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DOES STEPWISE TEACHING OUTPERFORM CONVENTIONAL METHODS IN PHYSIOLOGY PRACTICALS: CHANGING MEDICAL EDUCATION

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ABSTRACT

Background: Effective teaching methods in medical education are essential for improving skill acquisition, retention and engagement. Traditional "see one, do one" approaches may overwhelm students leading to suboptimal learning and recall. Peyton's Four-Step Approach (PFSA) offers a structured alternative, breaking procedures into phases of demonstration, deconstruction, comprehension and performance. Its application in preclinical physiology practicals remains underexplored. This study evaluates the effectiveness of Stepwise Teaching versus Traditional Teaching in physiology practicals focusing on clinical examinations and hematology skills among first-year MBBS students.

Materials and Methods: A quasi-experimental study was conducted with 150 students from two medical colleges distributed into Stepwise (n=75) and Traditional (n=75) groups. Pre- & post-tests assessed knowledge gain, while OSPE measured practical performance. Likert-scale surveys evaluated student engagement and satisfaction. Data were analyzed using SPSS 26 employing independent,paired t-tests and Mann-Whitney U tests, with $p<0.05$ as significant.

Results: The Stepwise group outperformed the Traditional group in post-test scores (79.09 ± 7.07 vs 69.90 ± 7.23, $p<0.001$, $d=1.29$) and OSPE scores (80.76 ± 4.68 vs 72.00 ± 5.12, $p<0.001$, $d=1.57$). Student feedback favored Stepwise Teaching in clarity, engagement and overall satisfaction ($p<0.05$).

Conclusion: Stepwise Teaching enhances procedural skills, knowledge retention and confidence in medical students. While resource intensive its structured format provides a clear learning pathway. Future studies should explore long-term retention and scalability, integrating blended learning for broader implementation in medical education.

Keywords: Stepwise Teaching, Peyton's Four-Step Approach, Medical Education, Skill Acquisition, OSPE, Active Learning.

INTRODUCTION

Medical education increasingly prioritizes pedagogical strategies that optimize skill acquisition, knowledge retention and learner engagement, particularly in foundational disciplines like physiology. Traditional teaching methods, often characterized by a "see one, do one" approach involve instructors demonstrating procedures in full before students attempt them independently. While this method emphasizes observational learning critics argue that it risks cognitive overload, particularly for novice learners who must simultaneously process theoretical concepts, procedural steps and practical execution.[1,2] In contrast stepwise teaching methods such as PFSA break complex skills into structured, incremental phases fostering deliberate practice, immediate feedback and learner-centered engagement.[2,3]

Peyton's model comprising demonstration, deconstruction, comprehension and performance, has gained traction in health professions education for its efficacy in procedural skill acquisition.[1,2,3] Studies demonstrate that this approach enhances motor skill

retention, reduces errors and improves learner confidence by integrating guided practice, mental rehearsal and scaffolded responsibility. For instance, randomized trials comparing Peyton's method to traditional techniques report significantly higher OSPE scores and student satisfaction, attributing success to reduced cognitive strain and iterative reinforcement.[1,5] Similarly, George and Doto's five-step method a derivative framework emphasizes verbalization and gradual skill mastery, further validating the merits of structured, stepwise pedagogy.[6,7]

Despite growing evidence supporting stepwise approaches, their application in foundational medical curricula particularly for first-year MBBS students mastering physiology practicals remains underexplored. Physiology practicals such as clinical examinations (e.g., cardiovascular and respiratory systems) and hematology skills demand not only technical proficiency but also the ability to correlate theoretical knowledge with hands on application. Traditional methods while efficient for content delivery, often neglect individualized pacing and fail to address the diverse learning needs of students.[8,9] This gap underscores the need for comparative studies evaluating stepwise teaching's holistic impact on knowledge retention, skill competency and learner engagement.

This quasi-experimental study examines the effectiveness of stepwise teaching versus traditional methods in physiology practical training for 150 first-year MBBS students. By focusing on clinical examinations and hematology practicals the study evaluates Skill acquisition through Objective Structured Practical Examinations (OSPE). Knowledge retention via pre- and post-tests. Student engagement and satisfaction using Likert-scale feedback.

The findings aim to inform curricular design advocating for pedagogical strategies that align with cognitive load theory, scaffolded learning and competency-based medical education. By addressing these dimensions the study contributes to optimizing training frameworks for future healthcare professionals.

