



ISSN: 1999-5601 (Print) 2663-5836 (online)

Lark Journal

Available online at: <https://lark.uowasit.edu.iq>



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Keywords: A Training  
Programme, Artificial  
Intelligence, Performance,  
Language Awareness

#### ARTICLE INFO

Article history:

Received 22Jul 2025

Accepted 21Aug2025

Available online 1 Oct 2025



## Constructing a Training Programme based on AI Applications and its Impact on developing English Teachers' Performance and their Language Awareness

### Abstract

The purpose behind conducting this study is constructing a training programme in terms of artificial intelligence applications and investigating its impact for enhancing the performance of English teachers. The procedures of the quantitative and qualitative methods are followed to fulfil the aims of this study. A training programme depending on artificial intelligence applications involves some educational objectives, teaching aids, modern strategies and necessary activities which have been constructed. Two main hypotheses have been verified to achieve the aims of the study. The one group design is applied by the researcher choosing a sample consisted of (45) teachers randomly from General Directorate of Education in Anbar / Ramadi City during the academic year 2024-2025.

The researcher has constructed two instruments for achieving the aims of the study and verify the hypotheses: an observation checklist to measure teachers' performance and a test for measuring their language awareness. To ensure their validity, they have been exposed to some experts and convenient statistical techniques have been employed. The training period has lasted two months during which the researcher himself trained the teachers theoretically and practically. The instruments have been applied twice before and after conducting the programme to know the difference between the pre-application and post-application and what the impact of the mentioned programme. The data has been collected and analyzed by using t-test for two paired-samples. The results have revealed that there are significant differences between teachers' mean scores in the pre-application and post-application for the favour of the post. It means that the training programme has an effective role in improving the teachers' performance and their language awareness. Finally, depending on the findings obtained, some conclusions and recommendations have been put

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DOI : <https://doi.org/10.31185/lark.4708>

بناء برنامج تدريبي قائم على تطبيقات الذكاء الاصطناعي وأثره في تطوير أداء مدرسي اللغة الإنجليزية ووعيهم اللغوي  
الأستاذ المساعد الدكتور عمر عبد صالح/ المديرية العامة للتربية في محافظة الأنبار

## الملخص

تهدف هذه الدراسة إلى بناء برنامج تدريبي قائم على تطبيقات الذكاء الاصطناعي أثره في تحسين أداء مدرسي اللغة الإنجليزية. وتم اتباع المنهجين الكمي والنوعي لتحقيق أهدافه الدراسة. اشتمل البرنامج التدريبي القائم على تطبيقات الذكاء الاصطناعي بعض الأهداف التعليمية والوسائل التعليمية والاستراتيجيات الحديثة والأنشطة اللازمة وقد تم صياغة فرضيتين رئيسيتين لتحقيق أهداف الدراسة. وطبق الباحث تصميم المجموعة الواحدة حيث اختار عينة عشوائية مكونة من (45) مدرساً ومدرسة من المديرية العامة للتربية في محافظة الأنبار/ مدينة الرمادي للعام الدراسي 2024-2025.

قام الباحث ببناء أداتين لتحقيق أهداف الدراسة والتحقق من الفرضيات وهما: بطاقة ملاحظة لقياس أداء المدرسين، واختبار لقياس وعيهم اللغوي. وللتأكد من صدقهما، عُرضتا على بعض الخبراء، وبعض الأساليب الإحصائية المناسبة. استمرت فترة التدريب شهرين، قام خلالها الباحث بتدريب المدرسين نظرياً وعملياً. تم تطبيق الأدوات مرتين قبل وبعد تنفيذ البرنامج لمعرفة الفرق بين التطبيق القبلي والبعدي، وأثر البرنامج المذكور. جُمعت البيانات وحللت باستخدام الاختبار التائي لعينتين مترابطتين وأظهرت النتائج وجود فروق ذات دلالة إحصائية بين متوسطات درجات المدرسين في التطبيق القبلي والبعدي لصالح التطبيق البعدي وهذا يعني أن للبرنامج التدريبي دور فعال في تحسين أداء المعلمين ووعيهم اللغوي. وبناءً على هذه النتائج، وُضعت بعض الاستنتاجات والتوصيات.

كلمات مفتاحية: برنامج تدريبي، الذكاء الاصطناعي، الأداء، الوعي اللغوي

## . Introduction

The current era is characterized by rapid developments which have made fundamental changes in many areas of society especially the field of education that requires increased efforts to cope with these changes. Educational institutions have to review their policies and goals to improve teachers' performance because teacher remains one of the most important human energies in the educational process whose role is to facilitate that process and to face the rapid challenges in this era. Our teachers are responsible of the challenges the world has witnessed, so we should give more interest concerning training them in order to keep up with all

developments and changes occurred in the field of education and to get rid of the difficulties ( Ghaidan & Touma, 2010:78). Despite of all developments and innovations offered by contemporary technology, teacher will remain the main factor in the field of teaching , as he/she is the person who organizes, manages and implements experiences for achieving the target goals (Fouad, 2017:92).

