دمج أدوات الذكاء الاصطناعي في "استخدام محطات التعلم كاستراتيجية للتعليم المتمايز في تدريس اللغة الإنكليزية في المدارس العراق الثانوية

Integrating AI Tools into "Using Learning Stations as a Differentiated Instruction Strategy in Teaching English at Iraqi Secondary Schools "

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الكلمات المفتاحية: الذكاء الاصـــطناعي, محطات التعليم ,الممارســـات التعليمية, المدارس الثانوية ,احتياجات التعليم.

Keywords: Artificial Intelligence, Learning Stations, Differentiated Instruction, Secondary Schools, Learning Needs.

الملخص

تهدف الدراســـة الحالية الى معرفة اثر اســـتخدام دمج أدوات الذكاء الاصـــطناعي في "استخدام محطات التعلم كاستراتيجية للتعليم المتمايز في تحصيل طلبة المدارس الثانوية في مادة اللغة الإنكليزية وذلك من خلال اختبار صـــحة الفرضـــية. وتتكون عينة الدراســـة من ٤٠ طالبا موزعين بالتســـاوي الى مجموعتين،الأولى المجموعة التجريبية والثانية المجموعة الضـــابطة إذ تم تدريســـهم النصـــوص الاســـتيعابية بأســـلوبين مختلفين. فدرســـت المجموعة التجريبية باســـتخدام اســـتراتيجية محطات التعليم مدمجة مع أدوات الذكاء الاصـــطناعي بينما درســـت المجموعة الضـــابطة باســـتخدام الأســـلوب التقليدي وكانت مدة التجربة ثلاثة أســـابيع. خلالها تم بناء اختبار تحصـــيلي طبق على المجموعتين من اجل الحصـــول على البيانات اللازمة والتي عولجت إحصـــائيا. وأظهرت نتائج الدراسة ان مستوى تحصيل المجموعة التجريبية كان افضل من مستوى تحصـــيل المجموعة الضـــابطة مما يدل على كفاءة استراتيجية محطات التعليم المدمجة مع أدوات الذكاء الاصـــطناعي وفاعليتها في تحســـين تحصـــيل طلبة المدارس الثانوية في مادة اللغة الإنكليزية.

Abstract

The study aims to integrate AI integrating with learning stations as a differentiated instruction strategy in teaching English at Iraqi secondary schools. This aim is supposed to be achieved by verifying its hypothesis. The sample of the study consists of forty EFL secondary school students, equally divided into two groups: an experimental and a control groups. The experimental group is taught English reading comprehension (Old ways of sending information and Great invention)by using AI tools integrated with learning stations as a differentiated instruction strategy, while the control group is taught the same material using the traditional method. A posttest is conducted and applied to both groups. The collected data are collected analysed statistically. The obtained results show that the mean scores of students' achievement of the experimental group in the posttest are higher than those of the control group. This indicates that the investigated strategy has a positive effect on Iraqi secondary school students' achievement in the English language.

Section One
Introduction
1.1 Statement of the Problem

The incorporation of Artificial Intelligence (AI) tools into educational approaches, including learning stations, offers a significant opportunity to revaluations differentiated instruction in English teaching at Iraqi secondary schools. Nevertheless, adopting such innovative methods encounters considerable obstacles within the Iraqi educational system. While AI has the potential to tailor learning experiences and boost student engagement, there is a notable absence of research and a practical framework to support its integration into conventional teaching strategies like learning stations. This issue is especially evident in resource–limited settings, where access to technology and adequate teacher training remains insufficient (Al-Mahmood, 2020:124)

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Differentiated instruction, which adapts teaching approaches to address the varied needs of students, is increasingly acknowledged as a vital strategy for enhancing learning outcomes. learning stations, as a method of differentiated instruction, enable students to interact with content at their own pace and proficiency level. However, the success of this approach in Iraqi secondary schools is limited by factors such as overcrowded classrooms, scarce resources, and a rigid, uniform curriculum (Al-Hassani ,2019:22). Incorporating AI tools into learning stations has the potential to overcome these challenges by offering personalized learning experiences, instant feedback, and data-driven analysis of students progress. Despite this potential, the absence of adequate infrastructure and teacher readiness to implement such technologies continuous to pose a significant obstacle (AL-Zubaidi, 2021:46).

