



ISSN : 2350- 0743



RESEARCH ARTICLE

EFFECT OF TRADITIONAL VERSUS INTERACTIVE TEACHING STRATEGIES ON STUDENT NURSES' ACADEMIC PERFORMANCE AT NURSING SCHOOLS, ZAMFARA STATE, NIGERIA

Aminu Abdulmajeed, Hayat Gomma, Salihu Abdulrahman Kombo, Balarabe Fatima, Mohammad Sani Hadiza and Isah Zayyanu

Zamfara State College of Nursing Sciences, Gusau, Nigeria

ARTICLE INFO

Article History

Received 20th August, 2024

Received in revised form

16th September, 2024

Accepted 27th October, 2024

Published online 30th November, 2024

Keywords:

Traditional teaching, Interactive teaching, Academic performance, flipped classroom and fish bowl

ABSTRACT

Nursing education thrives towards training nurses to enable them play their role in the professional health team to provide high quality services to society. This study was aimed at comparing the effect of Interactive and Traditional teaching strategies on Student Nurse's Academic performance at Nursing Schools, Zamfara state. Quasi-experimental design of non equivalent was adopted with total of One hundred and twenty-nine students (129) recruited for the study. Purposive sampling technique was used access the participants for both study and control groups. Self-administered Questionnaire and Assessment test were used to collect data and all ethical consideration ensured throughout the study. Three (3) hypotheses were stated to guide the study and Inferential statistics with SPSS software version 26 was used for testing the hypotheses. Null hypotheses stated at alpha value of 0.05 was greater than P- values of 0.000 and 0.033 were rejected; relationship between interactive teaching strategy and Academic Performance of the student nurses found that calculated p value of 0.015 was below the 0.05 alpha level of significance and the correlation index value of 0.822 is higher than the critical r value of 0.235 at df 74 were rejected, and there was significant Mean difference in the Academic Performance of student nurses from School of Nursing Gusau and their counterparts from School of Nursing Kaura Namoda, with the calculated p value of 0.000 is lower than the 0.05 alpha level of significance and the computed t value of 6.219 is greater than the 1.96 t critical at df 127. The research findings revealed the importance of interactive teaching strategies using Flipped Classroom and Fish bowl in increases students' acquisition of skills, knowledge and developing them as holistic individuals. Use of flipped classroom and fish bowl resulted in better learning outcomes, students' retention of knowledge and reflective practice, compared to the use of traditional learning method alone. Based on the findings of the study, It was recommended that there is need to emphasize and implement varying interactive teaching strategies and assessments, towards improved academic performance of students' in Nursing institutions in Zamfara state.

*Corresponding author: Aminu Abdulmajeed

Copyright©2024, Aminu Abdulmajeed et al. 2024. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Aminu Abdulmajeed, Hayat Gomma, Salihu Abdulrahman Kombo, Balarabe Fatima, Mohammad Sani Hadiza and Isah Zayyanu, 2024. "Effect of traditional versus interactive teaching strategies on student nurses' academic performance at nursing schools, Zamfara State, Nigeria", *International Journal of Recent Advances in Multidisciplinary Research*, 11, (11), 10405-10410.

INTRODUCTION

Teaching strategies contribute to the success of learning and the overall student experience at higher institutions. Numerous studies suggest that interactive teaching can facilitate higher levels of student performance and satisfaction (Paula, 2019). A school therefore facilitates education which in the larger sense is any act or experience that has a formative effect on the mind, behavior or physical ability of an individual. Technically, education is the process by which society deliberately transmits its accumulated knowledge, skills and values from one generation to another. Education is a light which shows the right direction to mankind to follow. The purpose of education is not just making a student literate but

also adds rationale thinking, knowledgeable and self-sufficiency (Rajesh 2017). During the past two decades, different field of knowledge attain professionalism and advancement through formal education which leads us to the quest towards effective teaching and learning of which Nursing Education is not an exemption. Numerous types of teaching and learning approaches, strategies, methods and practices have been proposed in the field of nursing education ie Lecture, discussion, demonstration, laboratory, seminar, problem based learning (PBL), workshop, project, role-play, clinical teaching methods, case based learning, clinical simulation, self-directed learning (SDL), micro teaching, computer assisted learning (CAL), Web based learning, Mind mapping/Concept mapping, Field trips, scaffolding, etc