Furthermore, Kirkpatrick (2016:59) argues that training programmes ( henceforth, TPs ) form an important issue which pay the attention of many educationalists and specialists in the field of teaching. This makes them call to apply modern programmes and present all the efforts that serve teachers for upgrading their profession. Many studies recommend for constructing programmes taken from modern models and trends which help our teachers promote their skills. Therefore, nowadays TPs are given a great importance because they make a cornerstone in the field of education. They have a vital aspect to achieve the target goals and have an obvious effect on the students' attitudes towards the instructional materials ( Garrow, 2004 ).

Since teaching performance plays a vital role in the field of education and at the same time teachers today face many difficulties and challenges caused by the rapid developments, modern and cultural changes and all the factors may affect the students' consciousness. All these things have to take care of the teaching process which is considered an uphill career that demands a great interest of training and qualifying teachers ( Marie, 2018 ).

Yuniarti & Lingga (2019:130) mention that TP aims to promote teachers' language awareness to supply them with new information and experiences, so these programmes may be considered as a source the teachers use to renew their performance and knowledge inside the classroom to create an interesting environment . During service stage, TPs are considered as an essential part for

preparing our teachers, and we hope this process of preparation will go on during practicing their jobs to enhance their experiences and skills.

The reality of our educational institutions is still in failure to provide everything that would contribute to develop English teachers' performance. Most of them especially those who are fresh in service are not well qualified in a way that makes them able to teach in a good way as well as their inability to search for sources to develop their competencies and identify their weaknesses. This affects on their performance inside the classroom. All these things are comprehended by the researcher through his visits to schools as English language supervisors, his meetings with a number of fresh teachers, observing them inside the classroom, and taking the opinions of educators, head masters and other supervisors. It was found that there was a clear weakness in their performance and lack of their language awareness.

Poor teaching methods used by fresh English teachers and the limited skills they possess are required from the researcher to construct a TP in which there are modern applications, teaching methods, strategies and activities in order to enhance the teacher's role in educational process.

Therefore, teachers always need such new TPs to develop their performance and skills. So this study tries to find suitable solutions to the problems and difficulties that face our teachers by training them on a modern programme based on artificial intelligence applications in order to improve their performance. It is considered as an attempt to examine its effect to develop teachers' language awareness hoping that it would be beneficial programme for them.

The process of reforming the educational process must begin with the teacher. So it is necessary to shed light on how to prepare and train teacher so that he/she can carry out his/her roles effectively. Employing innovations ( TPs ) to

prepare teachers can break the traditional pattern and can contribute effectively to prepare teachers of the future to deal with these innovations.

The importance of preparing a TP for teachers may enable them to practice their new roles as facilitators, supporters, advisers and communicators. He/she interacts with teaching and learning data, and creates exciting educational situations by using modern educational techniques according to the requirements of the educational situation.

The researcher believes that training is a positive modification process that addresses teacher's behavior from a professional and practical perspective which aims to provide the teacher with knowledge and experience he/she needs to perform his/her educational work. Therefore, he/she must possess a number of educational and performance skills, as cognitive competence is the starting point for performance competence. Because teaching competencies consist of three basic elements (cognitive competencies, psychomotor competencies, and effective competencies) that integrate with each other and are considered the basis for their availability in the teacher (Marai & Mohammad, 2009).

The significance of the current study stems from the importance of the English teacher in the educational process because its strategic goals cannot be achieved except by him/her who is able to bear this responsibility as the American psychologist William James believes that the fate of any nation is in the hands of its teachers. The value of this study summarized by the researchers which stems from its usefulness in:

1. constructing a TP to promote teachers' performance and their language awareness in the light of the rapid developments.
2. providing English supervisors with important data to assess teachers' performance and their language awareness inside classrooms.
3. reinforcing the points of strength of the teachers' performance and addressing the points of weakness that will be reflected on their efficiency.

4. identifying modern educational trends that improve teachers' performance.

Farther mover, the findings of the present study are hoped to be of practical value to the English teachers in general, and to the fresh teachers in particular.

