Journal of Language Studies Vol.9, No.2, Part 2, 2025, Pages (291-311)
DOI: https://doi.org/10.25130/Lang.9.2.19

IRAQI Academic Scientific Journals
العراقية المجلات الأكاديمية العلمية
ISSN: 2663-9033 (Online) | ISSN: 2616-6224 (Print)
Journal of Language Studies
Contents available at: https://jls.tu.edu.iq/index.php/JLS

The Impact of an Educational Programme Based on Creativity Strategies on Student Teachers' Performance Efficiency

Asst. Prof. Jawhar Brk Muter (Ph.D) *
Tikrit University
gawherbrak@tu.edu.iq

Received: 11/ 5/ 2025, **Accepted:**16 /6 /2025, **Online Published: 25/ 7/ 2025**

Abstract

Student teachers usually face problems in delivering information and ideas and achieving behavioural objectives during the period of their application in intermediate and preparatory schools. This is due to their reliance on traditional teaching methods during their teaching performance and their failure to keep pace with modern educational programmes that would raise their performance efficiency during and beyond their application period. The current study aims at:

1. Constructing an educational programme based on creativity strategies.
2. Finding the impact of the constructed educational programme on the performance efficiency of student teachers.

The experimental design with pre- and post-test for one group is adopted. A sample of fifty student teachers in the Department of English / College of Education for Humanities/ University of Tikrit, which represents 15% of its total population of the study is selected. In order to achieve the aims of the study an educational programme based on creativity strategies has been constructed. The student teachers have been trained according to the constructed educational programme for a period of eight weeks. An observation checklist, rather than a written test, was used to assess the participants'

* **Corresponding Author**: Jawhar Brk Muter**, Email:** gawherbrak@tu.edu.iq
Affiliation: Tikrit University - Iraq

teaching performance before and after the educational programme so, an observation checklist has been constructed as an instrument of the current study to assess the student teachers' performance efficiency. The observation checklist includes thirty- five items distributed among three areas, namely: planning, implementation, and evaluation. The obtained results in the current study show that the application of the educational programme on the experimental group has improved their performance efficiency. Based on the findings, this study ends up with a number of conclusions and recommendations.

Keywords: Impact, Educational Programme, Creativity Strategies, Performance Efficiency, Student Teachers.

أثر برنامج تعليمي قائم على استراتيجيات الإبداع في كفاءة أداء الطلبة المطبقين

جوهر برك مطر

كلية التربية للعلوم الإنسانية / جامعة تكريت

يواجه الطلبة المطبقين مشاكل في تقديم المعلومات والأفكار وتحقيق الأهداف السلوكية خلال فترة تطبيقهم في المدارس المتوسطة والإعدادية ويرجع ذلك إلى اعتمادهم على طرائق التدريس التقليدية أثناء أدائهم التدريسي وعدم مواكبتهم للبرامج التعليمية الحديثة التي من شأنها رفع كفاءة أدائهم خلال فترة التطبيق وما بعدها. تهدف الدراسة الحالية إلى:

1. بناء برنامج تعليمي قائم على استراتيجيات الإبداع.
2. إيجاد أثر هذا البرنامج التعليمي على كفاءة الأداء للطلبة المطبقين

اعتمدت هذه الدراسة التصميم التجريبي ذي الاختبار القبلي والبعدي لمجموعة واحدة وقد تم اختيار عينة مكونة من خمسين طالب مطبق من قسم اللغة الانكليزية في كلية التربية للعلوم الانسانية في جامعة تكريت والتي تمثل 15% من المجتمع الكلي لعينة الدراسة

تم بناء برنامج تعليمي يستند الى استراتيجيات الابداع وقد تم تدريب عينة الدراسة وفقا لهذا البرنامج للفترة الزمنية من 2024/2/4 ال 3/31 /2024

ولغرض تحقيق اهدافها تم بناء اداة الدراسة والتي تمثلت ببطاقة الملاحظة لتقييم اداء الطلبة المطبقين خلال فترة تطبيقهم والتي تضمنت خمسا وثلاثين فقرة موزعة على ثلاث مجالات وهي التخطيط والتنفيذ والتقييم استُخدمت بطاقة الملاحظة، بدلاً من الاختبار التحريري، لتقييم أداء الطلبة المطبقين قبل تلقْيهم البرنامج التعليمي وبعده

اشارت النتائج المستحصلة بان البرنامج التعليمي الذي تم بناؤه كان له الاثر الواضح في تطوير كفاءة الاداء لدى الطلبة المطبقين وقد انتهت الدراسة ببعض الاستنتاجات والتوصيات

الكلمات المفتاحية: إثر ، البرنامج التعليمي، استراتيجيات الإبداع، كفاءة الأداء، الطلبة المطبقين