Additionally, the Iraqi education system is still in the process of recovering from years of conflict and insufficient funding, resulting in outdated teaching practices and limited access to contemporary technology. While AI tools have been effectively utilized in other nations to enhance differentiated instruction, their implementation in Iraq remains largely uncharted territory. This uncertainty raises concerns regarding the practicality, efficacy, and cultural relevance of incorporating AI into learning stations within this specific context (Al-Dabbagh, 2022 :79).Without a thorough understanding of how AI can be tailored to address the distinct challenges faced by Iraqi schools, the potential advantages of this integrating may remain untapped.

A further significant challenge is the scarcity of professional training opportunity for Iraqi teachers in utilizing AI tools. Many educators lack

familiarity with the potential of AI and how it can be employed to improve differentiated instruction. This gap in understanding restrict their capacity to create and execute learning stations that integrate AI technologies. Moreover, there is a pressing need for study that discovers the effects of AI – AI-enhanced learning stations on student performance within the Iraqi context, as the majority of existing studies focus on Western or technologically developed educational systems (Al-Jumaili, 2023:45).

1.2 Aims of the Study

The study aims to examine whether the integration of AI tools into learning station enhances the effectiveness of differentiated instruction in teaching English at Iraqi secondary schools.

1.3 The Hypothesis of the Study

There is no significant differences in the academic performance and engagement levels of students in the experimental group (using AI-integrated learning stations) with those in control group (using learning stations) in Iraqi secondary schools.

1.4 The Limit of the Study

This study is limited to the integration of AI into the use of learning stations as a differentiated instruction strategy for teaching English to second-grade students at **Tisin Shhidlere** secondary school during the academic year 2024-2025.

1.5 The Value of the Study

This study holds significant value for both the academic community and the Iraqi educational system, particularly in the context of teaching English at the secondary school level. By integrating AI tools into learning stations as a differentiated instruction strategy, the study aims to address critical challenges and contribute to the advancement of teaching practices in Iraq. Below are the key aspects of the study's value :

1.Advanced Differentiated Instruction

The study provides a practical framework for implementing differentiated instruction through learning stations, tailored to the diverse needs of students. By integrating AI tools, it offers a modernized approach to personalizing learning experiences, which can help bridge gaps in student abilities and improve overall learning outcomes.

2.Enhancing Teacher Capacity :

The study emphasizes the importance of teacher training in adopting AI tools and modern pedagogical strategies. By equipping teachers with the skills to use AI-integrated learning stations, it contributes to their professional development and empowers them to implement innovative teaching methods.

3. Improving Student Engagement and Performance

By leveraging Al-tools to provide real-time feedback, adaptive learning paths, and interactive content, the study aims to increase student engagement and motivation. This can lead to improved academic performance, particularly in English language skills, which are critical for students' future academic and professional success.

4. Bridging the Research Gap

While AI tools have been widely studied in technologically advanced educational systems, their application in resource-constrained environment like Iraq remains unexplored. This study fills a critical research gap by examining the feasibility, the effectiveness, and cultural appropriateness of AI integration in the Iraqi context.

5. Informing Policy and Practice :

The finding of this study can inform educational policymakers and school administrators in Iraq about the potential benefits and challenges of integrating AI tools in teaching practices. It provides evidence- based recommendations for scaling up such initiatives across the country.

6. Promoting Equity in Education

By focusing on differentiated instruction, the study aims to promote equity in education by ensuring that all students, regardless of their learning levels or backgrounds, have access to personalized and effective learning opportunities.

1.6 The Basic Definitions of the Study

1. Artificial Intelligence (AI)

AI tools are software applications that leverage artificial intelligence technologies, including machine learning, natural language processing, and adaptive algorithms, to support and improve educational processes (Luckin et al., 2016:5).

