



**An-Najah National University
Faculty of Graduate Studies**

**THE IMPACT OF USING AI-ENHANCING
EDUCATIONAL DRAMA ON CREATIVE
THINKING SKILLS AND ACADEMIC
ACHIEVEMENT IN ENGLISH AMONG 12TH-
GRADE STUDENTS IN THE WADI ARA
REGION: A QUASI-EXPERIMENTAL STUDY**

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**This Dissertation is Submitted in Partial Fulfillment of the Requirements for the
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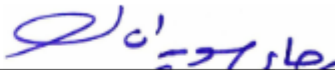
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Dedication

I want to express my deep appreciation to Dr. Walid Salameh and Dr. Rajaa swiedan for their exceptional guidance and invaluable feedback during my thesis work. Their expert advice played a crucial role in shaping my research to fruition.

Also, I have a lot of grateful for the esteemed professors, doctors, and committee members who participated in my research. Their insightful contributions and feedback have enhanced the quality of my work.

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Finally, I want to express a lot of sincerest appreciation to my family, whose constant support and care have been a continuous source of strength and motivation.

Declaration

I, the undersigned, declare that I submitted the dissertation entitled:

THE IMPACT OF USING AI-ENHANCING EDUCATIONAL DRAMA ON CREATIVE THINKING SKILLS AND ACADEMIC ACHIEVEMENT IN ENGLISH AMONG 12TH- GRADE STUDENTS IN THE WADI ARA REGION: A QUASI-EXPERIMENTAL STUDY

I declare that the work provided in this dissertation, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

Student's Name

Noran Suheil Mohammed Agbariyah

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Date:

20/10/2025

Table of Contents

Dedication.....	iv
Acknowledgments.....	v
Declaration.....	vi
Table of Contents.....	vii
List of Tables	x
List of Figures	xi
List of Appendices	xii
Abstract.....	xiii
Chapter One: Introduction and Theoretical Background.....	1
1.1 Background.....	1
1.1.1 Overview of Key Theories and Models.....	2
1.1.2 Core Theories of Creativity.....	4
1.1.3 Divergent and Convergent Thinking in AI-Enhanced Creative Cognition.....	4
1.1.4 Creative Cognition in Language Learning through Drama-Based Activities	5
1.1.5 AI’s Role in Supporting Generative and Evaluative Creativity in Drama-Based Language Learning	7
1.1.6 The EPoC Model and Its Relevance to AI-Driven Second-Language Learning	8
1.1.7 Artificial Intelligence and Creative Thinking in Educational Contexts: A Cognitive Perspective	9
1.1.8 Artificial Intelligence and Personalized Learning in Language and Drama-Based Instruction	11
1.1.9 Artificial Intelligence in Education and Its Role in Creative Pedagogy ...	13
1.1.10 AI’s Role in Creative Thinking Development: A Theoretical and Applied Perspective	14
1.1.11 How AI Enhances Divergent and Convergent Thinking	15
1.1.12 The Role of AI-Driven Creative Writing Tools in Enhancing Student Creativity.....	15
1.1.13 Limitations of AI in Assessing and Nurturing Creativity	16
1.1.14 Drama-Based Pedagogy and Educational Approaches	16
1.1.15 AI’s Role in Emotionally Engaging Learning and Interactive Storytelling	17
1.1.16 Cognitive Foundations of AI-Enhanced Drama-Based Learning: The Role of Dual Coding Theory.....	18

1.1.17 Dual Coding Theory: A Cognitive Framework for Multimodal Learning	18
1.1.18 Applying DCT to AI-Enhanced Drama Learning.....	18
1.1.19 Cognitive and Pedagogical Benefits.....	19
1.1.20 Ethical Considerations and Theoretical Limitations	20
1.1.23 The Impact of AI on Student Learning, Creativity, and Ethical Considerations	22
1.2 Problem Statement	23
1.3 Significance of the study	23
1.4 Objectives of the study.....	25
1.4.1 Aim of the study.....	25
1.4.2 Objectives of the study.....	25
1.5 Questions of the study.....	26
1.6 Hypothesis of the study.....	26
1.7 Definition of terms	27
1.7.1 Conceptual definitions	27
1.7.2 Operational Definitions	29
1.8 Literature Review.....	31
1.8.1 Researcher Commentary on the Literature	34
Chapter Two: Methods.....	36
2.1 Study Design.....	36
2.1.1 Justification for Quasi-Experimental Design.....	36
2.1.2 Qualitative Component: Classroom Observations.....	37
2.2 Site and Setting	38
2.3 Study's Participants, Sample, and Sampling.....	38
2.3.1 Study's Participants	38
2.3.1.1 Justification for the Participants'	39
2.3.2 Sample Size.....	39
2.3.3 Sampling Method.....	40
2.4 Eligibility Criteria	40
2.4.1 Inclusion criteria	40
2.4.2 Exclusion criteria	40
2.5 Study variables.....	41
2.6 Data Collection Tool and Process	41
2.6.1 Data collection tools.....	41

2.6.2 Data Collection Process	44
2.6.2.1 Teacher Involvement and Researcher's Role	44
2.6.2.2 Data Collection From Study's Groups	45
2.7 Pilot Study.....	46
2.8 Validity and Reliability	46
2.8.1 Validity and Reliability for Quantitative Part.....	46
2.8.2 Validity and Reliability for Qualitative Part.....	47
2.9 Statistical Analysis	47
2.9.1 Analysis of Quantitative Data	47
2.9.2 Analysis of Qualitative Data	47
2.9.2.1 Observation Recording and Preparation	48
2.9.2.2 Analytical Procedure Using MAXQDA	49
2.9.2.4 Trustworthiness and Researcher Reflexivity	50
2.10 Ethical Consideration	50
Chapter Three: Results.....	52
3.1 The results of quantitative part.....	52
3.2 The results of qualitative part (Findings from Classroom Observations)	61
3.2.1 Students' Creative Thinking, Collaboration, Emotional Expression, and Academic Achievement.....	61
3.2.2 The Teacher's Role in Supporting Creativity and Academic Growth	63
3.2.3 Summary of Thematic Findings and Alignment with Literature Rubric Criteria.....	64
3.3 Conclusion	64
Chapter Four: Discussion, Conclusions and Recommendations.....	65
4.1 Discussion.....	65
4.2 Comparison Analysis with Existing Literature.....	65
4.3 Recommendations.....	65
4.4 Conclusion	68
4.5 Study Limitation	68
References.....	70
Appendices	76
الملخص.....	ب