1. INTRODUCTION

Despite the increasing emphasis on the importance of creativity in education, many student teachers at the university level—particularly those in their fourth year during the practicum phase—continue to rely on traditional, teacher-centered methods that do not foster innovation or adaptability in real classroom settings. Observations and feedback from mentor teachers indicate that many of these student teachers struggle to apply effective, flexible, and creative teaching strategies, which negatively affects their performance efficiency and limits their ability to engage learners meaningfully. This gap between theoretical preparation and practical classroom performance reveals a pressing problem in teacher education programmes: the lack of structured training in creativity-based instructional strategies. Although various conferences and studies (e.g., Huang, 2014; Webster, 2020) have highlighted the need to modernize curricula and enhance teacher preparation, a clear shortfall remains in equipping future teachers with the tools needed to think creatively and teach effectively during their practicum. Therefore, this study seeks to construct an educational programme based on creativity strategies and to investigate its impact on improving the performance efficiency of student teachers during their practical training in schools

This study aims at

1. Constructing an educational programme based on creativity strategies.
2. Finding the impact of the constructed educational programme on the performance efficiency of student teachers.

The hypothesis of the current study is that there is no significant difference between the mean scores of the student teachers' performance efficiency of the experimental group before and after the application of the educational programme.

This study is limited to the performance efficiency of EFL student teachers who are studying the subject of practicum in the Department of English / College of Education for Humanities/ University of Tikrit, during the academic year 2023-2024.

2. THEORITICAL BACKGROUND

2.1 Creativity Theory

Mann & Domb (2001) state that, in 1946, the Russian scientist Henry Tiers began developing the creative theory to help solve problems. This theory has been characterized by the introduction of methodologies that help individuals deal with complex technical problems through creative thinking. He also developed basic models and principles in the field of innovation. These models are applicable in various fields of human activity. This scientist is able to write fourteen books on this theory, in addition to a number of research that included many topics in the field of

innovative inventions. He has also participated in teaching thousands of students about the methodology, foundations and principles of this theory. This theory has continued to develop and progress during the past decades to achieve a transition from its origins and technological roots to other fields to benefit from them in solving problems, especially in the educational field, and to add the methodology of its strategies in enhancing student teachers learning. Altshuller (1984) adds that the theory of creativity and its strategies have a primary goal, which is to develop the ability to think innovatively about the problems facing the student teachers, and to develop the motivation of individuals towards thinking in an innovative way as well as, generating ideas and providing original alternatives in solving problems by providing them with appropriate strategies that enable them to do so.

Savransky (2000) believes that, this goal can only be achieved by finding appropriate solutions in an innovative way for the purpose of applying them in the field of management and education. A full understanding of tactical technical contradictions plays an essential role in solving problems in an innovative manner that follows in a specific sequence of steps. This is achieved through a set of components that are at the same time sources as identified and summarized by scientists. These sources include information, sources related to jobs and others related to space and time

2.2 Methodology of Creative Theory in Solving Problems

Hess, et al (2009) mention that people in general, face two types of problems. The first type includes problems for which there are known solutions, and in this type a general model is followed determined by the problem itself, then it is compared to the corresponding problem, and then repeated attempts to solve the problem. The second type of problem has contradictory requirements and unknown solutions, and different methods such as, brainstorming and repeated attempts are used.

Hope (2024) adds that the number of attempts needed to reach the constructing of links to knowledge varies according to the degree of complexity of the problem. If the solutions fall within the experience of the student teachers, the number of attempts is less, but if the solutions fall outside the limits of their experience, the number of attempts becomes more. Altshuller (1984) is interested in problems that require innovative solutions for which there are unknown solutions, or that they have known solutions but entail other problems.

2.3 Procedural Processes for Teaching According to Creativity Strategies

Thomas (2000) and DeHaan (2009) state that the important procedural processes are, as follows:

- Provide a clear perception of the innovative principle that is used to solve the problem according to the strategy used. This is done by presenting a specific problem that has been solved using this principle.
- Present problems from everyday life that have been solved using the same principle, i.e. working on the principle of similar presumption.
- Formulation of the problem: That is, making the learner reformulate the problem from his own point of view and direct him to know the aspects of the problem.

- Proposing appropriate solutions to the problem by learners using the innovative principle. In the meantime, the student teacher guides the students and encourages them to find appropriate solutions.
- Discuss the solutions reached by students and demonstrate their importance through understanding the solution to the problem.
- Formulating the final solution to the problem.

2.4 The Strategies of Creative Theory

1. **Asymmetry Strategy:** It is used to solve problems by focusing on differences rather than similarities, or by avoiding traditional similar methods. This strategy aims to break the usual patterns of thinking, allowing the generation of creative and unconventional solutions. The asymmetry strategy helps individuals move beyond conventional thinking, making it suitable for dealing with complex problems or requiring creative solutions (Hope, 2024).
2. **Synthetic Strategy:** It is used to encourage creative thinking by connecting disparate ideas or mixing unrelated elements in a new way. This strategy is based on transforming familiar ideas into unfamiliar, and vice versa, with the aim of generating creative solutions to problems. Through this strategy, individuals are able to explore new ways of thinking, helping to come up with unconventional solutions that suit the nature of complex problems (Wikipedia contributors, 2024).
3. **Generalization Strategy:** It aims to broaden the scope of thinking to reach solutions by generalizing the problem and linking it to broader concepts or situations. This strategy involves looking for general rules or basic principles that can be applied to the particular problem, rather than focusing only on specific details. When using this strategy, the problem is stripped of its individual characteristics and focused on its general aspects, allowing the solutions reached to be applied in similar situations (Panda, 2024).