The operational definition: It is incorporated into learning stations to tailor tasks to individual student needs, provide instant feedback, and generate insights into learning progress.

2. Learning Stations

Learning stations are specific areas within a classroom where students participate in targeted activities or tasks related to the lesson. This method enables students to learn at their own pace and level, fostering active and personalized learning (Tomlinson, 2014:39).

The operational definition: Learning stations are utilized to teach English language skills, with each station concentering on a particular aspect, such as reading, writing, vocabulary, or grammar.

3. Differentiated Instruction :

It is a teaching approach that adapts instructional methods to accommodate the varied needs, abilities, and interests of students. It involves adjusting the content, process, and outcomes of learning to ensure all students can effectively engage with the material (Tomlinson ,2017:4).

The operational definition: It is implemented through learning stations, with AI tools enhancing the personalization of tasks and providing adaptive support.

Section Two

Theoretical Background

2.1 The concept of Differentiated Instruction Strategy

Differentiated instruction is a teaching methodology designed to accommodate the varied needs of students by adapting instructional techniques. It acknowledges that students differ in their readiness, interests, and learning preferences, and therefore, teaching methods must be customized to address these variations. As Tomlinson (2014:36) explains, this approach involves adjusting the content, methods, and outcomes of learning to ensure that every student can effectively participate and succeed. This strategy fosters inclusivity and enables educators to tackle the individual challenges faced by learners.

Therefore, a fundamental aspect of differentiated instruction is its adaptability. Educators employ diverse teaching techniques, such as tiered tasks, learning stations, and flexible group activities, to clear to different learning styles and abilities. For instance, tiered tasks allow students to engage with materials suited to their proficiency levels, while learning stations encourage interactive and experiential learning (Subban ,2006:935).

Another critical element of differentiated instruction is the use of continuous assessment and feedback. Teachers regularly evaluate student progress and refine their instructional methods based on these insights. This responsive approach helps pinpoint areas where students may require extra support or advanced challenges (Heacox, 2012:25).

2.2 The Essential Elements of Differentiated Instruction Strategy

Tomlinson and Allan (2000:72) described differentiated instruction as teacher's natural response to addressing a student's individual needs. These needs might include expressing humor, collaborating in a group, exploring a topic in greater depth m receiving additional instruction on a particular skill, or obtaining guided assistance with a reading passage. The teacher responds proactively and supportively to these needs, either on an individual basis or with a small group of learners. Differentiated instruction strategy can be shaped as the following elements :

1.Learning Needs

The primary goal of a differentiated instruction strategy is to promote student growth and individual achievement. The key principles that underpin this approach include adaptable learning objectives, continuous and meaningful assessment, flexible grouping, engaging and respectful tasks, and strong collaboration between students and teachers. In any classroom, students are likely to exhibit significant diversity in their learning styles and needs. This variation becomes even more pronounced when the group includes students with learning difficulties or disabilities. The diverse learning characteristics observed among students in today's schools necessities that teachers employ a broad range of strategies to effectively address these differences in their classrooms (Bender, 2012:7 and Khalaf, A. E. (2020:498).

Teachers actively modify the curriculum, instructional materials, teaching techniques, learning tasks, and students' outcomes to cater to the needs of individual learners or small groups. By employing a differentiated instruction approach, they aim to maximize learning opportunities for every student in the classroom (Hillier ,2011:50). See Figure 1