MATERIALS AND METHODS

This quasi-experimental study was conducted by focusing on the effectiveness of Stepwise Teaching compared to Traditional Teaching in Physiology practical sessions for 1styear MBBS students from 2 medical institutes. The practical sessions included Clinical Examinations and Haematology, essential components of the Physiology curriculum. A total of 150 students were recruited and randomly divided into two equal groups: the Experimental group (n=75) which received structured stepwise teaching and the Control group (n=75). Which followed the conventional approach where the entire practical was taught before student participation. Participation in the study was voluntary and students who opted out were excluded.

Teaching interventions were designed to evaluate the impact of structured learning on knowledge acquisition, skill performance and student engagement. The Experimental group was trained using PFSA a method that emphasizes progressive skill acquisition. The steps included demonstration where the instructor performed the procedure without explanation deconstruction, where the same procedure was explained step by step comprehension. Where students guided the instructor through the steps verbally. Finally performance where students performed the procedure independently under supervision. In contrast the Control group received Traditional Teaching where the instructor first explained the entire practical and then demonstrated it before students attempted it.

To measure the effectiveness of these teaching methods, assessments were conducted before and after the intervention. A Pre-Test was administered using multiple-choice questions (MCQs) and case-based problem-solving questions related to Clinical Examinations and Haematology, establishing baseline knowledge levels. After the teaching session, a Post-Test was conducted using similar question formats to measure knowledge gain. Skill performance was assessed through an Objective Structured Practical Examination (OSPE) consisting of stations evaluating ECG interpretation, CVS examination & respiratory system skills. The OSPE checklist was standardized to ensure objective evaluation, with students graded based on key procedural steps.

In addition to objective assessments student perceptions of the teaching methods were gathered through a Likert-scale questionnaire, evaluating clarity of instruction, engagement, practical applicability and overall satisfaction. The responses provided qualitative insight into the effectiveness of the teaching approach beyond numerical performance scores.

Data were analyzed using SPSS version 26. Shapiro-Wilk test was applied to assess normality guiding the choice of statistical tests. For performance comparisons, Independent t-tests were used to analyze post-test scores, OSPE results and skill-based assessments between groups. Paired t-tests were applied within each group to assess pre- and post-test differences. Since Likert scale data represents ordinal variables, Mann-Whitney U test was used to compare student feedback scores between the groups. To determine the magnitude of differences, Cohen's d was calculated, providing insight into effect size. A p-value < 0.05 was considered statistically significant for all analyses.

RESULTS

Table 1: Comparison of Performance Between Stepwise Teaching and Traditional Teaching Groups

Assessment Parameter	Group	N	Mean ± SD	p-value	Effect Size (Cohen's d)
Pre-Test	Experimental	75	44.43 ± 4.79	na	na
	Control	75	43.75 ± 4.66		
Post-Test	Experimental	75	79.09 ± 7.07	<0.001	1.29
	Control	75	69.90 ± 7.23		
OSPE - Overall	Experimental	75	80.76 ± 4.68	<0.001	1.57
	Control	75	72.00 ± 5.12		
Clinical Examinations (CE)	Experimental	75	85.20 ± 5.01	<0.001	1.44
	Control	75	76.80 ± 5.14		
Haematology Practical (HC)	Experimental	75	82.30 ± 6.25	0.000	1.35
	Control	75	74.10 ± 6.80		

The effectiveness of Stepwise Teaching was reflected in significant improvements across multiple assessment parameters. While the pre-test scores were comparable between the Experimental (44.43 ± 4.79) and Control (43.75 ± 4.66) groups. Confirming a similar baseline understanding the post-test scores demonstrated a substantial improvement in favor of Stepwise Teaching. The Stepwise group scored 79.09 ± 7.07, significantly higher than the Traditional group (69.90 ± 7.23, $p < 0.001$, Cohen's $d = 1.29$) indicating a strong effect of structured instruction on knowledge acquisition. A similar trend was observed in practical performance assessed through OSPE and skill-based evaluations. The OSPE scores were markedly higher in the Stepwise group (80.76 ± 4.68) compared to the Traditional group (72.00 ± 5.12, $p < 0.001$, Cohen's $d = 1.57$). Highlighting the effectiveness of breaking complex procedures into sequential steps. In Clinical Examinations (CE) students taught via the stepwise method achieved a mean score of 85.20 ± 5.01. Significantly outperforming their traditionally trained peers (76.80 ± 5.14, $p < 0.001$, Cohen's $d = 1.44$) demonstrating superior procedural competency. A notable difference was also observed in Haematology Practicals (HC) where the Stepwise group achieved a mean score of 82.30 ± 6.25 compared to 74.10 ± 6.80 in the Traditional group ($p < 0.001$, Cohen's $d = 1.35$).