2.5 Performance Efficiency

Darling-Hammond (2012) explains that, practical education is the cornerstone of the process of preparing the student teacher. It is not possible to provide educational institutions with teachers capable of achieving the goals pursued by these institutions without practically qualifying them to perform their tasks efficiently and effectively. The impact of development in education has been clear, where modern training methods and trends have emerged in the field of preparing the student teacher. Some of them emphasize the qualities and characteristics that must be provided in the student teacher, and some of them emphasize the teaching behaviour performed by the student teacher in education, and some emphasize the verbal interaction between the student teacher and the learners. Some of them emphasize the teaching competencies that the student teacher must be able to, which is one of the most important trends that emphasize the importance of teaching competencies in preparing the student teacher.

Campbell & Malkin (2017) add, that performance competencies are divided according to the tasks to which they are related into two types, as follows:

- Educational competencies: It is the intellectual, educational and informational dimension represented in the information, ideas and methods that can be observed and appear in the form of the learner's performance behaviour.

- Non-educational support competencies: It is observing and studying the behaviour of students as well as designing and preparing the audio-visual means that a student teacher needs in the education of his students in addition to administering tests by him.

2.6 Student Teacher Competencies

Guskey (2000); Darling-Hammond & Bransford (2017); and **Danielson (2007) state that,** the competent student teacher is the one who possesses the basic competencies of education, as follows:

First: Planning for lesson: it includes all the procedures and measures taken by the student teacher to ensure the achievement of the objectives of the lesson, and the success of the educational process, so this task is one of the basic tasks that have an impact on other tasks. It includes: annual planning, planning of study units, and planning daily lessons. Planning daily lessons are considered the most important planning because it aims to draw a clear picture of what the student teacher and his students can do before the beginning of the lesson and is considered one of the most important tasks and responsibilities of the student teacher.

Second: Implementation of lesson: It is one of the important and necessary skills that must be mastered by the student teacher. It means all the procedures and steps carried out by the student teacher during the presentation of the lesson for the purpose of helping learners to realize the concepts and information contained in the lesson, arouse their interest and increase their motivation to learn. The skills of implementing the lesson that the student teacher must master are preparing for the lesson, diversifying stimuli, and closing and ending the lesson.

Third: Evaluation: It is to identify the positive and negative aspects of the educational process and diagnose the weaknesses and shortcomings in order to take appropriate procedures to treat them. Evaluation includes the following types:

1- Pre-evaluation: It aims to reveal the necessary skills that students must possess before starting the implementation of the educational programme.
2- Structural evaluation: It is an evaluation process to provide the student teacher and the learner with feedback in order to improve the educational process and know the progress of students towards the desired teaching goals.
3- Diagnostic evaluation:it occurs at regular intervals during the implementation of teaching by applying tests that measure the extent to which the student acquires each of the teaching or behavioural objectives of the lesson.
4- Final evaluation: It is used at the end of the semester for the purpose of estimating the achievement of students at the end of the semester or the educational programme.

2.7 Principles of Educational Programmes

Educational programmes should be guided by core principles that ensure relevance, flexibility, and learner development. According to Singh (2023), the key principles include:

1. Totality of experiences – Programmes must cover all learning experiences, both academic and practical.

2. Child-centeredness – Learners' needs, interests, and abilities should guide the content and methods.
3. Conservation and creativity – While preserving educational values, programmes should encourage innovation.
4. Integration – Connecting knowledge across subjects enhances meaningful learning.
5. Flexibility – Programmes must adapt to changing societal and learner needs.
6. Utility – Content should be practical and prepare students for real-life challenges.
7. Character formation – Promoting moral values is essential in shaping students' behavior.
8. Mental discipline – Developing critical thinking and reasoning is a key goal.
9. Social fulfillment – Education should prepare students to contribute to society.

In summary, these principles help ensure that educational programmes are balanced, purposeful, and aligned with both individual and societal needs.

3. THE METHODOLOGY OF STUDY

3.1 Constructing Educational Programme Based on Creative Strategies

Tyler (2013), **Wiliam (2017), and** Nearpod (2025) state that the procedure for constructing educational programme includes three stages, as follows:

First: Planning stage

In this stage information is collected and analyzed for the purpose of revealing the basic pathways that should be focused on by the curriculum designer. This stage includes reviewing and studying previous programmes, as well as determining the programme's premises, determining the logical and psychological philosophical foundations and principles of the programme, and determining the educational environment. The elements of the educational environment include, the teacher, the studens, the textbook, the physical environment, the psychological and emotional environment. All these elements work together to form an integrated and effective learning environment whereby students can learn better and develop their skills to achieve their educational objectives.