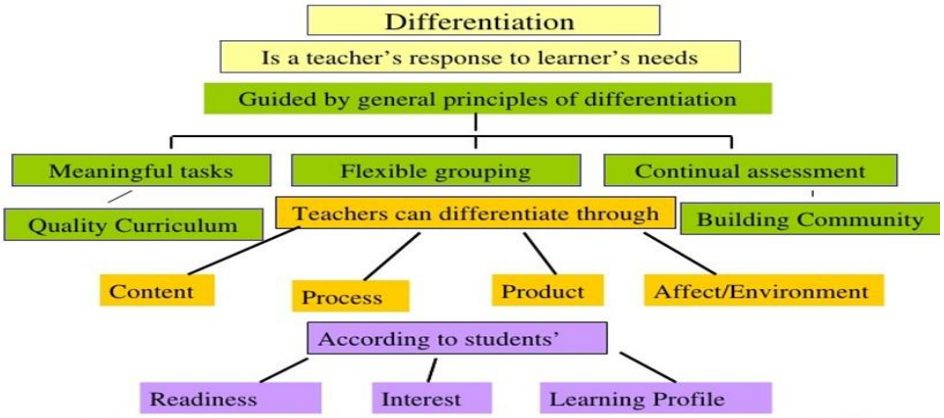

Figure (1)

The Elements of Differentiated Instruction Strategy

(Tomlinson ,2000 : 45).

2. According to Students' Needs

A. Readiness : This refers to the learner's current level of understanding or skill in relation to the topic being taught.

B. Interests : Incorporating students' interests enhance the relevance of learning by connecting new information to their passions and personal experiences.

C. Learning Preferences : These are the various ways in which students prefer to process, understand, and engage with information. Factors such

as culture, gender, classroom environment, multiple intelligences, and learning styles influence these preferences.

By consistently considering a student's readiness, interests, and learning preferences, teachers can increase the likelihood that students will successfully build new knowledge by connecting it to what they already know and their preferred ways of learning. This approach also helps keep students engaged in the learning process (Grasha, 1994:12).

3.Teachers can be differentiated through the following keys :

A. Content

Content refers to the knowledge or skills that students are expected to master through instruction. While all learners follow the same curriculum, the content may vary in depth or complexity to suit individual needs (Levy, 2008:161). It encompasses the following :

1. Includes curriculum topics, concepts, or themes.
2. Aligns with national or state educational standards.
3. Introduces essential skills and key information.
4. Adapts by assessing students' prior knowledge and abilities, then pairing them with appropriate tasks.
5. Offers students opportunities to explore topics in greater depth within the learning programme.
6. Supplies additional materials tailored to students' comprehension levels.

B. Process

Process refers to the methods teachers use to deliver instruction and how students engage in learning. The activities designed for students' learning must cater to diverse learning styles, interests, and abilities. Teacher should adapt their teaching approaches to meet the needs of various learners by assessing students' starting points and building on their existing knowledge to enhance their learning (Adami ,2004:93). It includes the following :

1. Focus on how students comprehend or interact with the material, skills, and concepts being taught.
2. Reflects students' preferences and learning styles.
3. Enhances the learning process by aligning it with how students learn best (Adami, 2004).

C. Product

Product refers to the way student demonstrate what they have learned. It should showcase their abilities and reflect their learning styles. When differentiating instruction through products, it is essential to recognize, respect, and value the diverse ways students can respond to tasks. However, written assignments remain the most commonly used method for obtaining student feedback (ibid:95).It includes the following :

1. Aims to be concrete: examples include brochures, reports, skits, speeches, and tests.
2. Demonstrates student understanding.
3. Offers differentiation by providing variety, challenge, and choice.

2.3 Differentiated Instruction Strategies Function as KUD

A core principle of differentiated instruction is that the teacher, as the classroom leader, must take deliberate steps to ensure students learn what is necessary to meet curriculum requirements and state standards. This means that before starting a unit, the teacher must clearly define the expected learning outcomes for students. While this may seem obvious, it is a step that is often overlooked. One practical approach recommended by differentiation experts is the **KUD method**. As the teacher plans a unit, they should explicitly outline what they want students to **Know (K)**, **Understand (U)**, and **Do (D)** (Tomlinson, 2005:7).

Steps as Follow :

1.Before starting any unit, the teacher should determine what students need to **Know (K), Understand (U)**, and **Do (D).** Each of these components should be differentiated as follows :

Know : facts, vocabulary, definitions, places, or specific information.

Example :Memorizing multiplication tables

Understand : Key principles, essential truths, big ideas ,or generalizations.

Example : Understanding that multiplication is a shortcut for repeated addition.