### **1.1 Literature Review**

It is very important to check previous studies that deal with modern programmes and AI in the field of teaching order to get an obvious view about these studies and how to deal with the present study. Hamad & Mohammed's study (2021) conducted to investigate the effectiveness of a TP based on Chomsky's theory for improving the performance of teachers' Arabic language. They choose a sample consisted of (50) primary teachers related to Education Directorate in Saladdin province. To achieve the aim of study, a checklist had been applied by the researchers. The results revealed that there had been a clear difference between the mean scores concerning performance in the pre and post-test for the favor of the post one. This is an evidence that the TP had enhanced the performance of teachers of Arabic. Jawad & Naseef's (2021) was conducted for proposing a TP to check the effect of a TP depends on Chomsky's theory for biology teachers in intermediate schools. The participants was ( 36 ) teachers taken from Baghdad/ Rusafa (1) during the academic year 2020-2021. They were distributed into two sections (experimental section and control section). According to the TP, the experimental section was trained by the researcher while the control one was taught according to the ordinary way. Results showed teachers' superiority in the experimental section who were trained according to the TP, which indicated the effectiveness of the constructed TP.

Artificial intelligence (AI) applications have received significant attention in previous studies, such as Ahmed's study (2022), which targeted the effectiveness of learning environment based on an artificial intelligence in developing achievement, decision-making skills, and attitudes toward technology among female students at

the College of Education at King Khalid University in the light of Kolb's model. The study by Muhammed & Ahmed's study. (2021) entitled an enrichment program based on artificial intelligence applications to develop achievement among Al-Azhar secondary school students. The study of Khaleel (2020) and Mahmood's study (2020) aimed to highlight the importance of various artificial intelligence systems and applications in developing the teaching and learning in Arabic language. The study of Andreas & Michael (2019), which dealt with the implications of artificial intelligence and job prospects. All the studies state the positive role of AI in education. Teacher' success in classroom depends on communication and rhetoric skills, as well as the level of language proficiency. A teacher needs to be aware of the importance of language. He / She becomes more aware of teaching language and more confident when he/she plans and responds his/her students. So, language awareness is an essential necessity for language teachers, as it affects the level of their writing, reading, speaking, listening skills, as well as their ability to convey knowledge about the language and interpret the difficulties their students face, and subsequently manipulate them. Several studies have found that teachers with high language awareness are more sensitive to difficulties and help their students learn the language better than their peers with lower language awareness. Abdi & Zahedi (2014) studied the effect of teachers' metacognitive awareness on their writing performance in the dimensions of accuracy and semantic complexity. They concluded that metacognitive awareness has an effect on writing performance and that it can be developed through various strategies. They recommended that its integration into teacher preparation programs be a primary goal, and that those responsible for preparing second language teachers should focus attention on their thinking processes, visions, and perceptions as a basis for the success of their programs.

The present study is considered a novel one and a valuable attempt because it will present a modern programme based on AI applications which serve our teachers in their job.

### **Artificial Intelligence**

AI is defined as the science that attempts to simulate human intelligence through electronic systems that mimic human behavior, actions, and words (Al-Ubaidi, 2015: 87).

It is systems that provide assistance and guidance to individuals to achieve their desired goals. These systems can support and develop individual learning by identifying and correcting weaknesses. It combines many sciences such as computer science, languages, cognitive psychology, mathematics, engineering, and others. It aims to produce systems based on knowledge in a specific field through which the computer has the ability of thinking, seeing, speaking, hearing, and moving. These systems are characterized by the ability to perceive, reason, and infer (Salim, (2001:271).

The contributions of AI in education are significant and have brought many benefits to both teachers and students (Malik, 2011:418). This field is comprised of the intersection of AI and educational technology, with the goal of deepening both teachers' and students' understanding of how learning is done and making the impact of external factors more visible and comprehensive with the support of AI technology. (Mu, 2019:771). Abdullah argued, "Some AI-powered platforms utilize machine learning algorithms to offer custom learning paths for students" (2024:763). In general, there are four main aspects of the educational process that may be affected by AI: content, teaching methods, assessment, and communication. For example, with regard to communication, intelligent tutoring systems can be used to provide appropriate feedback. With regard to teaching

methods, intelligent personalized learning can be employed, reaching intelligent educational robots.

### **Artificial Intelligence Applications**

The term "AI applications" in the educational field refers to programs and applications that provide teachers and students with guidance and assistance as they learn to reach proficiency. They are characterized by their ability to generate and deliver appropriate responses, track browsing patterns, and monitor how students navigate within the educational environment (Subramanian & Swati, 2018,:148).