(Bayanova, Kuznetsov, Merculova, Gorbunova, Pervozvanskaya, Shalamova and Vorobyova, 2019). Nursing like any other profession, has undergone fundamental changes in order to meet the needs of the rapidly dynamic and enlightened society. Teaching techniques are the means or tools that are used to teach the students. Nursing teachers are being encouraged to use teaching methods which enables the students to be more responsible for their learning, and that the application of these methods assume different orientations and different attitudes as teachers have to adopt the role of facilitator for learning (Sailaxmi, Mythili and Thirumoorthy 2015).

Nursing is a field requiring clinical knowledge and skills to care for the patients, relation and significant others as we deal and handle real life situations. Nursing students must be prepared to practice as competent healthcare professionals in a highly complex, diverse, and ever-changing environment. Critical thinking is crucial to providing safe, competent, and skillful nursing practice which quality nursing education provides. Nurse educators and faculties have a responsibility to provide most efficient theory and clinical instruction to aid best learning to nursing students during their course. The use of interactive and traditional methods of teaching and learning in health care institutions has the potential not only to attain educational excellence, but also to empower nurses, be courageous, strengthen governance and galvanize the effort to achieve the human resource and development goal for the country (Rajesh, 2017).

In this era of globalization, nursing education in Africa has to strengthen collaboration and utilization of student/ teacher exchange programme available at institutions. Interactive is the act of exchange of ideas through constructive thinking, grouping knowledge, skills, and attitude into new, original and rational ideas. The use of Interactive methods in health care institutions has the potential not only to improve education, but also to empower people, strengthen governance and galvanize the effort to achieve the human development goal for the country. (Rajesh, 2017). Afrasiabifar and Asadolah (2019) maintained that interactive teaching methods are considered by nursing teachers, their effectiveness has been less investigated in nursing education, particularly in teaching basic and specialized courses. Therefore, the present study aimed to use interactive teaching methods (FCL and FB) in nursing education to teach basic courses. For this purpose, the credit of basic clients care was selected since this credit is offered in the first year, second semester and other specialized courses are prerequisites of this credit.

Statement of the Problem

The education skills and knowledge acquired by students depend on the interaction between teacher's knowledge of the subject matter and pedagogical ability that in turn guarantee better students' performance. Despite the role of teachers in teaching of students, reports show failure of teaching to inculcate a range of skills and competences that develops learners holistically. The key education stakeholders globally are concerned with declining students' performance and what goes on into teaching. The concern therefore has been to upgrade the academic performance of students and improve the performance of low performing students and whether teaching

strategies has connection with students' performance (Annah, 2017). Due to the passive nature of student, traditional approaches do little to: enhance the student learning experience; encourage student engagement with the learning process; or, improve students' conceptual understanding, problem solving and ability to evaluate and synthesize ideas (Paula, 2019). Few teachers perform very well in their subjects in some schools and considered effective while majority of teachers perform below average, despite having the same qualification as the effective teacher (Annah, 2017). The interactive teaching strategies ensure long term attention span and retentive memory of the students contrary to the traditional norms where lecture notes were provided before or during the lectures making students to be passive learners by been non attentive, docile with the intent that they are in custody with the course note of which they lack the conceptualized knowledge. The goal of the traditional teaching strategy is more of memorization of course content towards passing promotional examinations (Hara, Nauman, Khadija, and Fatima, 2021). In other to ensure and sustain impact of teaching to be students' inclusiveness and life-long, the study focused on; Comparism on the effect of Traditional and Interactive teaching strategies on student Nurse's academic performance in Nursing Schools, Zamfara State.

Hypotheses that guided the study

1. There is no significant relationship between teaching strategies and Academic Performance of the student nurses in Zamfara state.
2. There is no significant relationship between interactive teaching strategies and student nurses' satisfaction with interactive teaching strategies in Zamfara state
3. There is no significant difference in the Academic Performance of student nurses in Study and Control group.