Do : Basic skills, critical thinking, planning, or actions (often expressed with verbs).

Example :Solving problems that require multiplication.

2.The teacher should use **KUD** chart as a framework to guide their instructions.

3.The **KUD** chart should be displayed prominently in the classroom so students are aware of the expectations.

Section Three
Procedure
3.1 Experimental Design

Experimental design refers to a structured approach for allocating experimental units to various treatment conditions, along with corresponding statistical analysis outlined in the plan (Kirk, 2009:23).Its primary aim is to examine the impact of an independent variable on dependent variable (Bell, 2009:672).

Table (1)

The Experimental Design

Experimental grou	**AI integrating with differentiated instruction**	**Posttest**
Control group	————————	Posttest

The experimental design utilized in this study is known as the "Posttest -Only Equivalent-Group Design " (Best and Kahan, 2006:177), as shown in Table (1).

This design involves the following steps :

1.Randamoly assigning groups to the experimental and control groups,
2.Applying the independent variable exclusively to the experimental group ,
3.Teaching the control group the same content (English Reading Comprehension) using traditional method, and
4.Adminsterting a post -test to both groups after intervention.

In this setup, the experimental group receives instruction in English reading comprehension through the integration of AI with differentiated instruction, which serves as the independent variable. In contrast, the control group is taught the same material using conventional method without using of AI with differentiated instruction.

3.2 Population and Sampling

The total population for this study comprises 65 second year school students from **Tisin Shhidlere** during the academic year 2024-2025.These students are divided into two sections : (A) and (B). Which have been randomly assigned as the experimental and control groups ,respectively. Section (A) include 32 students ,while section (B) consists of 36 students. From these sections, 12 students are excluded from section (A) and 16 from

section (B). Some of these excluded students were repeaters, while others were utilized for the pilot study.

To eliminate the influence of prior experiences, the excluded students were removed from both sections. Following this, twenty students from section (A) has been selected as the experimental group, and twenty students from section (B) has been chosen as the control group. Consequently, the final sample size consisted of forty students, representing 58.82 per cent of the original population, as shown in Table (2).

Table (2)

The population and Sample of the Study

Group of students	No. of Population	No. of Repeaters	No. of Pilot Students	No. of Sample
Experimen	32	2	10	20
Control	36	1	15	20
Total	68	3	25	40

The two groups of students have been equalized in terms of age, in their previous knowledge in English language for the academic year (2023 – 2024), and the parents' educational attainment of the students .

3.3 Students' Instruction

In the current study two text have been taught to the experimental and control group. The instruction of both groups of students began on the 9th of February 2025, and continued for three weeks. It has been ended on the 1st of March ,2025. The experimental and the control group are taught the texts by the researcher himself. four per week have been allotted as shown in Appendix (B).

3.4 Construction of the Posttest

An achievement test has been constructed. It consists of two questions with 20 items and scored out of 50. The first question divided into A and B, first question (A) contains five items and three marks is specified for each item and (B) contains five items and two marks is specified for each item. The second question is divided into A and B, second question (A) contains five items and three marks is specified for each item and (B) contains five items and two marks is specified for each item.

3.5 Scoring Schema of the posttest

Testeees' answer are scored out of 50. Three marks is specified for each correct item on answer and zero for each wrong answer in the first question (A) and two marks is specified for each correct item or answer and zero for each wrong answer in first question (B).Whereas, Three marks is specified for each correct item on answer and zero for each wrong

answer in the second question (A) and two marks is specified for each correct item or answer and zero for each wrong answer in second question (B).

3.6 Test Validity

According to Ary et al. (1979:196), validity id described as a crucial characteristics of any measurement tool, indicating " the degree to which an instrument accurately measures what it is designed to measure. "

In order to ensure the face validity of the achievement test, the researcher has exposed the test to a jury of specialists. Those jurors have mostly agreed on the appropriateness of the test items except for few modifications that have been considered, later on.

3.7 The Pilot Administration of the Posttest

The pilot administration aims to accomplish several objectives, including:

Determining the reliability of the test.