Since there are so many AI applications, the researcher has made a questionnaire including more than thirty applications and ask the jury members to choose the appropriate ones that serve the aims of the study. So, their choice highlights on (14) applications as follows:

#### **1.Robots**

This technology is similar to human intelligence, capable of processing information and interacting with people. It also possesses visual prediction and the ability to move and touch, making it possible to use it to manage the teaching process, teach independently or as an assistant. It can also assist with office tasks such as assigning tasks and correcting tests, in addition to improving students' motivation in the classroom and their enjoyment of the lesson (Jin, 2019:293).

#### **2.Virtual Reality**

They are environments that simulate reality and present their content in a way that enables the user to experience and interact with the components of this technologically generated environment through computers or other assistive devices (smartphones, metal chips, and virtual reality glasses). When AI is combined with virtual reality technology, it provides teachers and students with intuitive, visual, and multi-sensory stimulation, which greatly aids their learning.

By integrating virtual reality into education, the classroom is no longer restricted by the narrow physical boundaries of the classroom, the board, and presentations. Students can achieve a deep understanding of knowledge that was previously unimaginable. They are provided with an interactive and vibrant learning environment, enabling them to explore freely and learn independently (Jin 2019: 293 ).

### **3.Smart Content**

Companies are creating smart content platforms complete with practice exercises, and real-time assessment. For example, Netex Learning Program allows teachers to design digital curricula and content across devices and integrate multimedia such as video and audio. The concept of smart content becomes increasingly important, as educational robots can create digital content with the same level of proficiency as their human counterparts. AI can also help digitize textbooks or create viable digital learning interfaces (Subramanian & Swati, 2018: 147).

### **4.Chatbot**

It is called "bots". It is an intelligent application that analyzes messages sent to it and responds to them from a pre-saved database. This adds efficiency and effectiveness to education and helps teachers and students integrate into the educational environment.

### **5.Intelligent Adaptive Teaching**

It is an application that aims to meet different educational needs based on student preferences, providing learning activities that best match the student's cognitive needs and providing targeted and rapid feedback. There are many diverse artificial intelligence methods employed in adaptive learning systems, such as fuzzy logic, decision trees, Bayesian networks, neural networks, genetic algorithms, and hidden Markov models.

## **6.Smart Evaluation**

AI applications help automatically assess and correct complex tests and assignments, evaluate higher-order thinking skills, review data extensively, highlight the strengths and weaknesses of teachers and students, analyze their performance, and provide students with the support they need.( Jin, 2019:297).

## **7.Administrative Task Automation**

AI has significant potential to automate and accelerate administrative tasks for both educational institutions and teachers. Homework assignments can be assessed automatically, tests can be graded automatically, and student questions can be answered at any time (Subramanian & Swati, 2018:154).

## **8.Dynamic Scheduling and Predictive Analysis**

Using predictive computing, AI can learn student habits and suggest the most efficient study schedule for them, without causing boredom or fatigue (Subramanian & Swati, 2018: 291).

## **9.Expert Systems**

A programme designed to simulate and mimic human intelligence, skills, or behavior, and can help provide personalized, real-time teaching or immediate feedback to students .

## **10.Machine Learning Applications**

One of the most promising applications of machine learning methods in education is automated systems that estimate a student's grade on essay questions, and early detection and warning systems that identify students who are struggling academically without completing their degrees and education (Murphy, 2019:173).

## **11.Smart Educational Games**

They are educational games programmed and designed to achieve specific educational goals. These games are characterized by challenge, imagination, competition, and excitement. They increase concentration, stimulate mental

activity, enable rapid problem-solving, improve logical decision-making, and strengthen social relationships and connections.

## **12.Distinguishing and Reading Letters**

It is a programme that converts printed images or handwritten text into editable texts that can be modified by analyzing the file. These programs can also be used for spell checking, guessing and correcting missing or unknown words in texts.

## **13.Summarizing Texts**

A program that works with extreme precision, summarizing long texts in a way that makes them easier to read and comprehend. Important information can be summarized in a rapid time. These original texts can be articles or research papers.

## **14.Language Learning Application**

This application is based on the ability to understand and work with human languages, as well as the ability to converse with people. It aims to improve users' foreign language skills by providing diverse educational content tailored to their individual level and needs. It also offers a range of exercises and activities to expand users' vocabulary and improve their language comprehension.

### **1.2 Linguistic Awareness**

According to the American Psychological Association (APA), linguistic awareness is defined as the ability to reflect on and manipulate the structural aspects of language, including phonology, morphology, syntax, and semantics and being able to think about and analyze language itself. (APA,2020). It so necessary for students to acquire some skills from their teacher as Salim mentioned, “by using language in creative ways, learners can enhance their fluency and confidence” (2025:11).