List of Tables

Table (1): Sociodemographic characteristics of study sample.....	53
Table (2): Sociodemographic characteristics of participants cross interventional and control group.....	54
Table (3): Frequency distribution of divergent and convergent attributes for participants	55
Table (4): Frequency distribution of divergent and convergent attributes for participants across two group	56
Table (5): Association of sociodemographic characteristics and creative IQ	57
Table (6): Comparison of Creative IQ Between Interventional and Control Groups	58
Table (7): Association of sociodemographic characteristics and academic achievement (pre-test.....	59
Table (8): Comparison of pre-test academic achievement between interventional and control groups	59
Table (9): A ssociation of sociodemographic characteristics and academic achievement (post- test).....	60
Table (10): Comparison of Post-Test Academic Achievement Between Interventional & Control Groups	61

List of Figures

Figure (1): Conceptual framework of the study	28
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List of Appendices

Appendix (A): Observation Tracking Table.....	76
Appendix (B): Teacher's Guide.....	78
Appendix (C): Mind Map Comparison – Stereotypes vs. Reality	85
Appendix (D): Module F Literature Rubric	100
Appendix (E): Pre and Post-test.....	102
Appendix (F): EPoC – Students' Sample.....	103
Appendix (G): Statistical tables from EPoC.....	105
Appendix (H): Evaluation of Potential Creativity (EPoC) Graphic & Verbal Domains Form (A)	106
Appendix (J): Thematic findings from classroom observation with academic achievement indicators	109
Appendix (H): Certificate of acceptance of the research extracted from the dissertation	109

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Abstract

The combination of educational drama with new digital technologies—especially artificial intelligence (AI)—has been a highly effective way to raise student engagement, creativity, and academic performance. Educational drama is well equipped to provide experiential learning, role-playing, and making sense of the world in real-life contexts. This research first of all intended to figure out the impact of an AI-based imaginative instruction program on the English academic performance of 12th-grade students in the Wadi Ara region.

They used a mixed methodological strategy which is a combination of staff research, qualitative research, and quantitative research with a quasi-experimental design. They got their data via four instruments and used two non-probability sampling methods. They selected their student participants through convenience sampling ($n=56$, with students equally allocated to the intervention and control groups), and purposive sampling was used to select the English teacher who taught both groups.

The results demonstrated that the level of academic achievement in the intervention group (mean = 92.43) was above that in the control group (mean = 90.75); however, this difference was statistically insignificant ($p = 0.324$). The correlation analysis that was performed found no significant correlation between creative IQ and academic achievement for the pre-test ($p = 0.554$) as well as for the post-test ($p = 0.124$). No significant associations were found between the divergent traits of the EPoC and IQ either. At the same time, positive significant correlations were detected for creative intelligence with both graphic convergent ($p < 0.001$) and verbal convergent ($p < 0.001$) traits. There were no significant relationships between post-test academic achievement and either the divergent or the convergent traits ($p > 0.05$).

Creative IQ and academic achievement were significantly higher in girls, and advanced academic percentiles were also predictive of higher creative intelligence. The qualitative data provided evidence of students' creative thinking through such activities as reimagining narratives, composing inner monologues, and producing podcasts and at the same time emotional expression was quite strong during dramatizations. The teacher's role as a facilitator was crucial to creating a safe, student-oriented atmosphere by bringing in open-ended problems and giving the learners the freedom of control over their learning.

To sum up, the fact that the intervention group displayed higher academic achievement, while at the same time there were no statistically significant correlations between creative intelligence and academic performance, points to the gender factor and teacher support as the most influential factors in the development of creativity and learning.

Keywords: Achievement, AI in education, Creative thinking, educational drama.

Chapter One

Introduction and Theoretical Background

1.1 Background

In the twenty-first century, there has been a shift in educational priorities and creative thinking has come to the fore as one of the competencies that learners need. In a world that is growing more complex, dynamic and interconnected, the capacity to generate ideas that are original and contextual to the circumstances we find ourselves in will be crucial for responding to real-life situations. Creative thinking supports students to think from a variety of perspectives, respond to new contexts, and find solutions that are outside the normal constraints associated with the scenario (Runco, 2023). As far as acquiring English language knowledge is concerned, such abilities can only be acquired through teaching methods that combine linguistic prowess, mental flexibility and emotional transmission.

Artificial intelligence presents different methods to improve how students participate, imagine new ideas, and succeed. Learning through drama gives real-world abilities by acting out parts (Neelands & Goode, 2015), and AI tools like ChatGPT and Padlet help think over and create things repeatedly. When used together, drama and AI help develop both different and similar ways of thinking. This research looked at using drama with AI to teach English as a second language to twelfth-grade students in Wadi Ara, with the goal of improving imagination, success, involvement, teamwork, and help for teachers. The results also gave information for thorough student descriptions to better know what students need, what they are good at, and how they like to learn.

Even though being creative is more and more seen as an important skill for today, schools—especially those with many students from poor homes or who speak multiple languages—still focus on memorizing things, grammar, and getting ready for tests (Kim & Hannafin, 2017).

In areas like Wadi Ara, where mastering English is critical for academic and everyday life, conventional teaching methods may limit the development of students' creative skills, collaboration, and independence. By using AI, the EPoC framework, and drama-based storytelling, schools can provide an engaging learning experience. Students, through telling a story, impersonating a character, and jointly asking questions, involve both their

logical and emotional parts of the brain to come up with new ideas. These processes which are in line with the EPoC Test Battery components (Lubart & Barbot, 2018), are supported by AI tools that offer instant feedback and suggestions to users and thus they become more open to new ideas, more original and more reflective in their thinking.

1.1.1 Overview of Key Theories and Models

Creativity has become an indispensable skill in the current world, however, schools, especially those with multilingual students or pupils who have learning difficulties, generally continue to use traditional methods which do not result in creative thinking (Kim & Hannafin, 2017). In Wadi Ara, where a good command of English is vital, the use of a combination of drama-based activities (Neelands & Goode, 2015) and modern tools like ChatGPT and Padlet could be very beneficial for students to become more creative in their thinking and be more efficient in the way they present their ideas (Guilford, 1950). This research uses Torrance's Creative Thinking Model (1968) and the EPoC framework (Lubart & Barbot, 2018) as primary references to assess creativity and also incorporates the Technology Acceptance Model (Davis, 1989) and AI-assisted learning research (Holmes, Bialik, & Fadel, 2019) to find out the ways in which intelligent technologies could facilitate language learning, engagement, reflection, and general performance.

