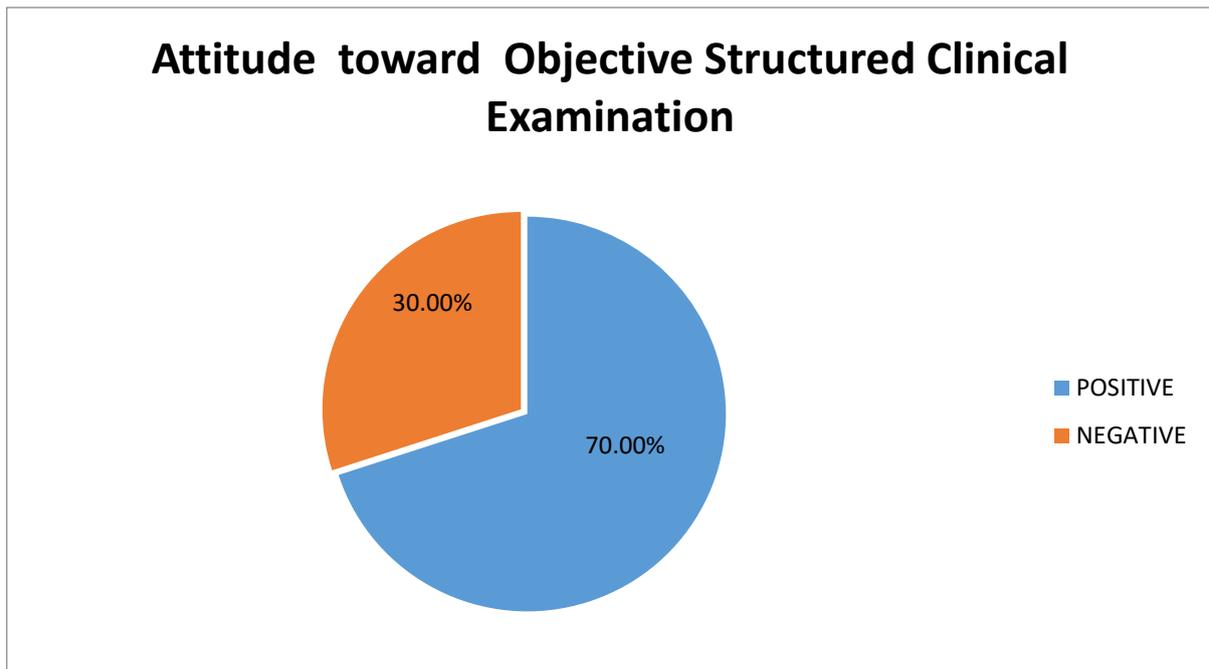


Figure 1: Pie chart showing level of students' attitude towards OSCE

Research hypothesis

There is no significant difference in the mean scores of students' attitude towards objective structured clinical examination using PowerPoint presentations and those taught using conventional strategies. To test this research hypothesis, Analysis of Covariance (ANCOVA) was used to analyze collected data for the hypothesis at 0.05 level of significance.

Table 2: One-way Analysis of Covariance (ANCOVA) on the effect of treatment on students' attitude towards objective structured clinical examination

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	14241.580 ^a	2	7120.790	220.129	.000	.830
Intercept	2299.681	1	2299.681	71.091	.000	.441
PRE	1504.495	1	1504.495	46.509	.000	.341
GROUP	11213.339	1	11213.339	346.644	.000	.794
Error	2911.345	90	32.348			
Total	381122.000	93				
Corrected Total	17152.925	92				

a. R Squared = .830 (Adjusted R Squared = .826)

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The results presented in Table 2 shows that there is a significant difference in the mean scores of students' attitude towards objective structured clinical examination using PowerPoint presentations and those taught using conventional strategies ($F=346.644$; $p=.000$). Therefore, the null hypothesis was rejected at .05 level of significance. The result also shows the partial Eta squared estimate which is a measure of effect size as .794. This implies that treatment accounted for 79.4 percent of variance observed in the post-test scores of PowerPoint presentations. Also the adjusted R squared value is .826. This suggests that about 82.6 percent of the variation in the independent variable (PowerPoint presentations) can be accounted for or by different treatment and pre-test.

Discussion of findings

The result revealed that there was a significant main effect of treatment – using PowerPoint presentations in students' attitude towards objective structured clinical examination. As shown on Table 2 the result indicates that there is a significant main effect of treatment. The possible reason for the improved attitudes among students towards objective structured clinical examination when taught using PowerPoint presentations could be attributed to the fact that PowerPoint presentations often incorporate visual aids such as diagrams, images, flowcharts, and videos. These elements can make complex OSCE procedures and scenarios easier to understand, especially for visual learners. This increased clarity and engagement likely improved students' attitudes towards the examination.