There are four components of linguistic awareness as follows:

#### **a. Phonological awareness**

It refers to the ability to identify and manipulate the sound structure of language that involves being able to:

- Identify individual sounds (phonemes) within words
- Segment words into individual sounds
- Blend individual sounds together to form words
- Manipulate sounds within words (e.g., changing one sound to another)
- Recognize rhyming words and word families

Phonological awareness is a fundamental skill that lays the foundation for reading and literacy development. (Cunningham & Carrol, 2015:214)

### **b. Syntactic awareness**

It refers to the ability to understand and analyze the structure of sentences, how words are arranged and how different parts of speech function within those structures including:

1. Sentence structure: Understanding how words are organized to form sentences.
2. Grammar: Recognizing and applying rules of grammar, such as verb tense, subject-verb agreement, and clause structure.
3. Phrase and clause structure: Identifying and understanding how phrases and clauses function within sentences.

Syntactic awareness helps readers understand complex sentences and texts and enables writers to construct clear and effective sentences as well as it is essential for language learners to understand and produce grammatically correct sentences. (Deacon & Kieffer, 2018)

### **c. Morphological awareness**

It deals with individuals' ability to recognize and understand the internal structure of words and includes being able to:

- Identify root words, prefixes, and suffixes

- Understand how prefixes and suffixes change the meaning of words
- Recognize word families and patterns
- Analyze and break down words into their component parts
- Use morphological knowledge to decode and spell unfamiliar words

Morphological awareness is a crucial skill for language all , as it supports vocabulary development and expansion,enhances reading comprehension and decoding skills, and helps with spelling and word recognition.

(Cunningham & Carrol, 2015: 215)

#### **d. Semantic awareness**

It refers to the ability to understand the meaning of words, phrases, and texts that involves being able to:

- Understand word meanings and connotations
- Recognize nuances of language, such as idioms, metaphors, and figurative language
- Analyze and interpret complex texts
- Identify and understand relationships between words and concepts
- Use context to disambiguate word meanings and infer meaning

Semantic awareness is essential for supporting reading comprehension and literacy development, enhancing vocabulary development and expansion, facilitating effective communication and understanding as well as helping with critical thinking and analysis.

### **1.3 Performance**

Performance can be defined as a set of interrelated expressive behaviour of the teacher (verbal and nonverbal) which can be observable, explainable, assessable, demonstrable and refinable through perfect practices. It refers to different direct or indirect practices or behaviours adopted by teachers to enable their students to get a better learning (Washington, 2011: 47).

Moreover, teacher's professional performance should be characterized by ease, accuracy, adaptability, flexibility, speed and understanding with saving efforts and cost. Performance means the ability of teacher for motivating, and creating opportunities by which knowledge and information can be given to students ( Rasheed, 2016:38).

### **1.3.1 Components of Performance**

Darling-Hammond & Margaret (2010:87) state that there are three main components as follows:

#### **a. Cognitive Component**

Teacher must be familiar with the instructional material in all its details and must prepare for the lesson in advance.

#### **b. Effective Component**

The teacher here must know all the students' characteristics such as: their needs, their mental abilities, their attitudes. Teacher is considered as a psychological supporter for students especially those who can not express themselves and all barriers between teacher and students should be removed.

#### **c. Psychomotor Component**

Here teacher must take his/her role in creating an effective instructional environment, bringing appropriate educational means, moving among the students, monitoring their performance , supporting them and guiding them, and knowing how to use the board correctly.

Brunn (2010) and Strong (2011) classify performance into three domains as follows:

### **1.Planning**

It is "a prior vision of what the teachers will do concerning procedures , methods, strategies, activities, and the use of means so as to achieve the target objectives." Planning is considered the 1<sup>st</sup> skill done by the teacher and should be

mastered if he/she wants to be distinguished in his/her job, by which teacher can prepare the material to be taught and how and what it would be taught. It helps the teacher formulate the behavioural objectives, how to analyze the material content and identify the appropriate method for presenting the instructional material. Planning has a vital role for selecting and identifying the teaching methods and strategies properly, required materials and educational aids, as well as organizing the activities that will be carried out. Throughout of planning, the teacher can know his/her role and the students' role and identify all activities will be done and the knowledge they are going to get through the procedures will be applied.

## **2. Implementation**

It is a process that involves all behaviours and procedures done by the teacher inside the classroom. The teacher cannot succeed in teaching unless he/she possesses the skill of classroom management, how to use warm up activities, how to link the previous lesson with current one. Teacher should have the ability of stimulus variation to avoid boring actions because monotony in the stimuli may annoy the students. Teacher should know the time and the way of asking questions because the student needs enough time to think for answering the question. It is also so important for teacher to have the skill of finishing the activity in a suitable manner by focusing on the most important aspects of the lesson.