METHODS AND MATERIALS

Quasi-Experimental design of non equivalent (both study and control group are not numerically equal) was applied sequentially, using pre test and post test on study and control groups. Study group (School of Nursing Gusau) was exposed to interactive teaching ie fish bowl and flipped classroom teaching after both groups were administered pre test on cognitive performance test on Basic client care FON II.

Research Area: Nursing training institutions in the state which College of Nursing Sciences and Midwifery, Gusau established in 2006, located at central senatorial zone and Umar Bin Katthab College of Nursing Sciences, Kaura Namoda, Zamfara State.

Population: Student nurses at the first year- second semester (intermediate level) of both nursing institutions in Zamfara state. This includes seventy-six (76) students from School of Nursing, Gusau and fifty-three students (53) from Umar Bin Katthab College of Nursing Sciences, Kaura Namoda offering foundation of Nursing II course (FON II). Totaling one hundred and twenty nine students nurses (129).

Data Collection Instruments and analysis: The data were collected by using a Self administered questionnaire

comprising socio- demographic and likert’s measurement of 4 point score , Essay and multiple choice questions to test students academic performance on FON II in relation to compare traditional and interactive teaching strategies .The pass mark for pre and post test was 50%. The performance grades was interpreted as follows:

Performance grade

- Less than 50% -Poor
- 50 – 60% -Average
- Above 60% -Good

Validity and reliability of the instruments were found to be 0.8. Hypothesis stated was analysed using inferential statistics involving; the use of Independent T-test, Pearson Product Moments Correlation (PPMC) where two variables; one independent and one dependent were involved. F value is instrumental in either rejecting or accepting the hypothesis. Then, the collected data were coded, entered, and analyzed using SPSS software version 26.

Ethics declaration

Ethical approval was obtained from Ethical Research Committee of State Ministry of Health (SMOH) with ethical approval number **ZSHREC31102021/107** delivered to ZSCONS Gusau and Umar Bin Khattab College of health sciences Kaura Namoda all in Zamfara State.

RESULTS

Testing of Null hypotheses

Hypothesis One: There is no significant relationship between teaching strategies and Academic Performance of the student nurses in Gusau Zamfara state.

Variables	Correlation index	Critical r	P	Decision
STUDY GROUP(SONG) • Performance • Interactive Teaching strategies	0.711**	0.235	0.000	Reject H ₀
CONTROL GROUP(SONK/N) • Performance • Traditional Teaching strategy	0.841**	0.279	0.033	
<i>p < 0.05, Correlation index > critical r at df 74</i>				

Table 1 above shows that significant relationship exists between study and control groups in relation to their academic Performance of the student nurses in Zamfara state. Reasons being that the calculated p values of 0.000 and 0.033 are below the 0.05 alpha level of significance at the correlation index values of 0.711 and 0.841 respectively The relationship between academic performance and interactive teaching strategy is directly proportional.

Hypothesis Two: There is no significant relationship between interactive teaching strategies and students nurses satisfaction with interactive teaching strategies in Zamfara state.

Variables	Correlation index	Critical r	P	Decision
Interactive teaching strategies	0.822**	0.235	0.015	Reject H ₀
Satisfaction with interactive strategies	<i>p < 0.05, Correlation index > critical r at df 74</i>			

Table 2 above shows that significant relationship exists between interactive teaching strategies and students’ nurses’ satisfaction with interactive teaching strategies in the study group. Reasons being that the calculated p value of 0.015 is below the 0.05 alpha level of significance and the correlation index value of 0.822 is higher than the critical r value of 0.235 at df 74. The relationship between interactive teaching

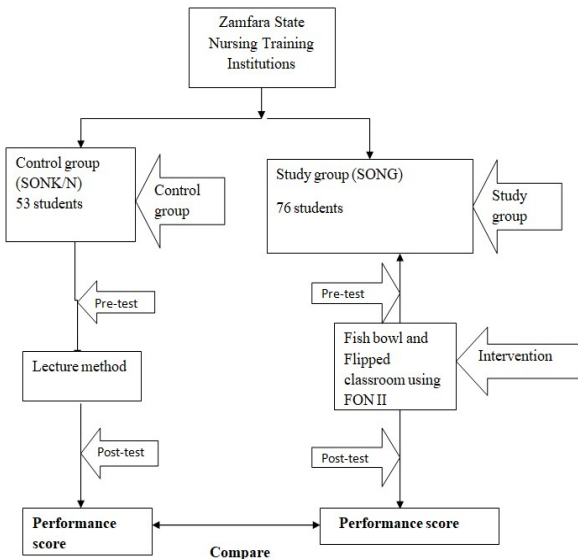


Fig 1- Charts on Quasi-experimental design for the research on students academic performance (Aminu, 2024).