Second: Design and implementation of educational lessons:

This stage includes all procedures and how to adopt creativity strategies in the design of educational lessons, as follows:

1. Managing lessons according to specific steps.
2. Taking into account the availability of educational situations in each session by linking the session to the experiences of student teachers.
3. Organizing lessons according to creativity skills.
4. Providing the appropriate educational environment and enrichment resources.
5. Organizing the schedule of educational lessons.

Third: Evaluation Stage

Evaluation plays an active role in the success of the educational process by bringing about balance and integration between its various elements, and by modifying or correcting it in the light of the data and information obtained. Two

methods of evaluation are used in the constructed educational programme: formative and summative evaluation.

Johnson & Kardos (2005) mention the following justifications for constructing educational programmes:

- Help student teachers improve their ability to analyze, evaluate, and apply teaching methods effectively.
- Strengthen the connection between theoretical knowledge and practical application in real classroom settings.
- Encourage student teachers to think innovatively, solve problems, and adapt to diverse teaching scenarios.
- Help student teachers refine their instructional techniques and classroom management skills.
- Fosters engagement, motivation, and a deeper understanding of teaching methodologies.

Killen (2006); Ornstein, & Hunkins, (2017) ; Heinich, et.al (2018) state that the construction of the programme involves the development of the basic and structural framework in which the elements of the educational programme are organized in the following series of steps, as shown in Appendix (1)**:**

a. Defining Programme Objectives

These objectives are divided into general and behavioural objectives. General objectives are those objectives that are described as abstract and achieved after a relatively long period of time, i.e. one academic year or more. As for the behavioural objectives, they are special, specific, and achieved in a relatively short period, i.e. one teaching session. Therefore, this programme includes both types of objectives, as follows:

-General Objectives: The educational programme based on creativity strategies aims to develop the performance efficiency of the student teachers in the subject of practicum, and enable them to employ creativity strategies in classroom situations as well as enhancing the ability of the student teachers to link the theoretical and practical aspects of teaching.

-Behavioural Objectives: At the end of studying the educational programme, the student teachers are expected to be able to plan an educational lesson using an appropriate creative strategy, implement an effective learning situation in which classroom performance skills are employed, and propose innovative teaching methods to improve traditional classroom practices.

b. Selection of the Educational Programme Content

Selection of the content is associated with the objectives that the programme seeks to achieve. In order to achieve the objectives of the programme, the content must be identified according to certain criteria or rules. The content is a set of information, facts, concepts, values, attitudes, beliefs and skills directed to the trainee (student teacher) to modify his behaviour in all its cognitive, emotional and skill aspects. These contents are, as follows:

1. **Introduction to Effective Teaching Practices**

   -Analyze diverse classroom scenarios to understand teaching dynamics.

-Discuss real challenges faced by teachers in classroom settings.

2. **Planning and Implementation Skills**
   - Design lesson plans that meet learners' needs.
   -Conduct peer-teaching sessions to practise and receive constructive feedback.
3. **Classroom Communication and Interaction**
   -Engage in group activities that foster teacher-student interaction.
   -Employ diverse techniques to stimulate students' participation.
4. **Self-Assessment and Feedback Mechanisms**
   -Utilize observation tools to evaluate personal teaching performance.
   -Participate in constructive critique sessions to refine teaching methods.
5. **Practical Application**
   -Practise teaching in real classroom environments under supervision.
   -Analyze teaching performance to identify areas for continuous improvement.

c. Identifying the Methods of Teaching

Methods of teaching are a fundamental component in developing the educational programme. They are closely connected to both the objectives and the content, as follows:

- *Collaborative Learning:* Encourage group work to share experiences and idea.
- *Interactive Presentations:* Deliver lesson content in engaging ways to capture learners' attention.
- *Classroom Discussions:* Stimulate critical thinking through open-ended questions.
- *Problem-Based Learning:* Address educational scenarios that require innovative solutions.

d. Educational Activities and Teaching Aids: Educational activities should be selected and carried out in alignment with the curriculum, executed precisely based on careful planning. They should be varied, inclusive of many students, and subject to evaluation, such as role playing that is used in simulating classroom situations to enhance understanding of educational interactions and *interactive worksheets that are used to* participate in written activities that promote thinking and analysis. Regarding teaching aids, different aids are utilized to enhance learners' experiential engagement with activities, including items like a board, coloured markers, charts, diagrams, data show, and laptop. As well as *multimedia resources which are used to i*ncorporate videos and presentations to clarify concepts. All of the aforementioned aids have been employed in the current study. The following table shows the sequence of the three stages with the steps of constructing the educational programme.