## **3.Evaluation**

Any teacher must begin with evaluating his/her students to discover from where he/she starts and during the period he/she must use evaluation to know their progress as well as at the end of the semester must evaluate them to check the outputs for achieving the target goals.

Teachers can assess and evaluate precisely to reflect the results of learning their students. Various techniques of assessment can be applied such as formative assessment, peer assessment, questionnaire, self assessment and summative assessment. Evaluation also provides the teachers with reliable base in setting students' marks with a fair way.

### **3. Methodology**

#### **3.1 Design of Research**

In order to achieve the aims of this study, the researcher has utilized both quantitative qualitative methods. Systematic processes of observation are used in this approach that depends on collecting data as well as analysis to determine the present state of the institution and propose opportunities for development. It offers some justifications for constructing the TP and puts three stages of construction, as follows:

**a. Planning Stage**  
This stage deals with identifying teachers' needs and characteristics. In the current study, the required information about the teachers were obtained from the General Directorate of education in Anbar. They are the persons who are teaching the students English in secondary schools. They have not participated in any previous TPs before this experiment. Furthermore, the demands of the trainees were recognized through discussions with some supervisors who work directorate of education , and headmasters in school who are being considered in the development of the content of TP.

An appropriate environment, i.e. both of the educational environment elements (physical and psychological environment) was chosen and prepared for applying the programme to the sample and coming up with appropriate results for the purpose of making the most of the programmes to improve performance and language awareness.

## **b. Constructing Stage**

It includes setting the objectives of the programme divided into two types. General objectives are formulated after analyzing the linked sources and subjected to jury members specialized in methodology field and linguistics. Depending on their notes these objectives have been formulated to be the 1<sup>st</sup> grade to construct TP.

Behavioural objectives have been derived according to Bloom Taxonomy which have been exposed to the same jury (in each session) for review by the target trainees, as well as what should be accomplished during the session.

The content of the TP consists of a collection of knowledge, experiences and concepts for bringing positive developments in the behavior of teachers in accordance with the determined objectives.

Communicative language teaching as a method has been adopted by the researcher in training the participants. There were various educational activities like role-play , team work, collaborative groups, games and brainstorming questions as well as educational aids such as data show , laptop , charts and figures. All these procedures and means help the trainees comprehend the material and topics of the TP effectively.

Concerning the training sessions, the researcher has designed the programme with eight sessions and implemented in all their stages, which included preparing for the lesson and diversifying the stimuli in addition to the skill of asking questions and finally, the closing stage (ending the lesson). Each session of the TP is derived from AI applications.

Each topic of the TP has a special daily plan accordingly and submitted to group of professionals, who agreed on the plan with some notes.

## **c. Evaluation Stage**

There are many kinds of evaluation utilized in this TP, such as formative evaluation in which trainees' performance are evaluated during and after conducting each of the session so as to check, and treat the trainees' progress through (oral questions) and exploratory conversation between the trainees and the trainer. To assess the effectiveness of the TP, a summative evaluation of trainees' performance and language awareness was conducted at the end of the programme period.

When implementing the TP, a feedback activity was employed in which trainees were given questions concerning their learning and grasp the concepts and vocabularies. Trainees' comprehension of these concepts can be assessed by using tests and practices.

### 3.2 Experimental Approach

Here the researcher has adopted the experimental approach “One-group Pretest-Posttest Design” because it is appropriate for the aims and hypotheses of the study. It is utilized to state the impact of the TP on the teachers' performance and language awareness. The checklist of observation and the test have been prepared for checking the sample both before and after the TP was conducted, as clarified in table (1).

**Table (1)**

| Group        | Before the Experiment                                                                             | Independent Variable                         | Dependent Variables                          | After the Experiment                                                                              |
|--------------|---------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------|
| Experimental | Observation checklist for assessing trainees' performance and a test for their language awareness | A Training programme based on AI Application | Trainees' performance and language awareness | Observation checklist for assessing trainees' performance and a test for their language awareness |

#### 3.2.1 Population and Sampling

First of all, the researcher visited the General Directorate of Education in Anbar for administrative issues to get permission for meeting the teachers. They have given information about the programme and its requirements. The researcher has got an agreement from the department and then the consent of teachers by online form. This form has been given to the participants to consider their consent and to collect more details about their personal information.

So the population includes all the English teachers who are teaching the students in Ramadi secondary schools during the academic year 2024-2025. Their total number is (110) teachers. After excluding (20) teachers who have teaching experience, their number reduces to (90). A sample of (45) teachers represents 50 % of the original population was chosen in a random way by the researcher.