Data variables, sources of data and technique

The data collection process involves Pre-intervention, intervention and post-intervention stages which entails ensuring ethical approval and administered pre-test, intervention on study group on FON II was done and post test was administered in form of semi- structured test comprising essay and MCQ as the same for pre test for each school of same class level on both and interactive teaching strategies (FC and FB) in order to evaluate their performance score. Analyze, Design, Develop, Implement, and Evaluate (ADDIE) model of instructional design was adopted to guide the study which provided dynamic, flexible guideline for building effective training, instructional materials and performance support tools. Also blinding of participants was ensured to avoid contaminating data information which may weaken the strength of the research outcome. Purposive sampling was used to access the participants for both interactive and traditional learning strategies at both schools because the participants met the criteria for the study.

Table 3: Independent t test statistics on Mean difference in the Academic Performance of student nurses in Study and Control Group

Variable	Group	N	Mean	STD	SE	Mean Diff	Df	T computed	P	decision
Mean Performance	Study	76	60.15	10.063	1.15	12.03	127	6.219	0.000	Reject H ₀
	Control	53	48.11	11.81	1.62					

$P = 0.000 < 0.05$, $t_{\text{computed}} = 6.219 > t_{\text{critical}} 1.96$ at $df 127$

strategies and students' nurses' satisfaction with interactive teaching strategies in Zamfara state is directly proportional.

Hypothesis three: There is no significant Mean difference in the Academic Performance of student nurses from Study group SON Gusau and their counterparts from Control group SON K/Namoda

Table 3 above revealed academic performance of student Nurses in the study group exposed to interactive teaching and those in control group. The calculated p value of 0.000 is lower than the 0.05 alpha level of significance and the computed t value of 6.219 is higher than the critical value 1.96 at df 127. The computed mean performance scores are 60.15 and 48.11 by student of the study group exposed to interactive teaching strategy and control group taught with lecture method respectively. This implies a mean difference of 12.0 in favour of study group.

DISCUSSION

Significant Relationship between teaching strategies and Academic Performance of the student nurses

The findings show that there exists significant relationship between interactive teaching strategy and Academic Performance of the student nurses in Zamfara state. As the calculated p values of 0.000 and 0.033 are below the 0.05 alpha level of significance at the correlation index values of 0.711 and 0.841 respectively. Therefore, the null hypothesis which states that there is no significant relationship between interactive teaching strategy and Academic Performance of the student nurses in Zamfara state, was proved to be rejected. Bayanova, et al. (2019) examined the impact of traditional teaching methods, lectures and lectures capture back-up and flipped classroom on student performance and satisfaction. The results of their study demonstrated that students' satisfaction with traditional lecture was higher than with other methods, which is contradictory to this study results.

Significant Relationship between interactive teaching strategies and student nurses' satisfaction with interactive teaching strategies

The finding revealed that significant relationship exists between interactive teaching strategies and student nurses' satisfaction with interactive teaching strategies in Zamfara state. Reasons being that the calculated p value of 0.015 is below the 0.05 alpha level of significance and the correlation index value of 0.822 is higher than the critical r value of 0.235 at df 74. Therefore, the null hypothesis which state that there is no significant relationship between interactive teaching strategies and students nurses satisfaction with interactive teaching strategies in Gusau Zamfara state, is hereby rejected. Afrasiabifar and Asadolah (2019) showed that in the interactive lecture method, student satisfaction significantly

increased compared to the traditional lecture method which is consistent with the findings from this study. Other studies have provided contradictory results regarding students' satisfaction. Panicker (2018) reported that FCR increased the engagement of students in various tasks in the nursing research course and eventually reflected in higher academic performance which agrees with the result of this study that FCL and FB helped better interactions towards student academic performance.