The educational principles of the study are based on constructivist learning theorist Piaget (1952) which contends that learners construct knowledge by interacting with their environment. As a performing and narrative-based pedagogy drama, provides powerful opportunities for such interaction. This is also a view that aligns with Vygotsky's social constructivist view and his idea of the Zone of Proximal Development (ZPD) (Vygotsky, 1978), which stressed important aspects of guided participation, social interaction, and scaffolding that teachers and AI tools provide in the intervention. Through group role play, narrative co-construction, and interactive feedback, students are supported in progressing from what they can do on their own, to what they can do together.

Also, building on this foundation is Experiential Learning Theory (ELT) by Kolb (1984) identified as having four stages, which were identified as concrete experience, reflective observation, abstract conceptualization, and active experimentation. The drama-based instructional unit was purposefully designed to activate those stages for the students to

engage as characters in situations, reflect on those experiences, conceptualize language and emotion, and express thoughts through multimodal-multimedia performance.

To guide the design and analysis of AI-enhanced instruction, the study includes Dual Coding Theory Paivio (1986) since it accounts for how we process verbal and non-verbal information simultaneously and how pairing visual, auditory, and textual information can promote understanding and retention. In drama-based learning enhanced by AI, students experience multimodal input—visual character simulations, AI-generated dialogue, sound-based prompts—and are stimulated through multiple pathways of cognition with each type of information. In addition to Dual Coding Theory, Cognitive Load Theory Sweller (1998) informs how AI promotes learning as it balances intrinsic, extraneous, and germane cognitive load to keep students cognitively engaged, without being cognitively overloaded by complex creative work.

Each theory provides a separate but interrelated lens for understanding how the intervention influences change. Creativity theories underpin the definitions and measures of creative thinking outcomes, AI-in-education theories explicate how digital tools act as mediators of learning and scaffold learning, drama and constructivist theories justify pedagogically the use of performative tasks that claim to be full of emotion, triggering engagement and meaning-making, and cognitive theories provide mechanisms for understanding how learners create, retain and enact knowledge simultaneously through drama and AI.

In conjunction, these theoretical lenses support the exploration of multiple lines of inquiry in this study: the impact of the AI-supported drama unit on students' creativity and academic performance; the relationship between creativity and academic success; how students demonstrate creativity, cooperation, and emotions in class; the teacher's instructional role in facilitating these processes; and how developing detailed student profiles can inform instruction To put it briefly, the study will be grounded in this interdisciplinary basis and will thus be able to offer a well-developed theoretical framework as well as lead to a deeper understanding of the interconnection of technology, drama, and creativity in modern ELT.

1.1.2 Core Theories of Creativity

Creativity is commonly considered one of the important cognitive and educational skills that help to prepare the learners for the complicated life of an ever-changing world. The point is especially true for language learning, where students are required to create the meaning, come up with new methods to combine and modify the linguistic structures, and use the language to share their thoughts in a way that is not only new but also even unique and original. As the education system is transitioning from the old memorization-based methods to the more engaging and technology-enabled ones, the demand for developing creative thinking skills and adopting critical stances towards complex issues has grown significantly (Runco, 2023). Creativity, in this regard, is not considered simply an artistic or a nice feature of a person but rather the main constituent of cognitive openness, innovation, and the ability to communicate effectively.

In addition, the use of imaginative thought in drama-based pedagogy was not incidental but intentional. Role-play, improvisation, and narrative construction consist of embodied, contextualized tasks that stimulate the emotional and intellectual faculties of the participants. These activities demonstrate a close correlation with the dimensions represented on the EPoC battery and provide a unique opportunity to observe and document how creativity appears behaviorally in a classroom—an important aspect considering the study relied on structured observational measures of student engagement, emotional expression, and collaboration in the classroom.

As a whole, the theories reviewed in this section present strong support for creativity as both an empirical product and a pedagogical pathway. They lend support to the notion that creative thinking can be developed through purposeful, well-scaffolded interventions that blend technology, drama, and reflexive pedagogy—a position central to this study's design and aims. In the next section, I'll explain a bit about how such a theoretical foundation intersects AI, drama-based instruction and second-language learning.

1.1.3 Divergent and Convergent Thinking in AI-Enhanced Creative Cognition

The core of creative thinking depends on two connected mental operations which Guilford established in 1950 and later researchers developed into educational creativity theory. Divergent thinking requires people to produce multiple solutions and story directions and creative ideas yet convergent thinking demands them to pick and arrange these ideas into

suitable answers. The dual framework presents an effective method to study creativity which shows particular promise for language learning and AI-based drama education.

In the process of learning a second language students must develop both forms of thinking because each one fulfills essential but independent functions. Students learn to create multiple language patterns when they use divergent thinking to test different sentence constructions and discover various expression methods and viewpoints. The program supports risk-taking and imagination which prove essential for creative work in storytelling and improvisation and character development. Students use convergent thinking to transform their preliminary work through grammatical rules and thematic alignment and logical organization which produces precise and clear communication (Runco, 2023; Cropley, 2001).

The researchers use the dual-process framework through the Evaluation of Potential Creativity (EPoC) model which measures verbal creativity by testing both the generation of ideas and their evaluation. The students took part in creative work during the AI-supported drama unit of this study by developing imaginative content which included character role-play and open dialogues and dramatic monologues followed by critical analysis to improve both thematic consistency and grammatical accuracy.

1.1.4 Creative Cognition in Language Learning through Drama-Based Activities

Coming up with new ideas is very important when learning a language, because it lets students learn new things while using grammar rules and remembering words. Modern ways of teaching focus on students and use technology, going further than just knowing the rules to concentrate on real language use and understanding (Runco, 2023).

The cognitive operations that produce and deploy language expertise to accomplish flexible problem solving or appropriate responses define creative cognition. The language selection involves three cognitive processes namely of divergent thinking (for generating multiple possible languages); convergent thinking (to choose the best languages based on various criteria) and flexibility to generate different language choices as per communication demands. Second-language education research has shown that these cognitive benefits actually bring about improved problem-solving skills, better communication skills, and increased student involvement (Richards, 2021).

One of the most effective ways to create a learning environment that students find engaging and stimulating is by using drama-based teaching which is also very productive from a pedagogical perspective. Through role-play, improvisation, and storytelling, students encounter learning situations in which language is used in a real, emotional, and collaborative way.