### **3.2.2 Instruments of the Study**

The researcher has constructed two instrument: firstly, an observation checklist is used to measure teachers' performance which is consisted of three-points scale including fifteen items distributed among three domains (planning, implementation, and evaluation ). The researcher has adopted the scale whose grades from 3 to 1 where 3 is 'always'; 2 is 'sometimes'; and 1 is 'seldom'. Secondly, a test is used to check teachers' linguistic awareness that involves twenty various items.

### **3.2.3.Validity of the instruments**

Both of them were presented to a jury of experts in the field of ELT and linguistics for ensuring face validity. The jurors are requested to determine if the items are suitable or not, as well as to put their adjustments, any necessary alterations or additions to serve the purposes of the current study. All the comments of jury show that the items are reasonable and valid.

### 3.2.4 . Pilot Study

A pilot sample of (15) teachers was chosen randomly from the original population and observed by the researcher in their classes as well as they have been taken the test concerning linguistic awareness. The goal of the pilot study is to determine the clarity of the questions, the required time for each teacher to be observed, the suitability of the items in the instrument and lastly, the reliability of the instruments. Pearson Correlation Coefficient Formula was used after collecting data by the observer and manipulated statistically. The results have indicated that the reliability is more than 0.82, which is considered an acceptable average.

### 3.2.5. Observation of Teachers

Validity of the instrument and its reliability have been ensured by the researcher, and then they observed the participants individually in front of their colleagues before exposing them to TP in the beginning of October 2023. After that the sample has given the TP for three months. At the end of the training period, they have been observed again by the researcher himself to measure their performance. Each teacher has been observed for twenty minutes, during which her/his performance is evaluated according to the checklist constructed earlier. The observer ( the researcher) sat on a chair in a place lies at the end of the classroom and put (✓) in front of statements that are always done by the teacher, (✓) in front of statements that are sometimes done and (✓) in front of statements that are seldom done. Accordingly, (3) marks have given to each teacher who has got to the 1<sup>st</sup> alternative, (2) marks have given to the 2<sup>nd</sup> alternative and (1) mark to the 3<sup>rd</sup> alternative. Therefore, the total mark of the checklist is (150) marks.

### 3.2.6. TP Application

After preparing all the requirements and getting the teachers' consent and administrative agreements, the researcher has put a suitable timetable for carrying out the TP. It started in October 2023, with two lectures weekly where

each lecture takes 120 minutes, with a ten-minute break between them. The place was in the ordinary hall specialized for training teachers in department of training. TP application has finished at the end of December 2023. Various modern means and technologies ( movies , power point , data show, and practical activities ) and motivating styles and strategies ( team work , pair work , and collaborative learning) have been utilized during the training period. Some educational means and activities have been used by the trainees during the application of the TP, such as teamwork and role-playing, and this contributes to the consolidation of information in their minds.

#### 4.1 Analysis of Data and Discussion of Results

Data has been collected by the researcher and analyze teachers' responses to the checklist and the test for achieving the aims and verifying the hypotheses of the study "There is no statistical difference between the mean scores of the teachers' performance and language awareness in pretest and posttest due to TP" . Teachers mean score and their standard deviation concerning performance and language awareness in the posttest are illustrated in table 2 :

Table (2)

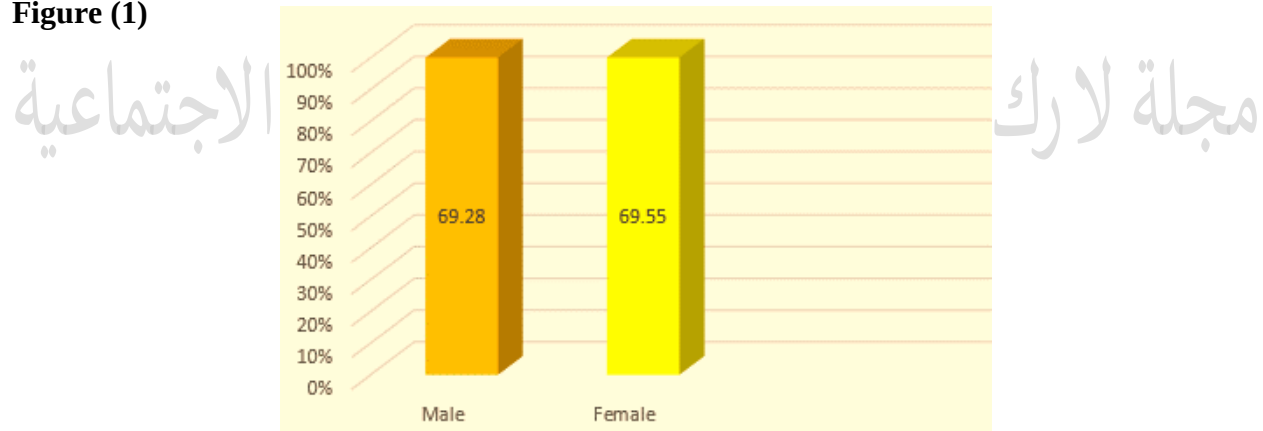
| D. Variables       | Test | Mean  | SD   | Mean of differences | SD of differences | T- Value   |           | DF | Level of Significance |
|--------------------|------|-------|------|---------------------|-------------------|------------|-----------|----|-----------------------|
|                    |      |       |      |                     |                   | Calculated | tabulated |    |                       |
| Performance        | Pre  | 24.85 | 4.24 | 8.28                | 3.93              | 10.21      | 2.00      | 44 | 0.05                  |
|                    | Post | 32.68 | 3.85 |                     |                   |            |           |    |                       |
| Language Awareness | Pre  | 25.92 | 5.12 | 7.64                | 3.43              | 11.15      | 2.00      | 44 | 0.05                  |
|                    | Post | 33.56 | 4.52 |                     |                   |            |           |    |                       |