Evaluating the clarity of the test items.

To accomplish these objectives, the test has been administrated to a sample of 25 students randomly chosen from second-year school students at **Tisin Shhidlere** during the academic year 2024-2025 in the city Kirkuk. The results indicate that the test questions and items are clear to the subjects, and the time taken by students to complete the test ranged between (25-35) minutes. This suggests that the average time required to respond to the test is approximately (30) minutes.

3.8 Test Reliability

Reliability is a key characteristic of any measurement tool, defined as " the degree to which a measuring instrument consistently measures what it is intended to measure " (Bachman and Palmer, 2000:19).

To ensure the reliability of the test, the test-retest method has been employed. A pilot sample of 25 students have been administrated the same test twice, with a six-day interval between the two administrations. Consistent conditions, including location, timing, and a quiet environment, has been maintained during both testing sessions, The Pearson formula has been applied to calculate the correlation coefficient between the two sets of scores. The results revealed a reliability correlation coefficient of 0.85, which is acceptable according to Glass and Stanley (1970:114).

An achievement test has been constructed, validated, and its reliability established. After analyzing its items, the test has been administrated to both group of this study.

Section Four

Analysis of Data, Discussion of Results, and Conclusion

4.1 Comparison between the Mean Scores of the Experimental Group and that of Control Group in the Posttest

The achieved mean score of the experimental group in the posttest is 40.00, while the control group achieved a mean score of 31.50. Then the t-test formula for two independent samples is conducted to determine whether there is any significance difference between the mean scores of the two groups. The computed t-value is found to be 4.71,while the tabulated t-value is 2.02 at the degree of freedom (38) and the level of significance (0.05), as shown in Table (3).This means that there is a significant difference between the achievement of the two groups, and in favour of the experimental group.

Thus, the hypothesis, which posits that there is no significant difference between the mean scores of the experimental and control groups in the posttest, is rejected.

Table (3)

The Means ,Standard Deviation, and t-Value of the Two Group on the Achievement Test

Group	No. of Students	Mean Scores	SD	T-Value		DF	Level of Significance
				Computed	Tabulated		
EG	20	40.00	3.32	4.71	2.02	38	0.05
CG	20	31.50	7.36				

4.2 Discussion of the Results

The findings reveal that the experimental group significantly outperformed the control group in English reading comprehension achievement. This suggests that incorporating AI tools into learning stations as a differentiated instruction strategy is an effective approach for teaching English reading comprehension.

Enhaning in students' reading comprehension skills through the incorporation AI tools into learning stations due to the following factors :

1. EFL secondary students found that the integration AI tools into learning stations enjoyable, as it allowed them to select activities tailored to their preferences and learning styles.
2. The use AI tools into learning stations encouraged students to engage collaboratively with the reading comprehension materials, fostering a deeper understanding of the content.
3. EFL secondary students appreciated the freedom to express their opinions and ideas within this framework, which stimulated their critical thinking and active participation in learning process.

These factors collectively contributed to the improved performance of the experimental group, highlighting the effective of this innovative teaching strategy.

4.3 Conclusions

Based on the findings of this study, the following conclusions are drawn :

1. Incorporating AI tools into learning stations as a differentiated instruction strategy provides students with challenging tasks that boost their motivation, skills ,and confidence, enabling them to achieve beyond their expectations.
2. This strategy is not only effective for teaching course material but also helps students develop essential skills such as problem-solving and communication inside the classroom.
3. In-class activities help students dominant key reading comprehension strategies, such as identifying main ideas, making inferences, understanding vocabulary, and generating and answering questions.
4. AI tools empower learners to take responsibility for their learning by acquiring course material outside the classroom, fostering a sense of autonomy and accountability.
5. Integrating AI tools into learning stations promotes social interaction among students. Students actively share information, participate in exercises, and respond to questions in a relaxed and engaging environment.

These conclusions highlight the effectiveness of combining AI tools into learning stations as a differentiated instruction strategy, offering a comprehensive approach to enhancing both academic and interpersonal skills.