Table 1: Structure of the Educational Programme According to Planning, Implementation, and Evaluation Stages

Stage	Objectives	Content Topics	Teaching Methods	Activities & Teaching Aids	Assessment Tools
Planning Stage (Weeks 1-3)	- Develop creative lesson planning skills. - Foster the ability to design lessons using creativity strategies.	- Introduction to creativity in teaching. - Overcoming barriers to creative lesson planning. - Designing lesson plans using PBL and role-play.	- Group discussions. - Interactive presentations. - Collaborative learning.	- Scenario analysis. - Interactive worksheets. - Utilization of visual aids (charts, multimedia resources).	- Diagnostic assessment to identify trainees' needs.
Implementation Stage (Weeks 4-6)	- Apply creative teaching strategies effectively. - Enhance lesson delivery with innovative techniques.	- Using digital tools and multimedia. - Flipped classroom approach. - Micro-teaching preparations.	- Problem-based learning. - Simulation activities. - Peer teaching and collaborative practice.	- Practical exercises with digital tools. - Micro-teaching practice sessions. - Interactive classroom activities.	- Formative assessment through peer and trainer observation.
Evaluation Stage (Weeks 7-8)	- Employ creative assessment methods. - Engage in critical reflection on teaching practices.	- Designing assessment tools for creativity. - Providing constructive feedback. - Capstone project development.	- Peer feedback sessions. - Self-assessment. - Project-based learning.	- Creative assessment tasks. - Group projects and presentations. - Reflective journals.	- Final assessment (Micro-teaching performance, Capstone Project evaluation, Reflective Journals).

3.2 Experimental Design

Creswell (2011) defines the experimental design as a research approach that relies on manipulating the independent variable to observe its effect on the dependent variable, with distributing participants randomly and controlling the confusing factors to infer a causal relationship between variables.

In the current study, One-group Pretest-Posttest Design is adopted as the experimental design because, it is appropriate for the aims and hypothesis of the study. The pre- and post-test in this study refer to observational assessments using a checklist to evaluate the teaching performance of student teachers before and after the implementation of the educational programme.

It includes an attempt to control all the variables and fundamental factors affecting the dependent variable in the experiment, as shown in table (2).

Table 2. The Experimental Design of the Study

Group	**Pre-observation**	**Independent variable**	**Post-observation**
Experimental	Observation checklist for assessing student teachers'performance efficiency	Application of the educational programme	Observation checklist for assessing student teachers'performance efficiency

3.3 Population and Sampling

The research population consists of student teachers of the fourth stage in the Departments of English of the colleges of education at the University of Tikrit namely: College of Education for Humanities, College of Education for Girls and the College of Education at the University of Samarra for the academic year 2023/2024. A sample of fifty student teachers is randomly selected from the student teachers of the Department of English / College of Education for Humanities / University of Tikrit and included in the current study. The selected sample represents 15% of its original population whose total number is 333 student teachers.

3.4 Instrument of the Study

An observation checklist has been constructed as an instrument to measure the performance efficiency of the student teachers. Checklists offer an organized method for gathering and documenting observers' assessments. They are particularly valuable for evaluating performance efficiency that can be divided into a sequence of specific well-defined actions. A checklist is basically a tool for documenting the presence or absence of specific characteristics (**Thorndike & Thorndike,** 2011).

The various areas and items of the constructed checklist which is used to record student teachers' performance inside their classrooms, have been drawn from the following sources: a. Related literature and previous studies, b. Ministry of Education checklists, and c. Online checklists. Therefore, the initial version of the observation checklist consists of thirty-five items. In order to ascertain the face validity of the constructed checklist, it has been exposed to a jury of specialists and educationalists in the field of methodology and linguistics. The percentage of their agreement about each item is considered to achieve the face validity of the adopted checklist. The reliability as well as the discrimination power of the constructed checklist items have statistically been obtained, and thus, the final version of the employed observation checklist includes thirty-five items, as shown in appendix (2).

After ensuring the validity and obtaining the reliability of the constructed checklist as well as the discrimination power of its items, the researcher has visited the involved sample of the student teachers, individually in their schools, during the second semester and observed them before and after the application of the educational programme, and recorded down their teaching performance while they are presenting their lessons to their students.

3.5 Application of the Educational Programme

The following procedures are applied in order to implement the educational programme:

1. Determine the objectives of the educational programme by formulating clear and measurable behavioural objectives, in line with the needs of the target group, as well as identifying the skills and knowledge to be developed among learners.

2. Design the educational programme by preparing the educational content based on the specified objectives, taking into account the gradation of difficulty and logical sequence. In addition, choose appropriate teaching strategies, such as cooperative learning or problem-based learning without explicit reference to them. Then identify the teaching aids and activities that support the achievement of the objectives.

3. Sample selection: The target group of student teachers is determined, taking into account diversity in abilities and their backgrounds. Then, determine the number of participants based on the requirements and capabilities of the research.

4. Prepare appropriate measurement tools, such as pre- and post-tests, class notes, and questionnaires. Then check the validity and consistency of these tools to ensure the accuracy of the results.

5. Implementation of the programme: The educational programme is applied to the selected sample, with adhering to the specified time plan.

6. Collection and analysis of data: Data is collected from measurement tools used before and after the implementation of the programme. The data is analyzed by using appropriate statistical methods to get the required results.

7. Interpret the results and make recommendations to evaluate the effectiveness of the educational programme, for application in other educational contexts.