Significant Mean difference in the Academic Performance of student nurses from Study group and Control group

The finding revealed that significant Mean difference exist in the Academic Performance of student nurses from SON Gusau and their counterparts from SON Kaura Namoda. This is because the calculated p value of 0.000 is lower than the 0.05 alpha level of significance and the computed t value of 6.219 is greater than the 1.96 t critical at df 127. Therefore the null hypothesis which state that there is no significant Mean difference in the Academic Performance of student nurses from SON Gusau and their counterparts from SON kaura Namoda, is hereby rejected. Contrarily but interestingly, a study conducted among the nursing students in pharmacology course by El-Banna, Whitlow, and McNelis (2017) did not demonstrate a significant difference in the academic performance of students when the FCR was applied compared to the traditional lecture-based instruction.

Conclusion and Recommendations

This study was conducted to make comparison between traditional and interactive (FCL and FB) on students' academic performance in Nursing schools, Zamfara state. A Quasi-experimental study design was adopted with SONG as the study group while Umar Bin Khaddabi (UBKCONS) SON K/Namoda was used for control study. All students in second year first semester at SONG and SONK/N with population of Seventy-Six (76) and Fifty-three (53) respectively which sums One Hundred and Twenty-Nine (129) recruited for the study. Based on the findings, the researcher concluded the following in tandem with aim.

Objectives of the study: Satisfaction of students nurses towards interactive teaching strategies Flipped class (FC) and Fish bowl (FB) was found to be appreciated than traditional teaching strategy.

Outcomes of the interactive lecture have been more encompassing than traditional lecture to teach basic client care in foundation of Nursing II. However, it needs more time devotion compared to the traditional lecture. Moreover, interactive lectures are likely to increase students' satisfaction and stimulate their learning. Applying interactive teaching methods can help to achieve educational objectives. Our findings therefore guide policy makers and stakeholders in nursing education and practice on the need to focus on policies that advances interactive students' learning i.e. including

interactive teaching methodologies in the first year of the curriculum and head of Nursing institutions implement the guidelines to the latter through monitoring and evaluation. Capacity building for teachers to be competent and meet high standards in teaching to promote deeper and active students' learning. Developing teacher education curriculum framework capable of improving teacher competence in teaching and pedagogical skills and strengthen their development professionally. Nurse educators should make use of flipped classroom and fish bowl carefully while implementing it to any course, taking into consideration the content matter to be covered, available time, number of students and faculty competence in effective planning of session. It is expected that this will result in reasonable improvement of students' performance enabling students' to develop and acquire high-level skills, knowledge and attitudes favorable and needed for career development, national development, and for solving emerging national and global challenges.

Conflict of interest

No conflict of interest so existed among the authors

Implication for Future Research

This study has provided conclusions and recommendations based on the findings of the study. The following are suggestions for further research;

- i) Replicate the study in Nursing department and health-related education fields in tertiary institutions in selected zones in Nigeria.
- ii) Investigate the extent to which resource-based instruction, students parent and discipline development affect academic performance of nurses in nursing institutions.
- iii) Carry out the effect of other interactive teaching methodology on students nurses academic performance.
- iv) Future research is needed to improve and strengthen this area and also employ a control group for comparison between various interactive teaching method, as well as for measuring the students' satisfaction with this method.

Limitations of the study

1. The researcher had to carry out the teaching based on scheduled time table of each school which may not be convenient to the students and Management.
2. The researcher could not measure the students' final exam scores and compare them with the study group that had intervention with flipped classroom and fish bowl to see if it had really produced a change in the overall achievement of the teaching outcomes.

REFERENCES

Afrasiabifar A, Asadolah M. 2019. Effectiveness of shifting traditional lecture to interactive lecture to teach nursing students. *Invest. Educ. Enferm.*; 37(1):e07. HTML generated from XML JATS4R

1. Aljon C, Mikee. P. L., Jenny. T, Ariel. T., Angelica L. D.F. 2019. Effectiveness of Traditional Method of Teaching in Academic

Performance of General Academic Strand Students at Bestlink College of the Philippines <https://ojs.aaresearchindex.com/index.php/aasgbcpmra/article/view/1245>