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Appendix (A)

Students' Scores in the Posttest

Experimental Group		Control Group	
No.	Scores	No.	Scores
1	٣٥	1	٣٥
2	٣٨	2	١٨
3	٤٠	3	٢٥
4	٤١	4	٣٥
5	٣٠	5	٢٣
6	٤٤	6	٣٠
7	٤٥	7	٣٦
8	٤٣	8	٤٥
9	٤١	9	٣٩
10	٤١	10	٤٣
١١	٣٥	١١	٣٥
١٢	٣٨	١٢	١٨
١٣	٤٠	١٣	٢٥
١٤	٤١	١٤	٣٥
١٥	٣٠	١٥	٢٣
١٦	٤٤	١٦	٣٠
١٧	٤٥	١٧	٣٦
١٨	٤٣	١٨	٤٥
١٩	٤١	١٩	٣٩
٢٠	٤١	٢٠	٤٣

Appendix(B)

The lesson plan for the Both Groups

Lesson Plan for Teaching the Experimental Group
Date : February 4th, 2025
Class and section : Second year, A
Period: (8:00 -8:45) a.m.
Topic : The Great Invention
Organization of Seats : learners' seats are saved as they are in their conventional sets. **The steps followed**:
Aim: Use AI tools to enhance their learning experience and Collaborate in groups to complete tasks at different learning stations

First Step :Students Provide a list of key vocabulary words from the passage (e.g., *innovation, device, revolutionize, prototype*). **(5 minutes)**
Use **Quizlet** (AI-powered flashcards) to help students learn and practice the words.
Students work in pairs to create sentences using the new words**(5 minutes)**
Second step: Learning Stations
Station 1: Reading and Comprehension(5 minutes)
Task: Read the passage *"Great Invention"* and answer comprehension questions.
AI Integration: Use ChatGPT to generate additional comprehension questions or provide hints for difficult questions. (5 minutes)
Worksheet: Includes multiple-choice and short-answer questions about the main idea, supporting details, and inferences. (5 minutes)
Station 2: Vocabulary Practice(5 minutes)
Task: Focus on vocabulary in context.
AI Integration: Use Quillbot to paraphrase sentences from the passage and help students understand synonyms and word meanings.
Worksheet: Fill-in-the-blank and matching exercises using vocabulary from the passage. (5 minutes)
Third step : Differentiation Strategies:
For Advanced Learners: Provide extension tasks, such as researching another invention and presenting it to the class. (5 minutes)

Lesson Plan for Teaching the Control Group
Date : February 18th, 2018 Class and section : Second year, B Period: (9:30 -10:15) a.m. Topic : The Great Invention

Organization of Seats : learners' seats are saved as they are in their conventional sets.

The Steps of the lesson:

Aim: Collaborate in groups to complete tasks at different learning stations of the reading comprehension.

First step: The teacher reads the texts from the reading comprehension (The Great Invention) more than one time.(15 minutes)

Second step : The teacher explains the meaning of difficult words and ambiguous speeches and situations. (10 minutes)

Third step : The teacher asks some of the students to read the texts from the reading comprehension in a loud voice. (10 minutes)

Fourth step : Discuss with the students the main events of the passage and asks them to prepare the other paragraphs for the next lecture. (10 minutes)

Appendix (C)