Table 2: Student Feedback on Teaching Methods

Feedback Category	Group	N	Mean ± SD
Clarity of Instruction	Experimental	75	4.5 ± 0.7
	Control	75	3.8 ± 0.9
Engagement of Activities	Experimental	75	4.6 ± 0.6
	Control	75	3.9 ± 0.8
Usefulness for Practical Skills	Experimental	75	4.7 ± 0.5
	Control	75	3.7 ± 0.9
Overall Satisfaction	Experimental	75	4.8 ± 0.5
	Control	75	3.6 ± 1.0

Clarity of instruction in table 2 a critical factor in learning effectiveness was rated significantly higher in the Stepwise Teaching group (4.5 ± 0.7) compared to the Traditional group (3.8 ± 0.9). Suggesting that structured learning facilitated better understanding. Similarly engagement in activities a key determinant of student motivation was rated 4.6 ± 0.6 in the Stepwise group, in contrast to 3.9 ± 0.8 in the Traditional group reinforcing the role of interactive and progressive learning in maintaining student interest.

The most striking differences emerged in perceived usefulness for practical skills and overall satisfaction. Students in the Stepwise group rated the usefulness of their learning experience at 4.7 ± 0.5 significantly higher than the 3.7 ± 0.9 rating given by students in the Traditional group. Likewise, overall satisfaction was 4.8 ± 0.5 in the Stepwise group in contrast to 3.6 ± 1.0 in the Traditional group underscoring the overwhelmingly positive reception of structured guided instruction.

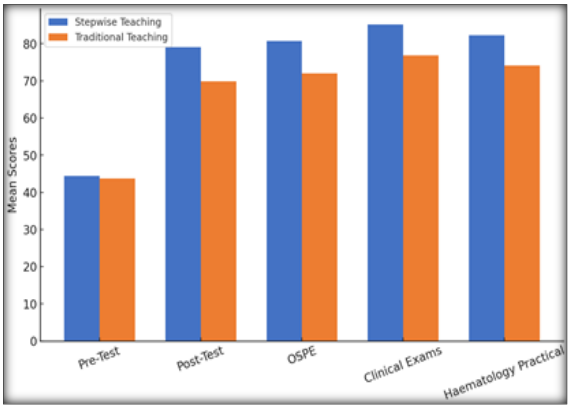

Figure 1: Comparison of Performance Between Stepwise and Traditional Teaching

DISCUSSIONS

Our study confirms that PFSA leads to better physiology practical skills than traditional teaching. This aligns with medical education research. A randomized trial in obstetric training showed higher skill scores for Peyton-trained students (24.1 vs 20.3, $p<0.05$).[10] A meta-analysis further supports this reporting a moderate effect size (~0.45 SMD) favoring Peyton's method for skill acquisition.[4] The benefits extend across fields from simple clinical techniques to complex surgeries.[10,11] Some research found Peyton's approach (PA) no less effective than bedside teaching though retention rates were superior in structured methods.[12] Our findings reinforce that Peyton's method equals or outperforms traditional "see one, do one" teaching.[10,12]

While most studies favor PA nuances exist. Some work found little difference in immediate performance when practice time was equal.[12] Yet even in those cases Peyton's method excelled in knowledge retention and student satisfaction. Our research strengthens this evidence by demonstrating clear benefits in a preclinical setting, extending prior findings beyond surgical and clinical training. These results confirm that stepwise teaching is at least as good as if not better than traditional methods for procedural learning.[10,11]

Stepwise Teaching in physiology practicals enhances skill acquisition by breaking down procedures into four structured phases demonstration, deconstruction, comprehension and performance. This method creates a stronger learning scaffold, allowing students to grasp techniques efficiently. Those trained with PA performed procedures with fewer errors, indicating faster mastery. A study on first-year medical students found 88% correctly measured blood pressure after Peyton-based training, compared to 52% under the traditional method.[1] This striking difference highlights how guided repetition and active participation reinforce procedural learning. Our study echoes these results showing that stepwise instruction not only improves skill proficiency but also ensures students actively process and apply what they learn.