After the construction of the educational programme, a pre-observation was conducted using a structured observation checklist to assess the initial teaching performance of the fourth-year student teachers during their practicum. This observation aimed to document their baseline competencies in instructional planning, implementation, and evaluation. Following this, the participants underwent training based on the developed educational programme. The training spanned six weeks, with two sessions held per week, each lasting two hours, amounting to a total of twelve instructional sessions. These sessions were conducted in the fourth-year classroom of the

English Department between November 12 and December 21, 2023. This period was considered adequate for equipping the student teachers with the targeted teaching competencies and enhancing their performance efficiency in alignment with the programme's objectives. Upon completion of the training, a post-observation was carried out using the same observation checklist to assess the participants' teaching performance after exposure to the programme. The post-observation focused on the same areas as the pre-observation—namely, planning, implementation, and evaluation—to ensure consistency and relevance to the objectives of the training. The results from the post-observation were then compared with those of the pre-observation to determine the extent of improvement attributable to the educational programme.

The duration of the experimental application lasted for eight weeks, starting on the 4th February 2024, and ended on the 31st March 2024. For the purpose of scoring the items of the observation checklist, (three degrees) are given to the first alternative, (two degrees) to the second alternative, and (one degree) to the third alternative, so the highest score is (105), the hypothetical mean is (70), and the lowest score is (35).

4. DATA ANALYSIS

4.1 Analysis of Data

4.1.1 Results Related to the First Aim:

The first aim of the current study is achieved through constructing the educational programme based on creative strategies as it has been explained in section three under 3.1.

4.1.2 Results Related to the Second Aim:

The second aim is achieved through verifying the hypothesis of the study that states "there is no significant difference between the mean scores of the student teachers' performance efficiency before and after application of the educational programme". The mean scores and standard deviation of the student teachers' performance in the post application of the educational programme are 16.54 and 7.81, respectively. T-test formula for two related sample is used. The calculated t-value is 11.17, at (0.05) level of significance and (49) degree of freedom, as shown in table (3). Since the calculated t-value is higher than the tabulated t- value which is 2.00, it means that there is a significant difference between the student teachers' performance in pre and post applications, and in favour of the post application of the educational programme. Thus, the formulated hypothesis is rejected.

Table (3) The Mean Scores, Standard Deviation, and T-Value of the Pre and Post Application of the Educational Programme

Area	Application of the programme	Mean	SD	Mean of differences	SD	T-Value		DF	Level of Significant
						Calculated	Tabulated		
Planning	Pre	25.63	4.67	6.34	2.14	11.45	2.00	49	0.05
	Post	31.86	4.34						
Implementation	Pre	25.87	4.93	6.94	3.11	10.75			
	Post	33.26	4.12						
Evaluation	Pre	20.93	3.53	3.26	2.56	6.27			

	Post	25.09	3.93						
Total	Pre	72.43	13.13	16.54	7.81	11.17			
	Post	90.21	12.48						

4.1.3 Black's Adjusted Gain Ratio Verify the Educational Programme Based on Creativity Strategies on Student Teachers' Performance Efficiency

Black's adjusted gain equation is used to measure the effectiveness of using the educational programme based on creativity strategies for improving the performance efficiency of student teachers, as shown in table (4):

Table (4) The Average Scores of the Student Teachers and the Ratio of Average Gain in the Pre- and Post-Application of the Observation Checklist for the Performance Efficiency of Student Teachers

Area	Final score	Average for the pre application	Average for the post application	Percentage of average gain	Level of Significance
Planning	33	19.20	29.02	1.35	0.05
Implementation	36	21.50	28.58	1.34	
Evaluation	39	21.34	31.18	1.27	
The checklist as a whole	50	62.04	88.78	1.30	

From table (4), it is clear that:

1. The ratio of the adjusted gain for the performance of the student teachers in the area of planning is 1.35, which is a statistically significant, because it exceeds the ratio that Black considered a minimum for accepting effectiveness, which is 1.2. This means that the use of the educational programme based on creativity strategies has achieved the maximum effectiveness in improving the performance efficiency of the intended student teachers.
2. The ratio of the adjusted gain for the performance of student teachers in the area of implementation is 1.34, which is a statistically significant, because it exceeded the ratio that Black considered a minimum for accepting effectiveness, which is 1.2. This result also indicates the effectiveness of the constructed programme.
3. The ratio of the adjusted gain for the performance of student teachers in the area of evaluation is 1.27, which is a statistically significant, because it exceeded the ratio that Black considered a minimum for accepting effectiveness, which is 1.2. This result sustains the obtained results concerning the effectiveness of the educational programme.
4. The ratio of the adjusted gain for the performance of student teachers in the observation checklist as a whole is 1.30, which is statistically significant ratio, because it exceeds the ratio that Black considered a minimum for accepting effectiveness, which is 1.2. This means that the use of the educational

programme based on creativity strategies has achieved the maximum effectiveness in improving the performance efficiency of student teachers after the application of the constructed educational programme.