These activities require learners to draw on both prior linguistic knowledge and their imagination to produce responses that are both spontaneous and meaningful. Role-playing exercises, for example, activate divergent thinking by encouraging students to generate multiple responses to evolving scenarios, while convergent thinking is called upon as they refine those responses to align with specific character motivations, communicative goals, or narrative structures (Sawyer, 2022). Such activities are particularly effective for students who struggle with traditional classroom instruction, as they lower the affective filter and promote more fluid, confident language use.

Explicit instructions, clear roles and debriefing, are all required to enable students to create meaningful and inclusive drama. The results of the present study indicate how AI tools assist in scaffolding 'the scaffolding approach' for providing its use. Both online instructional strategies ChatGPT and Padlet serve as two tools to support students in brainstorming their work, challenging learners to develop their writing by broadening vocabularies and strengthening syntax to have enhanced messages of creative thinking over specific edits. The teacher is an important part of this system, as it functions as a mediator between technologically-based resources and student work and educational purposes.

Drama creates an environment for learning where students can think creatively and improve their language abilities by participating in real emotional situations, which makes their communication clearer and helps them connect with others. When drama is used with teaching methods that encourage thinking and AI tools, it becomes a very helpful way to grow creativity, teamwork, and the ability to persuade others in today's schools.

1.1.5 AI's Role in Supporting Generative and Evaluative Creativity in Drama-Based Language Learning

When using AI to help teach drama, the AI does two things: it helps people explore their creativity and it also gives ways to measure progress that fit with the creative and judging parts of the EPoC system. Eventually, second-language learners acquire language skills that are very flexible because of the interaction of these factors. The creative part of the EPoC model acts as a room for the invention of new ideas, thus original and sometimes unpredicted concepts getting generated, which then get extended by AI-supported storytelling environments.

These platforms, actually, do not limit themselves to the same templates, but keep changing in response to user input, thus generating stories that differ in the plot and the setting while also including complicated options that help real cognitive involvement (Kang & Lee, 2025; Chen, Gao, & Wang, 2023). Such a reaction is a mere show of the user's power; it very well may be the advancement of various thinking skills that are slowly being spread in an effective way.

Usually, learners get instructions to invent new storylines, analyze different character motivations, and find new ways of language use which are not common. Since the narrative is dynamic, students have to be always on their toes and come up with new strategies. As an effect of this, learners' cognitive flexibility is challenged as they try different forms of expression while constantly getting used to change in story worlds.

Creativity of learners is enabled by AI tools which provide them with prompts that are partly structured and partly open, thus a perfect balance between guidance and freedom is achieved and learners are free to interpret them in various meaningful ways. One of such applications, ChatGPT, can be a source of language helpers like synonyms, idiomatic expressions, and alternative sentence structures, which not only solve common vocabulary problems but also upskill expressive capacity of a second language user (Cao, Lu, Wu, & Hsu, 2025).

In the case of using AI for gradual storytelling or performance-related activities, it is capable of offering detailed and personalized comments that motivate the users to change their narrative organization, voice, or words, thus, developing the thinking skills which the EPoC framework is designed to measure. Moreover, AI is making it easier to keep

track of multiple drafts, thus it is also helping students to think about and assess how their story is progressing, becoming more fluent, and deepening, which are the major signs of creative thinking skills development (Ma, 2025).

1.1.6 The EPoC Model and Its Relevance to AI-Driven Second-Language Learning

The Evaluation of Potential Creativity (EPoC) framework is an ideal tool to investigate a second language acquisition in AI-supported classrooms. In case learners' limited vocabulary and grammatical challenges come across, they have to find a new way of expression on their own, like coming up with creative word choices, using concise sentences, and making subtle shifts in meaning. The referred process as “creative language adaptation” is a demonstration of the mental agility required for communication in a new language which is Lee & Shin (2021) research and that also confirms the necessity of learners being allowed the freedom of experimenting with their ideas.

The adaptive creativity that is typical of language classes—the core of the creative transformation process—is the one profoundly affected by AI-supported, drama-based learning environments. The instruments are beyond simply providing the basic correction of errors, offering alternative phrasings, imaginative story prompts, and giving immediate, highly relevant feedback. In this way, they are the teachers and creative writing partners simultaneously, who are constantly encouraging the learners to broaden their linguistic abilities (Zhao, 2023; Lubart & Georgsdottir, 2004).

Take the example of a role-play module: when students are involved in AI-driven simulations, the technology gives them the freedom to go through various narrative pathways and at the same time, they receive very precise guidance on clarity, coherence, and stylistical expression (Kang & Lee, 2025). The influence is quite real, though it might be considered futuristic: students develop what Barbot, Lubart, & Besançon (2016) call “creative fluency,” the skill of ideating and making the ideas both novel and effective communicatively.

Secondly, grammar drills repetitively cannot reveal the full extent of second-language acquisition. Through AI-mediated scenarios, learners are in immersive, dynamic environments that prompt them to experiment with language. These occasions, which put a strong accent on errors being a necessary part of learning, stretch students beyond their

comfort zones, give them confidence, and at the same time, develop their ability to analyze language in rich, contextual situations.

According to EPoC, this method combines the generation of ideas with the ability to evaluate them reflectively. Students come up with several solutions to different prompts and at the same time, they evaluate how closely their answers fit the narrative context, the cultural aspect, and the intended emotional expression. This cyclical pattern of prompt, quick generation of ideas followed by thoughtful evaluation not only increases the number but also the quality of the creative outputs, which are the core elements of the EPoC assessment framework (Lubart & Barbot, 2018).

1.1.7 Artificial Intelligence and Creative Thinking in Educational Contexts: A Cognitive Perspective

The relationship between artificial intelligence (AI) and human cognitive creativity has been a major focus of interest in the domain of educational research over the past few years. This interest has, in particular, been fuelled by the fact that schools are becoming increasingly preoccupied with the development of higher-order thinking skills such as divergent and convergent thinking.

According to a study, one of the most effective ways to use AI to teach languages is through a dramatization of real-world situations. First, Brainstorming for a play in which the invention of a new product plays the central role will take the help of AI language by different means such as Scene creation, Character motivation establishing, getting a short list of dialogues, and so forth so on. As a next step, performing the dramatization with the help of AI students can bring technology-assisted imagination into the classroom and Challenge each other's plays that they can then evaluate and refine using LEDs and ChatGPT for getting instant feedback and comments.

Divergent thinking can be very helpful in learning a language in that it allows the students to discover new ways of expression and come up with new creative scenarios. AI makes just the right number of intervention and offers support by asking open-ended yet direct enough questions. By this means, students can write different character motivations in a story, imagine different endings, or change the story conflict entirely. Moreover, If a learner hits a wall in vocabulary, AI can bring in synonyms, paraphrasing, and sentence

patterns so that the learner can keep up with the creative flow even if the language is scant (Lee & Shin, 2021; Boden, 2019).