Retention of skills and knowledge also benefits from Peyton's structured approach. The "trainee explains" phase (Step 3) encourages students to articulate the process, strengthening memory recall. Krautter et al. identified this step as the most crucial for learning success, improving both procedural execution and retention.[11] In our study students in the stepwise group showed better long-term recall of physiology experiments and practicals. Research supports this one study found that students trained with Peyton's method retained examination skills as well as or even better than those taught traditionally when tested weeks later.[12]

A study on long-term skill retention found that students trained with structured stepwise methods performed better even months after training than those taught using unstructured approaches.[13] This suggests that Peyton's four-step method doesn't just build short-term competence but also helps maintain long-term mastery of physiology lab skills. Unlike traditional one-off demonstrations, which often lead to knowledge decay. Stepwise teaching reinforces skills over time making learning more permanent and reliable.

Our findings also suggest that Stepwise Teaching boosts student engagement and confidence during physiology practicals. The interactive nature of PA especially the comprehension step, where students guide the teacher makes learning more engaging than passive observation. Research shows students find this method more enjoyable than conventional teaching.[14] In one study, learners overwhelmingly preferred Peyton's method, citing better understanding and recall.[15] Another study on clinical examination training found zero resistance to its implementation students rated it as significantly more engaging than traditional bedside teaching.[12] Our observations align with students in the Stepwise Teaching group displaying higher attentiveness and participation.

Stepwise learning not only improves engagement but also builds confidence. By progressing from guided steps to independent execution, students develop a sense of mastery. One study found 88% of first-year medical students felt highly confident in a skill after Peyton-based training, compared to just 24% in the traditional group.[1] Our student feedback echoes this many reported feeling more prepared, less anxious and "exam-ready" after stepwise sessions. Confidence plays a key role in medical education encouraging students to practice more overcome anxiety and perform better in clinical settings. Thus integrating stepwise teaching in physiology practicals creates a more structured, engaging and empowering learning environment, helping students take charge of their learning and develop stronger clinical competencies.

Stepwise teaching in Peyton's method offers key advantages that contribute to better learning outcomes. First it follows a structured sequence guiding students. This approach improves learning, ensuring students grasp why each step matters, not just how to perform it. Traditional "see one, do one" teaching often lacks this clarity, overwhelming learners with too much information at once.[2] In contrast Peyton's method actively engages students reinforcing understanding and improving retention.

Another major benefit is real-time feedback and error correction. During the "trainee talks through" phase students explain the steps aloud making misconceptions easier to spot and correct.[11] Traditional labs often lack this interactive feedback leaving students to unknowingly repeat mistakes. PA prevents bad habits from forming, which is especially important in physiology experiments requiring precision like blood pressure measurement or lab equipment handling.

Peyton's method also helps standardize teaching quality, ensuring consistent instruction across different educators. Since it provides a clear teaching framework both experienced faculty and junior instructors can deliver lessons uniformly. Traditional methods often vary depending on the instructor some explain in detail, while others rush through demonstrations. A multi-center review found that students trained with Peyton's method reached proficiency faster and experienced less frustration than those taught with unstructured approaches.[1,4,16] Stepwise teaching creates a supportive learning environment, encouraging peer learning. In some models students work in pairs or small groups, taking turns performing and observing Step 3. This approach boosts confidence, reduces anxiety and fosters collaboration in clinical skills training.[1] More than just teaching a skill Peyton's method builds understanding, confidence and consistency making it a learner-centered approach that enhances medical education.

Despite its advantages, implementing stepwise teaching comes with challenges. A major issue is resource demand. The method works best in small groups ensuring individual attention and adequate hands-on time. When too many students share one instructor learning effectiveness drops. A systematic review by Giacomino et al. found that Peyton's benefits were strongest with 3 students per teacher but nearly disappeared when class sizes grew beyond.[4,9] This suggests that scaling the method in large medical programs requires innovative scheduling, such as rotating stations, but may be difficult in resource-limited settings.