The findings of the current study have shown that the TP has promoted teachers' performance in the variety of domains depended in the checklist of observation as well as in the test of language awareness. By using T-test for two paired-samples , the calculated t-values are the higher compared with tabulated

values which means that there are statistical differences between the teachers' performance and language awareness for the post- test.

The results concerning the 2<sup>nd</sup> hypothesis “There are no significant differences between the mean scores of the male and female teachers in gender variable.” The researcher has utilized Mann-Whitney test to discover the differences between the mean scores of male teachers and female teachers. The findings have revealed that the mean of male teachers was ( 69,28) and the mean of the female teacher was ( 69,55) as clarified in figure 1. This result has indicated that there is no any differences between them due to the gender variable because both of them (male and female teachers) during the experiment were received the TP with similar circumstances.

**Figure (1)**



As shown earlier in the statistical analysis of the data gained, the TP which is used by the researcher in the experiment has proven its effectiveness since teachers' performance and their language awareness have improved in the post-test administered at the end of the experiment. The findings also reveal a remarkable and significant improvement in all the major skills ( planning , implementation , and evaluation ) as well as the minor skills. The improvement of the teachers' performance and their language awareness may be attributed to the following reasons:

1. English teachers have been trained on a theoretical and practical materials that involve methods of teaching , modern strategies, skills, and new activities which promote in making the training process more interesting and enjoyable.
2. The suggested TP is constructed according to AI applications compatible with the modern concepts of education that focus on the trainees as important roles in the educational process.
3. The suggested TP has been done in a democratic free atmosphere in which all the trainees can express and discuss their opinions.
4. This TP has given the trainees the ability to master most of the areas of performance and language awareness for applying them in the class and stay far in presenting the materials randomly.
5. Using technologies like data show, smart board, AI applications, and videos add a positive effect to improve the trainees attitudes.
6. The suggested TP has a crucial role in increasing and motivating the trainees' feeling and interest in the material that makes a positive competition among them.

The present study has been in an agreement with the results of Hamad & Khalaf's study (2021) which emphasized the positive influence of the TP on the performance of Islamic teachers. It is also similar the findings of Jawad & Naseef's study (2021) which showed the effectiveness of TP in improving the efficiency of biology teachers in intermediate schools. That is to say, the teachers who are trained by using the TP are more able to master the skills of the English language teachers if they were compared with others.

## 5.1 Conclusions

Relying on the findings, the researcher has concluded that:

1. The TP based on AI applications has developed English teachers' performance and their language awareness and the clarity of the TP and the harmony

respondents with its objectives that provide the training needs make it more beneficial and useful.

2.The content of the TP ( theoretical and practical aspects) improves its impact that helps teachers develop their performance , skills and knowledge. Teaching according to AI applications requires open-minded, active trainees who comprehend it and its applications. All these things help in implementing the TP which was reflected in the improvement of performance.

3.The activities of the TP, which were characterized by their gradualness, diversity, and connection to the reality of teachers and their educational environment, has a great impact on developing their knowledge, and then their benefit was reflected in their performance inside the classroom.

4.Teachers always need modern TPs because these programmes provide attraction and excitement towards teaching process.

5.The impact of the proposed TP was not limited to improve teachers' performance, but also contribute to enhance other cognitive aspects such as self-confidence, motivation towards achievement, and curiosity.

6.The emphases on creating cooperative groups during teaching has an important role in identifying knowledge, building it, and using it to reach new knowledge. It also enables them to accept the opinions of their colleagues and exchange knowledge.

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