2. Anderson, C. R. 2022. Traditional Versus Modern Teaching Methods Amongst Special Education, Students and Enhancing Students' Self-Concept: A Comprehensive Literature Review.
3. Ardashir A, and Mosayi. Asadolah 2019. Effectiveness of shifting traditional lecture to interactive lecture to teach nursing students 37(1):60-69 DOI: 10.17533/udea.iee.v37n1a07
4. Asikhia, O. 2019. Students and Teachers' Perception of the Causes of Poor Academic Performance in Ogun State Secondary Schools Nigeria: Implications for Counseling for National Development. *European Journal of Social Science*; 13(2):229.
5. Bayanova, A. R., Kuznetsov, V. V., Merculova, L. V., Gorbunova, L. N., Pervozvanskaya, O. A., Shalamova, O. O., and Vorobyova, C. I. (2019). Student Performance Interrelation with Gadget Use at Lessons. *Journal of Environmental Treatment Techniques*, 7(3), pp. 432-437.
6. Bergmann, J., and Sams, A. 2017. Flip your classroom: Reach every student in every class every day. International Society for Technology in Education.
7. Busebaia. T,J,A, and John.B 2020. Can flipped classroom enhance class engagement and academic performance among under graduate pediatric nursing students? A mixed-methods study. *Research and Practice in Technology Enhanced Learning* (2020) 15:4 <https://doi.org/10.1186/s41039-020-0124-1>
8. Chan, S.-Y., Lam, Y. K., and Ng, T. F. 2018. Student's perception on initial experience of flipped classroom in pharmacy education: Are we ready? *Innovations in Education and Teaching International*, 1–12.
9. Dimitrios B, Koutiva M 2018. "Traditional teaching methods versus teaching through the application of information and communication technologies in the accounting field: Quo Vadis?" from *European Scientific Journal*, October Edition, Vol.9, No.28, DOI: 10.5172/conu.2014.4470 · Source: PubMed
10. El-Banna, M. M., Whitlow, M., and McNelis, A. M. 2017. Flipping around the classroom: Accelerated Bachelor of Science in Nursing students' satisfaction and achievement. *Nurse Education Today*, 56, 41–46.
11. Elfaki. N.K., Abdulraheem.I., and Abdulrahman. R 2019. Impact of E-learning Vs Traditional learning on students performance and attitude. *Int. Med. Journal* 24(3) : 225-33
12. Garrett, T. (2018). Student Centered and Student Centered Classroom Management: A Case Study of Three Elementary Teachers. *Journal of Classroom Instruction*. 1, 34-47.(Online). Available at; <files.eric.ed.gov/fulltext/EJ829018.pdf>. Retrieved on;16.07.2021.
13. Hara. B, Nauman. R, K., Khadija. A. and Fatima. H. 2021. The impact of traditional classroom based teaching in comparison to online teaching on the academics and attendance, *Journal of Gandhara Medical and Dental Science* vol 8:14-20 DOI:10.37762/jgmds.8-1.121
14. Isa, S. G., Mammam, M. A., Badar, Y., and Bala, T. 2020. The impact of teaching methods on academic performance of secondary school students in Nigeria.