One key challenge is time constraints. Peyton's method involves repetition and explanation, making it longer than a single demonstration. In packed medical curriculums, ensuring enough time for all four steps—especially Step 3, where each student explains can be difficult. Instructor training in session moderation is essential to keep lessons efficient.[11] Some studies addressed this by using video demonstrations for Step 1, reducing time without compromising quality. Others employed senior students as facilitators though relying on peer tutors can be risky if they lack proper training.[4]

Our study did not use peer teachers but research suggests Peyton's effectiveness drops when student tutors replace faculty.[4,17] Maintaining instructional quality at every step is crucial. Another hurdle is resistance to change from both faculty and students. Instructors must be trained to follow all steps properly rather than rushing through them. Students may feel anxious about explaining procedures aloud in Step 3, but once they understand its value, engagement and confidence improve. Studies confirm that high student participation and satisfaction follow initial hesitation.[12] Stepwise Teaching works but planning is key. Small-group strategies, proper time allocation and faculty training ensure smooth implementation. Addressing these logistical challenges upfront makes structured teaching both practical and effective in medical education.

Every study has limitations and ours is no exception. First the sample size was modest, drawn from a single institution, which may limit how well our findings apply to other settings. Many similar studies face the same issue, making it important not to overgeneralize.[12] Second, the study focused on specific physiology skills, like cardiovascular measurements and spirometry, meaning our conclusions may not apply to all practical skills in medical education.

Another limitation is the short follow-up period. While our results hint at better retention, we did not track long-term skill preservation. There is also the Hawthorne effect students in the stepwise group received more interactive attention, which might have influenced their motivation and performance. We ensured equal teaching time, but differences in learning experiences are inevitable when comparing methods.

Lastly we did not assess whether improved lab skills translated into better clinical performance or higher exam scores later. While our findings are promising, they should be viewed as an early-stage exploration laying the groundwork for future research on broader applications of stepwise teaching.

This study adds to the growing evidence supporting structured skills teaching in medical education. Larger multi-center studies are needed to confirm that PFSA works across different institutions student backgrounds and learning styles. Expanding the sample size would provide stronger statistical power and reveal which students benefit the most. Future research should also track long-term retention with follow-up assessments at 6 to 12 months to see if Peyton-trained students retain skills better than those taught traditionally. More studies should explore whether better lab skills lead to improved clinical performance bridging the gap between classroom training and real-world patient care.

Innovative adaptations could make stepwise teaching more feasible at scale. Video-based demonstrations or virtual simulations for Step 1 could provide uniform instruction before hands-on practice in small groups.[11] Peer-assisted learning is another promising approach senior students or teaching assistants could guide juniors through the four steps, helping balance faculty workload while maintaining effectiveness. Future studies should determine the ideal student teacher ratio and how much training peer tutors need to ensure quality instruction.

Beyond procedural skills stepwise teaching may also improve conceptual learning when paired with theoretical instruction. Research should explore its impact on student anxiety, motivation and teamwork. Surveys and qualitative studies could provide deeper insights into student experiences. Addressing these questions will help refine and integrate stepwise teaching into medical education, ensuring its long-term success.[12]

CONCLUSION

Stepwise teaching, particularly PFSA, improves skill acquisition, retention and engagement in physiology practicals. Higher scores confirm its effectiveness. Students preferred stepwise teaching for clarity, engagement and confidence. Unlike passive methods, it ensures active learning and structured reinforcement. Peyton's method requires smaller groups and efficient scheduling. Blended learning can enhance feasibility and balance faculty workload. Further research on long-term retention and peer-assisted models can strengthen its applicability. Structured teaching enhances medical training and patient outcomes.