5. DISCUSSION OF RESULTS

The results obtained from the current study show that the educational programme has improved the performance efficiency of student teachers in the various areas of the observation checklist. This improvement could be attributed to the following factors:

1. Student teachers received both theoretical and practical instruction covering modern teaching strategies, methods, and activities that enhance their teaching experience.
2. The constructed programme follows a modern educational model that prioritizes the student teachers' role in gaining experience through creative strategies rather than traditional methods.
3. It fosters a classroom atmosphere that encourages students' independence, open discussion, and freedom of expression.
4. The integration of evaluation methods, feedback, and modern technologies (like data show, games, and video conferencing) help student teachers improve their retention and performance.
5. The programme has boosted student teachers' motivation, encouraged collaboration and competition, and improved their performance through participation in the areas of the observation checklist.

6. CONCLUSIONS

In the light of the obtained results it is concluded that:

1. The educational programme has significantly improved student teachers' teaching abilities, enabled them to better deliver instructional material to their students.
2. The clarity of the programme's objectives and their alignment with student teachers' needs made the training more effective and purposeful.
3. Combining theory with practical activities strengthened student teachers' knowledge and skills, making the learning experience more impactful.
4. Exposure to and practice with modern teaching methods increased student teachers' engagement, collaboration, and overall teaching efficiency

References

Altshuller, G. S. (1984). *Creativity as an Exact Science: The Theory of Inventive Problem Solving*. Gordon and Breach Science Publishers.

Campbell, D., & Malkin, D. (2017). *Practical Education for Future Teachers: Effective Strategies and Methods*. Routledge.

Cresswell, J. W. (2015) *Educational Research: Planning. Conducting, and Evaluating Quantitative and Qualitative Research*. (5th ed) Pearson Education, Boston: 142, 294.

Danielson, C. (2022). *Enhancing Professional Practice: A Framework for Teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Darling-Hammond, L. (2012). *Powerful Teacher Education: Lessons from Exemplary Programs*. John Wiley & Sons.

Darling-Hammond, L., & Bransford, J. (2017). *Preparing Teachers for A Changing World: What Teachers should Learn and be Able to Do*. San Francisco, CA: John Wiley & Sons.

DeHaan, R. L. (2009). Teaching creativity and inventive problem solving in science. *CBE—Life Sciences Education*, 8(3), 172–181

Guskey, T. R. (2000). *Evaluating Professional Development*. Thousand Oaks, CA: Corwin Press

Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. E. (2018). Instructional Media and Technologies for Learning (12th ed.). Merrill/Pearson Education.

Hess, K. K., Jones, B. S., Carlock, D., & Walkup, J. R. (2009). *Cognitive Rigor: Blending the Strengths of Bloom's Taxonomy and Webb's Depth of Knowledge to Enhance Classroom-Level Processes*. The Center for Assessment.

Hope, M. (2024). *Mastering Business Asymmetry: Key Strategies for Success*. Asymmetric.pro.Retrieved from https://asymmetric.pro/mastering-the-power-of-asymmetry-essential-reads-for-business-strategy-and-innovation/

Johnson, S. M., & Kardos, S. M. (2005). *Creating A Learning Community: How Teacher Preparation Programs Can Support Teacher Development*. *Journal of Teacher Education*, 56(4), 325-334.

Killen, R. (2023). Effective Teaching Strategies: Lessons from Research and Practice (8th ed.). Thomson Social Science Press.

Mann, D., & Domb, E. (2001). *TRIZ: The Theory and Practice of Inventive Problem Solving*. Elsevier.

Nearpod. (2025). *7 Essential Strategies for Designing Effective Instruction*. Nearpod. Retrieved from https://nearpod.com/blog/Effective-Instruction/

Ornstein, A. C., & Hunkins, F. P. (2017). Curriculum: Foundations, Principles, and Issues (7th ed.). Pearson.

Panda, I. (2024). *The Creative Problem Solving Model Research Paper*. IvyPanda. Retrieved from https://ivypanda.com/essays/the-creative-problem-solving-model

Savransky, S. D. (2000). *Engineering of Creativity: Introduction to TRIZ Methodology of Inventive Problem Solving*. CRC Press.

Singh, Y. K. (2023). *Principles of curriculum development*. New Delhi: APH Publishing Corporation.

Thomas, J. W. (2000). *A Review of Research on Project-Based Learning*. Retrieved from https://en.wikipedia.org/wiki/Project-based_learning

Thorndike, R. M., & Thorndike-Christ, T. M. (2011). *Measurement and Evaluation in Psychology and Education* (8th ed.). Pearson Education.

Tyler, R. W. (2013). Basic Principles of Curriculum and Instruction. University of Chicago Press.

Wikipedia contributors. (2024). *Systematic Inventive Thinking*. Wikipedia. Retrieved from https://en.wikipedia.org/wiki/Systematic_inventive_thinking

Wiliam, D. (2017). *Embedded Formative Assessment*. 2nd ed. Solution Tree Press.

Appendix (1)
The Educational Programme

Programme Duration

8 weeks (2 sessions per week, each lasting 2 hours)

Target Audience

Pre-service EFL student teachers

Programme Objectives

By the end of this programme, participants will be able to:

1. Develop lesson plans incorporating creative strategies aligned with effective planning principles.
2. Apply creative teaching strategies during lesson delivery to enhance student engagement and learning outcomes.
3. Employ various assessment methods to evaluate both students' learning and their own teaching practices creatively.
4. Reflect critically on their planning, implementation, and evaluation practices for continuous professional development.