- International Journal of Development Research, 10(6), 37382-37385.
15. Jarahi L, Najaf M 2018. "Evaluation of teaching through lecture with new methods of students centered teaching in medical students," from *Future of Medical Education Journal*, December, 3; 4,
 16. Jeffries P.R 2018. In her article titled, "A framework for designing, implementing and evaluating simulations used as teaching strategies in nursing," from <https://www.ncbi.nlm.nih.gov/pubmed/15921126>,
 17. Jeremiah, J. C. and Kezban, O. (2022) The Impacts of Strategies in Teaching on Students' Performance in School Vol. 5 No. 2 (2022): Near East University Online Journal of Education-NEUJE DOI: <https://doi.org/10.32955/neuje.v5i2.631>
 18. Khalid A, Azeem M. 2019. "Constructivist Vs Traditional: Effective instructional approach in teacher education," from *International Journal of Humanities and Social Sciences*, March, Vol.2, No.5.
 19. Menegaz, J. D. C., Dias, G. A. R., Trindade, R. F. S., Leal, S. N., and Martins, N. K. A. 2018. Flipped classroom in teaching nursing management: Experience report. *Escola Anna Nery*, 22(3).
 20. Missildine, K., Fountain, R., Summers, L., and Gosselin, K. (2018). Flipping the classroom to improve student performance and satisfaction. *Journal of Nursing Education*, 52(10), 597–599.
 21. Noel M.D, and Daniels F.M, 2017. "The future of lecture method as a Teaching strategy in community nursing education," from *Journal of Family Medicine and Community Health*, 2(8); 1067
 22. Nurul .A, M, Ijlal S, Nur. A, N, Nik M N M, Mohd F M S, 2022. Student Satisfaction on Teaching Strategies and Multimedia Usage in Online Arabic Language Course
 23. Panicker, L. 2018. Experiences of flipping an online classroom: An appraisal using Community of Inquiry Framework. *GSTF Journal of Nursing and Health Care (JNHC)*, 5(1).
 24. Paula, J.M. (2019) Traditional versus Interactive: Out with the old, in with the new? *Psychology Teaching Review*. Vol. 25, No. 2
 25. Phillips, B. C., Johnson, J., Khalid, N., Zapparrata, N., and Albright, G. 2023. Benefits of an online interactive educational program over traditional textbooks. *Nurse Educator*. DOI: 10.1097/NNE.0000000000001398
 26. Rajesh, K.S. 2017. *JOJ Nursing and Health Care - Emerging Innovative Teaching Strategies in Nursing*
 27. Reyes JR, Álvarez LNR, Pomarede MJM. 2018. Pedagogic Aspects in Nursing Education: Integrative Review. *Invest. Educ. Enferm.*;36 (3):e03.
 28. Roehling, P. V., Root Luna, L. M., Richie, F. J., and Shaughnessy, J. J. (2017). The benefits, drawbacks, and challenges of using the flipped classroom in an introduction to psychology course. *Teaching of Psychology*, 44(3), 183–192.
 29. Sailaxmi Gandhi, Mythili D, Thirumoorthy 2015. *Journal of Krishna Institute of Medical Sciences University- Nursing Students Perceptions about Traditional and Innovative Teaching Strategies- A Pilot Study*
 30. Senthamarai, S. 2018. Interactive teaching strategies. *Journal of Applied and Advanced Research* 3(Suppl.1) S36–S38. <https://dx.doi.org/10.21839/jaar.2018.v3S1.166>.
 31. Sojayapan, C., and Khlaisang, J. 2018. The effect of a flipped classroom with online group investigation on students' team learning ability. *Kasetsart Journal of Social Sciences*.
 32. Tan, C., Yue, W.-G., and Fu, Y. (2017). Effectiveness of flipped classrooms in nursing education: Systematic review and meta-analysis. *Chinese Nursing Research*, 4(4), 192–200.
 33. Tang, F., Chen, C., Zhu, Y., Zuo, C., Zhong, Y., Wang, N., et al. (2017). Comparison between flipped classroom and lecture-based classroom in ophthalmology clerkship. *Medical education online*, 22(1), 1395679.
 34. Unal, Z., and Unal, A. 2017. Comparison of student performance, student perception, and teacher satisfaction with traditional versus flipped classroom models. *International Journal of Instruction*, 10(4), 145–164
 35. Vol.7, No.2,
 36. Wing-man CHAN 2018. Teaching in HIGHER education: Students' perceptions of effective teaching and good teachers. *Social Sciences, Social Sciences and Education Research Review*, <https://www.ceeol.com/search/article-detail?id=760569>
 37. Yana, O, Nataliia M, Olha S, Liudmyla V, Oksana P ,Olha K, 2020. Analogy of Tasks of Traditional and Interactive Approaches to Students' Education in Higher Education Institutions., *Systematic Review in Pharmacy* ;11(8): 287-289
 38. Yuemeng, W 2022. A Comparative Study on the Effectiveness of Traditional and Modern Teaching Methods. *ICHESS 2022, ASSEHR 720*, pp. 270–277, 2022. https://doi.org/10.2991/978-2-494069-89-3_32
 39. Zohreh, D. S and Seyed, M.M. 2019. A Short Introduction to Comparative Research Philosophy of Science and Research Method