The percentage that the test questions formulate in terms of the

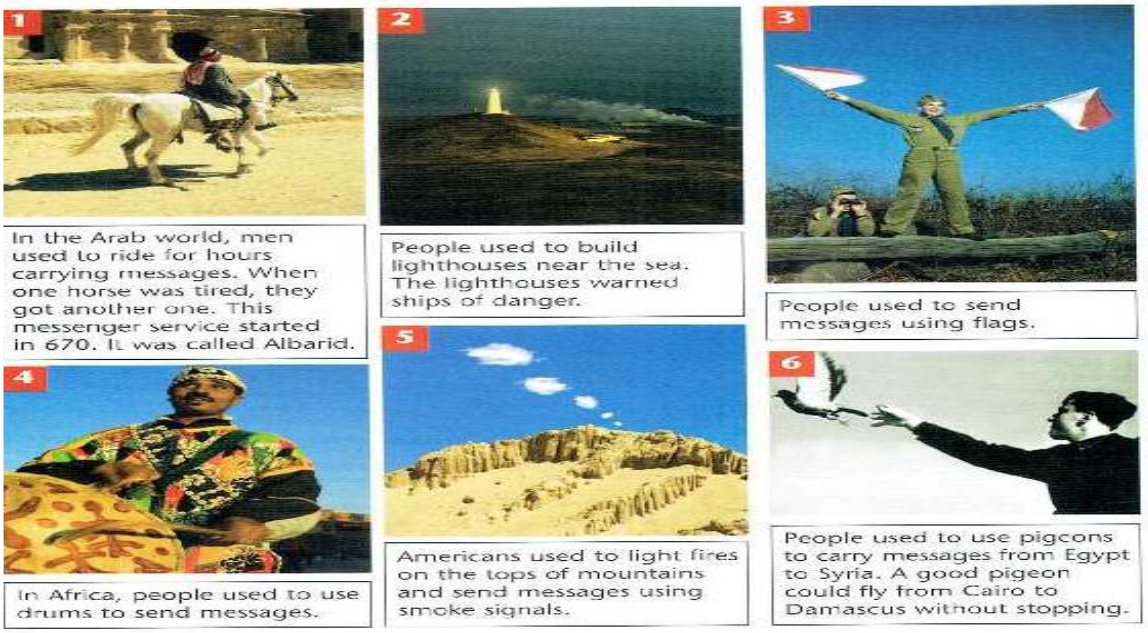
(according to the) various levels of cognitive behavioural objectives lower level of Bloom's Taxonomy

No. of question	Cognitive level	No. of Items	total mark	Percentages
1:A	Application	5	15	**15%**
1:B	Knowledge	5	١٠	**%١٠**
2:A	Knowledge	5	15	**15%**
2:B	Comprehension	5	10	**10%**
Total		20	50	**50 %**

Achievement Test

Reading Test **Grade : Second**

Q1: Read and use the pictures to work out the meaning of these words :



A: Answer the following questions: **(15 m)**

1.When was the best time to use lighthouses -day or night ?why?
2.How did pigeons know where to take their messages ?
3.Which of these methods was ….the fastest ?....the slowest ?
4.Which of these methods was…the safest ?
5.How many modern ways of sending information can you think of ?

B: Complete the sentences with the correct words from the box. (10 m)

Lighthouses ,drums, signals, pigeons

1.In Africa used …….to send messages. 3…….warn ships of danger.
2.The capital of Syria is …… 4……..can fly from Cairo to Damascus.
5.Smoke ……can send messages.

Q2: Read the following Paragraphs :

John Baird, *1888–1946*
In London in 1926, Baird, a Scottish inventor, was the first person to show pictures on a television screen. The pictures were not very good and they did not move. In 1927, however, he was able to send moving pictures from London to Scotland using telephone wires. The following year, he sent pictures to America using radio waves. Baird continued working and, finally, he helped to develop colour television.

Guglielmo Marconi, *1874–1937*
After the invention of the telephone by Alexander Bell (1847–1922), inventors worked on radio waves instead of electric signals to carry sound. Marconi, an Italian, was the first to do this. In 1896, he sent a radio message over a distance of more than 1.5 kilometres. The following year, he sent a message from land to a ship at sea, a distance of 29 kilometres. Finally, in 1902, he sent a radio message from America to England.

A: Answer the following questions based on the first paragraph : (15 m)

1.Who invented television ? 3.When did he invent it ?

2.What was his nationality ? 4.Is he alive or he passed away ?

5. the opposite of *last* …….

C: Are the following sentences true (T) or false (F) ? (10)

1.John Baird died in 1888.

2.Baird sent moving pictures to America in 1928.

3.Marconi invented the telephone.

4. Marconi used radio waves to carry sound.

5.In 1902, Marconi sent a radio message to America.