Creativity is identified as one of the necessary skills to survive the 21st century. Still, many schools, especially those located in multilingual or under-resourced areas, continue to rely on rote teaching, thereby limiting the students' access to innovation, and collaboration (Kim & Hannafin, 2017). Besides, Dramatization-led instruction through making the learner actively involved in the learning process and also developing their language skills, if combined with AI supported tools like ChatGPT and Padlet, becomes a powerful mean of reflective practice, language expression, and divergent and convergent thinking (Runco, 2023; Guilford, 1950). These kinds of activities implemented in conjunction with AI technology can be seen as a way of encouraging "creative language adaptation" in second language learners. This means combining on the one hand spontaneous idea generation, and on the other, structural and functional language evaluation to promote fluency, coherence, and effective communication (Kang & Lee, 2025; Chen, Gao, & Wang, 2023; Lee & Shin, 2021)

Such are the potentials of Artificial Intelligence that they can offer initiating materials, communicative resources, and even real time responses which can lead to further tweaking and deeper involvement. AI can also play the role of a cognitive collaborator, a partner which supports the production on creative tasks (Ma, 2025; Xu, Stephens, & Lee, 2023; Park, et al., 2023; Gabora & Steel, 2020). Nevertheless, since AI draws its conclusions from the information it has, the role of the teacher is still important in that it can help persuade the students to think critically, be innovative in the real world and use the context suitably (Zhang & Wang, 2022; Lubart & Barbot, 2018; Barbot, Besançon, & Lubart, 2011).

Research from Harvard indicates that educators must be attentive to issues such as bias, misinformation, and excessive reliance on AI which are among the concerns raised by AI technology. On the other hand, AI, just like any other tool, must not be viewed as the cause of the dwindling of human creative capabilities but rather, a medium through which the latter can be further actualized. Suleyman emphasizes that the best way of students working with AI is by collaborative engagement which entails using it as a means of support for their ideas and not as a substitute. This way, the use of AI can be seen as a

method of helping students retain control of their creativity as while at it, they draw on AI to develop, intensify, and facilitate their creative process.

1.1.8 Artificial Intelligence and Personalized Learning in Language and Drama-Based Instruction

The use of artificial intelligence in education is a pivotal move towards individualized, adaptive learning that resonates well with second-language acquisition, especially in the case of drama-based teaching methodologies. In line with the learners' language proficiency, AI not only adjusts the input but also fosters a fluid plot generation and deepens the learners' involvement through immediate feedback and analytics without entirely discarding the old methods (Zawacki-Richter, Marín, Bond, & Gou, 2019).

Such machine learning models are capable of monitoring the performance of a student and can even change the instruction materials on the spot so as to fill the student's grammar, vocabulary, or comprehension needs without losing the challenging level of the tasks given (Chen, Chen, & Lin, 2020). Moreover, natural language processing instruments like ChatGPT and Grammarly EDU can be regarded as student-friendly instructors, offering the most appropriate feedback and giving helpful advice in style to facilitate not only the linguistic accuracy but also the creative expression in scriptwriting and role-play (Graesser, Sabatini, & Li, 2022). In addition, AI-driven evaluation tools like the Duolingo English Test and Cambridge Write & Improve are continuously adjusting the complexity level of a given task to suit the examinee and are also providing the fluency, clarity, and coherence feedback that are very instrumental in performance-based learning in drama-used language modules (Shute & Rahimi, 2021).

One of the most convincing arguments for the use of AI in education is that it leads to personalization of instruction thus motivation and academic performance being boosted. With the help of AI, educators can better discern students' conduct and henceforth arrange learning activities that would fit well into their rhythm and maturity (Luckin & Holmes, 2022). In cases, such as Wadi Ara, where proficiency in English and expressive skills are on a very different level among learners, AI makes it possible for scholars to modify the difficulty of drama assignments to equally satisfy the requirements of all students thus true inclusion and differentiated instruction can be realized.

Besides, AI facilitates the teaching administration side as well by, for instance, grading and monitoring progress through analytics dashboards that teachers are usually pressed for time and are thus hardly able to engage in (Vandommele, Van Gorp, Van den Branden, & De Maeyer, 2022). The educator's role turns into that of a facilitator as they can now guide students' collaboration, provide support in rehearsals, and further enhance the students' engagement in drama activities, thus more of a hands-on, student-centered class is achieved.

On the other hand, it is vital to take into account the problems connected with AI. One of the significant impediments to algorithmic decision-making is bias; biased data inevitably means biased results. Specifically, the content generation and recommendation functionalities of AI in multicultural settings such as Wadi Ara have to be not only tolerant but also free from preconceptions and be able to provide real-life experiences that the users can relate to (West, Malkolm, Keywood, & Hill, 2019).

Privacy is another essential aspect that should be taken into account when dealing with data. The creative work of students and other personal data are, in most cases, saved on server-based platforms, thus they are vulnerable to breaches in the absence of strong security measures. Furthermore, schools and other educational organizations have to follow rules like GDPR and FERPA that require them to be transparent and have very good data protection measures in place (Slade & Prinsloo, 2013).

Teachers are advised not to forget that AI is only a helper and not a replacement for precious social interaction between people. AI can handle personalized learning in an efficient way, however, it lacks empathy, cultural awareness, and emotional support that only a human mediator can give, particularly in drama where trust, collaboration, and emotional engagement come to the fore, are some of its key advantages. Therefore, these human factors should be kept at the heart while AI continues to find its place in the education sphere (Woolf, 2010).

The use of AI-driven personalized learning is capable of revolutionizing foreign language teaching especially if paired with drama-based pedagogy. By enabling the teacher to adjust exercises and give feedback fitting to each student's capabilities, AI is instrumental not only in language acquisition but also in the artistic side of a student's development. The principles behind the drama lessons in this research were that the tasks, the guidance, and

the storytelling support had to be in harmony with students' varied language skills and learning styles.

1.1.9 Artificial Intelligence in Education and Its Role in Creative Pedagogy

Essentially, human-like computing technologies are changing how education works, quite fast. So, teaching through machine learning, data analytics, and similar gadgets can be very different from what has been done — one can think of instructors being available at the individual level as the demand for them rises rather than a whole class going through the same plan (Holmes, Bialik, & Fadel, 2019; Zawacki-Richter, Marín, Bond, & Gou, 2019).