Another possible reason for the observed improvement when using PowerPoint presentations may be attributed to the fact that PowerPoint slides typically follow a logical sequence, which can help in organizing and simplifying OSCE components (e.g., patient interaction steps, clinical skills assessment criteria). This structure reduces cognitive overload and allows students to follow the information more easily, fostering a more positive attitude toward learning and assessment. Also, PowerPoint can highlight key learning objectives, checklists, and rubrics used in OSCEs. This transparency can help demystify the assessment process, reduce fear of the unknown, and foster a more positive and prepared mindset among students.

This finding supports the findings of Al-Zoubi and Abu-Shanab (2024) who found that students in the experimental group, who received instruction supplemented by PowerPoint presentations, have reported significantly more positive attitudes towards the OSCE compared to the control group. This manifested as: lower perceived difficulty of the OSCE, reduced levels of anxiety, higher confidence in their clinical skills and ability to succeed in the OSCE and a more favorable perception of the OSCE as a fair and relevant assessment method. The finding is in agreement with Balogun et al (2017) who found that students exposed to Interactive Whiteboards, PowerPoint presentations, and Chalkboards all exhibited positive attitudes toward learning Basic Technology. Notably, exposure to PowerPoint presentations significantly enhanced students' interest and engagement in the subject matter. The finding is also in consonance with Shen et al (2024) who found that students exhibited positive attitudes across all five dimensions, with high average scores in areas such as supervision and teaching (29.21 out of 30) and improvement of self-efficacy (19.47 out of 20). Notably, participation in the situational simulation course was significantly associated with better OSCE performance ($\beta = 0.356$, $P < 0.001$).

The finding supports Abd El-Raouf et al. (2022) who found a statistically significant improvement in students' attitudes after exposure to PowerPoint-supported teaching. The mean attitude scores increased from pre-test to post-test, indicating a favorable perception of the OSCE process following the intervention ($p < 0.05$). The study supports that of Ogunyemi and Okeowo (2021) who found a significant main effect of treatment on students' attitudes. Those exposed to PowerPoint-based tutorials showed higher levels of enthusiasm, confidence, and reduced anxiety about OSCEs compared to those who received traditional lecture formats ($F(1,198) = 7.56$, $p < 0.01$).

Similarly, the finding is in agreement with Sharma et al. (2023) who found that the intervention group, which received systematic OSCE training through PowerPoint presentations and animations, demonstrated significantly more positive attitudes (Mean = 4.2, SD = 0.7) compared to the control group (Mean = 3.4, SD = 0.9), with $p < 0.05$. The study attributed the improvement

to the interactive and organized delivery of content, which made the examination process more transparent and less intimidating. The finding is in agreement with Nuhu et al. (2024) who found that a significant main effect of the PowerPoint intervention on students' attitude scores. The intervention group reported increased motivation and perceived fairness of the OSCE after receiving instruction through PowerPoint slides ($p = 0.003$).

Conclusion

The findings from this study indicate a significant main effect of treatment, specifically the use of PowerPoint presentations, on students' attitudes towards the Objective Structured Clinical Examination. The data suggest that incorporating multimedia tools enhances students' engagement and understanding, leading to a more positive perception of the OSCE process. This shift in attitude may result from improved clarity in presentation and increased retention of information, ultimately fostering a more effective learning environment. These insights underscore the importance of integrating technological resources in educational settings, particularly in clinical training, to enhance student experiences and outcomes. Future research should explore the long-term impacts of such interventions on student performance and confidence in clinical skills.

Implications to Nursing Education Practice

- Nursing instructors should integrate multimedia tools like PowerPoint into their teaching strategies. This approach can make complex concepts more accessible and engaging, thereby fostering a positive learning environment.
- Educators may benefit from training on effective PowerPoint design and presentation techniques. This ensures that the content is not only informative but also visually appealing and pedagogically sound.
- Incorporating regular feedback from students on the effectiveness of multimedia presentations can help refine teaching approaches and improve overall student satisfaction.

- Recognizing the importance of student attitudes in clinical assessments, educators should prioritize interventions that positively influence perceptions of OSCEs.

Recommendations for policy directions

Based on the positive impact of PowerPoint presentations on students' attitude towards objective structured clinical examination, it was recommended among others that:

- Colleges of Nursing should adopt PowerPoint presentations as a core instructional tool in OSCE preparation, ensuring that key clinical concepts, procedures, and assessment criteria are clearly outlined and visually reinforced.
- Faculty members should be trained on designing an engaging and pedagogically sound PowerPoint slides, incorporating multimedia elements such as images, flowcharts, and videos to enhance students' understanding and attitude toward OSCE.
- Presentation content should be tailored to address students' common concerns and misconceptions about OSCE. Including interactive elements such as practice questions and scenario-based discussion points can foster greater engagement and confidence.
- Organizing mock OSCEs supported by PowerPoint-guided scenarios can familiarize students with the structure and expectations of the examination, thus positively influencing their attitudes and reducing exam-related anxiety.
- Colleges of nursing should implement a system for collecting student feedback on the effectiveness of PowerPoint presentations in OSCE training, using the data to continuously refine content delivery and instructional strategies.

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