REFERENCES

1. Garg R, Sharma G, Chaudhary A, Mehra S. Evaluation of Peyton's Four-Step Approach for Skill Acquisition in Undergraduate Medical Students: A Prospective Randomized Study. medRxiv. 2023 Aug;1-15. doi:10.1101/2023.07.27.23293240.
2. Giacomino K, Caliesch R, Sattelmayer KM. The effectiveness of the Peyton's 4-step teaching approach on skill acquisition of procedures in health professions education: A systematic review and meta-analysis with integrated meta-regression. PeerJ. 2020 Oct 9;8:e10129. doi: 10.7717/peerj.10129.
3. Muthiah, Thilaka; Manikesi, Muralidharan; Elumalai, Durgadevi; Nagarajappa, Abhishek1. Peyton's technique for skill acquisition: Imperative modifications for current adaptation. Indian Journal of Anaesthesia 68(1):p 126-127, January 2024. | DOI: 10.4103/ija.ija_1257_23
4. Giacomino K, Caliesch R, Sattelmayer KM. The effectiveness of the Peyton's 4-step teaching approach on skill acquisition of procedures in health professions education: A systematic review and meta-analysis with integrated meta-regression. PeerJ. 2020 Oct 9;8: e10129. doi: 10.7717/peerj.10129.
5. Rukadikar, Charushila; Saiyad, Shaista1; Mahajan, Neeraj1; Gupta, Sangeeta; Das, Arani; Gangwar, Anil; Singh, Avinash2; Rukadikar, Atul3. Comparative Analysis of Impact of Different Skill-training Methods among Medical Students: A Cross-sectional Study. International Journal of Applied and Basic Medical Research 14(4):p 252-257, Oct–Dec 2024. DOI: 10.4103/ijabmr.ijabmr_304_24
6. Parikh CD, Chaudhari JS, Solanki VG. Effectiveness of George & Doto's Five-Step Method Compared to Conventional Approach for Teaching Intravenous Injection Skill to Undergraduate Medical Students. Int J Pharm Clin Res. 2024;16(9):707-712.
7. George JH, Doto FX. A simple five-step method for teaching clinical skills. Fam Med. 2001 Sep;33(8):577-8.
8. Hu J. The Challenge of Traditional Teaching Approach: A Study on the Path to Improve Classroom Teaching Effectiveness Based on Secondary School Students' Psychology. Lect Notes Educ Psychol Public Media. 2024 Apr;50(1):213-219. doi:10.54254/2753-7048/50/20240945.
9. du Plooy E, Casteleijn D, Franzsen D. Personalized adaptive learning in higher education: A scoping review of key characteristics and impact on academic performance and engagement. Heliyon. 2024 Oct 22;10(21):e39630. doi: 10.1016/j.heliyon. 2024.e39630.
10. Sethuraman D, Revwathy S, Thangaraj P. An educational interventional study to compare conventional versus peyton's method in training medical students on antenatal examination skills. Int J Reprod Contracept Obstet Gynecol [Internet]. 2020 Dec. 26 [cited 2025 Mar. 2];10(1):198-202. Available from: https://www.ijrcog.org/index.php/ijrcog/article/view/9324
11. Krautter M, Dittrich R, Safi A, Krautter J, Maatouk I, Moeltner A, Herzog W, Nikendei C. Peyton's four-step approach: differential effects of single instructional steps on procedural and memory performance - a clarification study. Adv Med Educ Pract. 2015 May 27; 6:399-406. doi: 10.2147/AMEP.S81923.
12. Varghese S, Abraham L. Comparison of Peyton's Four-Step Approach with the Conventional Bedside Technique in Teaching Clinical Examination Skills to Medical Students. Cureus. 2024 Feb 18;16(2):e54397. doi: 10.7759/cureus.54397.
13. A quasi-experimental study to compare the acquisition of basic clinical skills in novice medical students taught by George and Doto's five-step method compared to those taught by the traditional approach (SODOTO)
14. Nikendei, C., Huber, J., Stiepak, J. et al. Modification of Peyton's four-step approach for small group teaching – a descriptive study. BMC Med Educ 14, 68 (2014). https://doi.org/10.1186/1472-6920-14-68
15. Zhang D, Wang X, Chen X, Lou Y, Zhou X, Zhang K. Optimizing resident training in obstetrics and gynecology: a new perspective on the refined Peyton four-step teaching method. BMC Med Educ. 2024 Aug 12;24(1):864. doi: 10.1186/s12909-024-05851-y.
16. Mileder L, Wegscheider T, Dimai HP. Teaching first-year medical students in basic clinical and procedural skills--a novel course concept at a medical school in Austria. GMS Z Med Ausbild. 2014 Feb 17;31(1): Doc6. doi: 10.3205/zma000898.
17. Emam, A., Mohammad, A., Araby, O. Effectiveness of Modified Peyton's 4-step Teaching Approach on Maternity Nursing Students Acquisition of Procedural Skills, Self-confidence and Satisfaction. Egyptian Journal of Nursing and Health Sciences, 2024; 5(3): 29-50. doi: 10.21608/ejnhs.2024.382868.