The migration to the latter mode, particularly, signals a dramatic change for students who, in the future, will need skills like coming up with new ideas in writing and critical-thinking in problem-solving. The components of machine teaching incorporate precise tracking of the achievements of pupils, thus, content is modified on account of the real-time data— dispatching demanding tasks in making up a monologue or the study of character motivations when students are at the top of their game or giving special instructions, and some extra help guide in case it is the hardest to understand. Such a move will certainly lead one to see the task levels being just right, thus challenging but not pushing to that extent of breaches of ability leading the student to develop in the “just right” zone (Holmes, Bialik, & Fadel, 2019; Woolf, 2010).

One of the many methods that AI can be of help in creative works is by narrating a story out of continuous dialogue coming from the students and also through an interactive role-play prompt which is appealing to them to think of many other possible narratives. The ideas in them depend on the students' choices and in turn prompt them to come up with ideas, quite like they occur in the course of real talks.

At the same time, AI behind the scene gauges the creativity of the work by taking into consideration factors like the uniqueness of the ideas, how the story progresses, and if one part leads to the other seamlessly. This kind of creative output is in tandem with the different parts of the cognitive processes involved in the Evaluation of Potential Creativity (EPoC) framework, whereby it embodies not only the generation of ideas but also the evaluation carried out by the reflectors (Lubart & Barbot, 2018; Lubart & Georgsdottir, 2004).

1.1.10 AI's Role in Creative Thinking Development: A Theoretical and Applied Perspective

In today's education system, memorizing facts is not enough anymore; the development of student engagement, creativity, and higher-order thinking skills is a must. Conventional methods of instruction have their drawbacks, and therefore, teachers are looking for more lively and innovative ways of teaching. One significant development in this regard is the use of AI as an interactive co-creator in the learning environment. To a lesser extent, AI still handles the automation of monotonous tasks and grammar correction, but to a greater extent, AI is turning into a collaborative partner who helps the students to brainstorm, polish their ideas and even to go beyond the usual expectations in activities related to writing, language learning, and problem-solving.

AI assists learners in coming up with and polishing ideas and making sure the ideas are logical and fit the context. This operation is very close to creative thinking models, such as the EPoC model, which identifies the interaction between the generation and evaluation of ideas in both verbal and visual forms. Students may find help in ChatGPT for developing their ideas and getting the style they want, while a tool like Grammarly is the user's assistant to keep the text up to standard and unify the style, the user is engaged in the process of creation, reflection, and improvement repeatedly.

Communication means that have been combined in a single AI application, for instance, Midjourney, give the students an opportunity not only to write, but also to draw their thoughts thereby catering to different learning styles and being more inclusive. Studies show that AI can improve writing, music, and collaborative projects if it is used as a partner.

Moreover, AI facilitates individualized instruction through continuous feedback and language analysis, it provides assignments that correspond to learners' levels according to Vygotsky's local guidance, and thus it opens their creative abilities. To sum up, a carefully planned use of AI can be regarded as a great resource to foster students' skills in critical thinking and creativity and at the same time, it helps to achieve academic success and creates the conditions for the coming of new brilliant ideas.

1.1.11 How AI Enhances Divergent and Convergent Thinking

Creatively integrating AI in education has become quite a daunting task for teachers and educators. Educators have been very much attracted to the idea of using AI tools in their teaching, particularly in drama and second language instruction, as a means of promoting creative thinking. Through interactive platforms such as ChatGPT and AI Dungeon, students are able to come up with multiple solutions, delve into different narrative paths, and answer open-ended prompts, thereby enhancing their cognitive flexibility and being encouraged to experiment with new ideas.

Moreover, these devices become powerful instruments for deep reflection, giving the freedom to learners to collect, assess, and perfect their work. This development leads to better narrative skills, logical thinking, and language accuracy—features that are the basis of language acquisition. Hence, AI not only extends new creative possibilities but also gives the learning process structure, order, and focus, thus, being a highly valuable tool in modern education.

1.1.12 The Role of AI-Driven Creative Writing Tools in Enhancing Student Creativity

One of the main uses of artificial intelligence in the education sector is through a variety of AI-driven creative writing tools. These tools comprise, among others, text generators implemented with GPT, vocabulary assistants of advanced levels, and entirely automated story creators. Such instruments have turned out to be extremely helpful resources for learners, thus facilitating the growth of their imaginative skills. The tools provide adaptable prompts, guidance on word choice and tone, and fast feedback regarding structure. So, students are enabled to revise their drafts many times to improve the flow and keep the consistency.

Research shows that supporting creative writing with AI is a skill that goes hand in hand with the student's confidence, writing anxiety is lowered, and students are more likely to take creative risks in their writing (Holmes, Bialik, & Fadel, 2019). In drama-based learning, the use of AI is limitless as the technology can simulate conversations, assist students in getting the emotional cues, and make them familiar with the different cultural contexts that open up more creative possibilities in the classroom.

1.1.13 Limitations of AI in Assessing and Nurturing Creativity

While AI keeps on improving, the question of whether it is capable of truly creative thinking is still open. The authors argue that the technology cannot understand or feel the human intuition or that specific cultural humor and subtleties which are at the core of the authentic creative work (Floridi & Chiriatti, 2020; McCormack, Baecher, & Cuenca, 2019). AI, in fact, is limited to the datasets it has access to and it is not capable to come up with the entirely new ideas, but it does the combinations of the existing materials (Xu, Stephens, & Lee, 2023). The excessive use of AI may lead to the outputs that lack diversity and are similar to previous works as the technology makes coherence and correctness its priorities rather than innovation (Wu, Lee, Wang, Lin, & Huang, 2023; Henriksen, Mishra, & Fisser, 2016).

Furthermore, there are significant and pressing issues concerning biases that are inherent in AI and the technology's inclination to favor dominant language norms that can lead to the exclusion of alternative viewpoints (Bender, Gebru, McMillan-Major, & Shmitchell, 2021; Zawacki-Richter, Marín, Bond, & Gou, 2019). AI is to be considered as a helper, not the main composer. The authors suggest that if used properly, AI can be a great addition to the learning process, still it is not capable to give a human insight, the uniqueness of a person, or the sudden creative ideas which cannot be coded.

1.1.14 Drama-Based Pedagogy and Educational Approaches

Creative writing to the aid of AI: GPT-powered text generators, vocabulary enhancers with the help of AI, automated story creators – all these are becoming invaluable developmental supports for students' creative potential. The methods offer the students varying tasks to accomplish, help choose the right words and set the right emotional tone, and give the students immediate feedback on the text structure so that they can revise their drafts as many times as they want and thus improve the flow and keep the text consistent.