Programme Structure According to Teaching Stages

Stage One: Planning Stage (Weeks 1-3)

Focus: Developing creative lesson planning skills.

- **Session 1: Introduction to Creativity in Teaching**
  - Understanding creativity and its significance in EFL lesson planning.
  - Exploring the qualities of creative teachers and their role in planning.
- **Session 2: Overcoming Barriers to Creative Lesson Planning**
  - Identifying challenges in creative lesson design.
  - Discussing solutions and shifting mindsets towards creativity in planning.
- **Session 3: Designing Creative Lesson Plans**
  - Applying Project-Based Learning (PBL) in lesson plans.
  - Incorporating role-playing and simulations in lesson objectives and activities.
  - Emphasis on planning daily lessons with clear creative objectives and expected outcomes.

Stage Two: Implementation Stage (Weeks 4-6)

Focus: Enhancing the skills of lesson delivery using creative strategies.

- **Session 4: Creative Teaching Tools and Techniques**
  - Utilizing digital tools and online resources during lesson delivery.
  - Incorporating multimedia elements and interactive activities to enhance student motivation.
- **Session 5: Implementing the Flipped Classroom Approach**
  - Planning and executing lessons using the flipped classroom model.
  - Encouraging student autonomy and active participation during lesson implementation.
- **Session 6: Micro-Teaching Preparations**
  - Planning for micro-teaching sessions.
  - Practicing the delivery of creatively designed lessons in peer teaching settings.

Stage Three: Evaluation Stage (Weeks 7-8)

Focus: Applying creative assessment techniques and fostering reflective teaching.

- **Session 7: Assessing Creativity in EFL Classrooms**
  - Developing rubrics and tools to assess creative tasks and student performance.
  - Providing constructive feedback to support learner growth and creativity.
- **Session 8: Reflective Practices in Teaching**
  - Engaging in self-assessment and peer feedback to reflect on teaching practices.
  - Identifying strengths and areas for improvement in planning, implementation, and evaluation stages.
- **Session 9: Capstone Project - Creative Lesson Plan Development**
  - Creating a comprehensive lesson plan integrating learned creative strategies, assessment tools, and reflective elements.
  - Peer review and collaborative refinement of lesson plans.
- **Session 10: Micro-Teaching Presentations and Feedback**
  - Delivering the developed creative lesson to peers.
  - Receiving detailed feedback focusing on planning, delivery, and assessment stages.
  - Engaging in reflection and action planning for future improvement.

Assessment Methods

- Participation and engagement in sessions.
- Quality of lesson plans designed during the programme.
- Performance in micro-teaching sessions (focus on planning, delivery, and assessment).
- Reflective journals documenting progress in each of the three stages.

Expected Outcomes

Participants will:

- demonstrate competence in planning and delivering creative EFL lessons.
- apply innovative strategies confidently during lesson implementation.
- utilize appropriate creative assessment tools to evaluate students' performance.
- engage in reflective practices to enhance their teaching efficiency across planning, implementation, and evaluation stages.

Appendix (2)

The Observation Checklist

Planning Area

No.	Item	Always (3)	Sometimes (2	Rarely (1)	Comments
1	Specifies clear and measurable instructional objectives.				
2	Aligns objectives with students' level and needs			.	
3	Links objectives, content, and activities coherently.				
4	Plans diverse and creativity-enhancing activities.				
5	Integrates modern teaching strategies in the plan.				
6	Considers individual differences in planning.				
7	Prepares appropriate and innovative teaching aids.				
8	Organizes content logically and appropriately.				
9	Incorporates higher-order thinking skills.				
10	Plans interactive learning situations.				
11	Prepares alternative plans for challenges/time issues.				

Implementation Area

No.	Item	Always (3)	Sometimes (2	Rarely (1)	Comments
1	Begins the lesson with an engaging introduction.				
2	Uses clear and understandable language.				
3	Involves students in discussion and dialogue.				
4	Presents content creatively and innovatively.				

5	Uses a variety of modern strategies.				
6	Relates content to students' real-life contexts.				
7	Shows enthusiasm and positive interaction.				
8	Encourages critical and creative thinking.				
9	Uses teaching aids effectively.				
10	Manages class time effectively.				
11	Adapts the plan based on student response.				
12	Manages the classroom respectfully.				
13	Creates an interactive and safe learning environment.				

Evaluation Area

No.	Item	Always (3)	Sometimes (2)	Rarely (1)	Comments
1	Selects suitable tools for evaluation.				
2	Uses various evaluation methods (oral, written, etc.).				
3	Checks student understanding during lesson.				
4	Provides immediate and constructive feedback.				
5	Engages students in peer/self-assessment.				
6	Aligns evaluation with objectives.				
7	Uses results to improve teaching.				
8	Considers individual differences in results.				
9	Promotes self-assessment and independence.				
10	Includes closing activities to review the lesson.				
11	Uses evaluation results for future planning.				