One of such research outcomes is the report that the creative writing skills of students who use AI as a writing assistant are getting stronger and, at the same time, such students become more confident, experience less writing anxiety, and get more willing to take risks with their creative expression (Holmes, Bialik, & Fadel, 2019). As far as drama-based learning is concerned, AI can be used for the simulation of dialogues, students'

understanding of emotions, and introduction of different cultural contexts that, in turn, lead to the widening of creativity opportunities in the classroom.

1.1.15 AI's Role in Emotionally Engaging Learning and Interactive Storytelling

Creative use of artificial intelligence components is progressively changing affective learning and teaching of drama, significantly increasing the depth of emotional involvement and expanding the potential of the narratives. AI-powered systems endowed with affective computing features such as sentiment analysis, adaptive feedback, and emotion recognition transform the scenarios of the classroom into agile, living, and engaging stories that are not only influenced by the emotional state of the learners but also adjust to their choices, thereby authenticity and the impact of communication are enhanced (Luckin & Holmes, 2022).

The use of interactive storytelling in conjunction with natural language processing and machine learning technology offers pupils the opportunity to directly influence the story, thus creating plots on the go instead of being compelled to follow already existing scripts, which finally results in the growth of the student's sense of agency as well as their cognitive and emotional involvement (Smith & Wiggins, 2022).

These smart machines decode student behavior and recognize the emotional indicators, ensure the flow of the narrative, and employ procedural content generation to offer a wide array of storylines, hence students can be seen as co-writing the stories with the help of the technology (Zhou & Burhanudeen, 2023; Fan & Tian, 2022; Veale, 2022; Sutton Trust, 2021; Clark, 2020).

AI-augmented drama through the integration of text, images, and spoken words offers multimodal learning settings wherein students become the active agents of their experiences and are thus in a position to adapt scripts on the basis of the feedback received and at the same time refine their language and creative communication skills with the support of higher-order thinking, reflection, and strategic decision-making (Holmes, Bialik, & Fadel, 2019).

1.1.16 Cognitive Foundations of AI-Enhanced Drama-Based Learning: The Role of Dual Coding Theory

Cognitive theories offer one of the essential explanations of how learners mentally process, store, and recall information, especially when the learning involves complicated, multimodal activities like AI-enhanced drama-based education. One of the most impactful cognitive theories, in fact, is Allan Paivio's Dual Coding Theory (DCT), which brings out the interaction between verbal and nonverbal channels in learning. When we consider the application of DCT in the case of AI-supported drama pedagogy, it becomes possible for teachers to come up with the instructional methods that not only correspond to learners' mental performances but are also highly effective, attractive, and in some cases, inventive in terms of learning.

1.1.17 Dual Coding Theory: A Cognitive Framework for Multimodal Learning

According to Dual Coding Theory Paivio (1986), the human brain has two separate but linked systems: the verbal system, which deals with language, and the non-verbal system, which deals with images and space. It has been found that processing knowledge by both methods at the same time i.e. hearing the explanation while seeing or handling the object, increases the ability of the learner to remember the information and he will be able to use the knowledge in different ways in new situations (Mayer, 2020). There is considerable research in the areas of educational psychology and multimedia instruction which is in agreement with the idea that the use of dual coding has a major positive impact on one's memory recall, understanding of concepts, and being able to apply skills in different fields.

The use of images or dramatization along with vocabulary makes the retention and understanding of context easier (Mayer, 2020; Paivio, 1986), whereas several modalities, such as verbal, visual, emotional, and spatial, when integrated in drama education, are found to be more potent and richer as learning experiences.

1.1.18 Applying DCT to AI-Enhanced Drama Learning

AI technologies have a unique competitive edge when they are practically used to implement Dual Coding Theory (DCT) especially in multimodal learning environments. Take the example of AI-powered drama tools that include adaptive storytelling systems, virtual character simulations, and script generators. These tools do not simply supply text or audio; rather, they fuse animations and synthesized speech to fabricate immersive,

context-rich experiences that are considerably more engaging than standard ones (Yusuf, 2022; Mayer, 2021).

Such tools thus substantially increase understanding, memory, and creativity by the brain to both visual and verbal processing channels co-actively (Al-Hadithy, Al-Maqbali, Al-Riyami, Al Za'abi, & Al-Zakwani, 2023; Chen, Gao, & Wang, 2023). Learners immersed in such linguistically and sensorially rich environments achieve deeper and longer-lasting learning outcomes. E.g. a student utilizing an AI-driven drama platform might get a story prompt (verbal input), see the scene through AI-created pictures or characters (non-verbal input), and actively come up with and perform the dialogue (verbal output).

This multilevel, multimodal method is an excellent example of DCT, as it not only encourages the activation of the physical but also the imaginative faculties of the mind. The recent findings reveal that the AI-driven video drama tools have a great impact on the enhancement of students' writing skills and creative fluency, as they engage both verbal and visual channels simultaneously (Li & Sun, 2024). These results support the conceptual soundness of the implementation of AI in drama-based pedagogy and at the same time, they point out to the observable learning advantages that come into existence.

1.1.19 Cognitive and Pedagogical Benefits

Using AI in drama-based teaching along with the application of Dual Coding Theory (DCT) concepts has a lot of advantages. When students are involved through several sensory channels, it helps them to remember the information for a longer period of time, makes it easier for them to store the knowledge, and encourages them to understand the matter more deeply, as spoken, visual, and dramatized elements assist in the process of taking away the intangibility of the concepts (Al-Hadithy, Al-Maqbali, Al-Riyami, Al Za'abi, & Al-Zakwani, 2023; Chen, Gao, & Wang, 2023; Yusuf, 2022; Mayer, 2021). AI-powered tools can make these influences even stronger by allowing learners to have repeated interactions with the materials and, at the same time, promote the development of higher-order analytical and creative skills through the provision of support, receiving feedback from interacting with the iterative process, and being guided towards improvement in both verbal and non-verbal (Wu, Lee, Wang, Lin, & Huang, 2023).

Moreover, the DCT-driven AI can provide instruction that is both personalized and differentiated with the use of adaptive prompts, visual cues, and real-time feedback, thus

learning being in harmony with each student's language proficiency and cognitive predispositions. Such a method brings about language acquisition, motivation, and learner confidence, especially in the case of second-language learners or students being in culturally diverse classrooms (Holmes, Bialik, & Fadel, 2019); Zawacki-Richter et al., 2019).

1.1.20 Ethical Considerations and Theoretical Limitations

Although the use of Dual Coding Theory (DCT) in AI-supported drama learning is theoretically beneficial, there are still issues to be resolved. Firstly, it is a concern that students can get into the habit of depending on the automated systems too much, which may result in them losing the raw and impromptu type of creativity that most drama works are focused on developing. AI might prompt creative thinking, but at the same time, it can influence students to give responses that are “optimal” according to the algorithm thus limiting their creativity. Some opponents argue that generative AI tools may become the means through which one-way traditional artistic processes are replaced, i.e., instead of getting a fully human-driven rich expression, one receives a standardized machine-generated output.

These AI models are built on massive datasets that, by nature, are biased and contain cultural assumptions. For instance, in multimodal storytelling, such prejudices can have a visual impact—through stereotypical avatars or stage settings—or can be linguistic, as the AI chooses the most dominant discourses and, therefore, the less dominant ones get ignored. Hence, instructional design aimed at overcoming this issue should be very thoughtful with teachers actively involved in leading students through not only the advantages but also the drawbacks of AI-mediated creativity.

In short, DCT serves as a well-grounded theoretical basis for the presented approach. As a result, dramatization with the help of AI and involving both verbal and non-verbal channels is expected to promote not only the processing but also the creative expression of the material. Despite the fact that theoretical statements position these instruments as very promising, in reality, they cannot be used without careful thought and reflection. Proper pedagogy, moral sensitivity, and reflective practice constitute the necessary conditions for reaping the benefits of AI in a way that does not deprive the dram of the human factor which is its unique feature.

1.1.21 Cognitive Foundations of AI-Enhanced Drama-Based Instruction: Dual Coding and Cognitive Load Perspectives

The use of AI in theatre pedagogy is not only supported by but also explained through the cognitive models such as Dual Coding Theory Paivio (1986) and Cognitive Load Theory (Sweller, van Merriënboer, & Paas, 1998), which describe how learners process and retain information in a multimodal environment. Dual Coding Theory argues that when both verbal and non-verbal systems are engaged- for instance, when language (spoken or written) is accompanied by visuals or dramatization- the understanding, memory retention, and recall are enhanced, especially in language learning contexts (Mayer, 2020; Paivio, 1986).

AI, in this case, is a great tool as it can create a story along with the visual simulation of the narrative which is not only attractive but also very effective from the students' cognitive point of view (Yusuf, 2022; Mayer, 2021). E.g., with an AI-assisted storytelling, learners can be manipulated for a certain digital scenario and at the same time they can get the feedback regarding their language, the visual, and the context they are in, thus both the linguistic skills and the imaginative engagement get strengthened (Al-Hadithy, Al-Maqbali, Al-Riyami, Al Za'abi, & Al-Zakwani, 2023; Chen, Gao, & Wang, 2023). This multimodal way is in line with the principles of cognitive theory, thus it provides a deeper and more integrated learning experience which at the same time is a way for students to creatively express themselves and learn a language (Holmes, Bialik, & Fadel, 2019).

1.1.22 Piaget's Constructivist Theory and Experiential Learning

At the heart of Piaget's theory of cognitive development (1952) is the idea that learning is an active, constructive process, rather than just passive reception of information. When learners receive new experiences, they try to understand them by either assimilating the information into already existing mental schemas or by accommodating those schemas to fit the new knowledge. The interplay assimilation and accommodation through Piaget refers as equilibration, is what keeps cognitive development going. This is the way individuals are able to expand their mental capacities and at the same time adjust their understanding of the world to new experiences. As a result, learning is an active, generative, and adaptive process which reflects the learner's attempts to make sense of personal experiences and the complexities of the environment.

Drama-based pedagogies are very much in agreement with this view. These methods put students through hands-on, interactive activities like role play, storytelling, and improvisation, where learners actively interpret, make sense of, express themselves, and adapt in real time. The kind of engagement which language skills are only one of the many areas in which the social and cognitive skills of students are thus enhanced through drama-based pedagogies.

By means of drama, language learners in a second-language setting can speak the target language in a more natural way, deal with different situations, and memorize both the structures and the meanings of the language much more efficiently than if they were to carry out traditional grammar-focused exercises. Kolb (1984) argues that experiential learning—learning by doing—is the only way to bring about real change and deeper understanding.

1.1.23 The Impact of AI on Student Learning, Creativity, and Ethical Considerations

The use of AI has changed the face of creative education—its role in the dramatization of the curriculum, thereby boosting students' creativity, language skills, and cognitive engagement in an unprecedented manner. Contemporary AI systems like ChatGPT, Vidnoz, and Magic School offer students the means to get a rapid response and individualized prompts, hence they are free to test their stories and polish their work via continuous cycles. The instruments are so fashioned that they allow an immediate switch between divergent and convergent thinking which, in effect, is changing the old way of storytelling as students can now carry out multiple storylines and through multimodal, interactive sessions deepen their understanding.

There are, however, challenges stemming from this affordance, including the risk of cognitive offloading, where students lean heavily on AI to provide alternatives rather than exploring their own intellectual and creative capacities. While LLMs can help generate variations of dialogue, prompts, and critique, the risk is that there may be less work to do if a greater proportion of the output is from the AI, leading to writing that is formulaic or derivative. It is therefore important that instructors construct pedagogical contexts that balance AI support with specific student engagement in other types of thinking, composing, and reflecting—through individual work, unscripted in-class

performances, and peer review—before being captured in writing to promote originality and understand spontaneity.

In the Creative disciplines, the ethical implications of AI-mediated evaluation are so complex that they have to be dwelt on thoroughly. To illustrate, originality may be withdrawn in a subtle way by AI feedback as students may align their answers to what the algorithm decided to be “preferred”, and the biases in the base training of the AI may favor the dominant cultural or linguistic norms while leaving the others aside. To deal with these issues requires open and clear rubrics, regular auditing and diversification of AI datasets, as well as keeping human oversight at the core. Human teachers are the main interpreters of the context, symbolism, and stylistic nuance which are beyond the capabilities of algorithms. Studies show that the results are the fairest and most efficient when hybrid evaluation models that combine AI accuracy and human judgment are used.

1.2 Problem Statement

Creative thinking is widely recognized as a core competency in contemporary education, yet English teaching in regions such as Wadi Ara still leans heavily on memorization, accuracy, and exam preparation, leaving little room for students to develop flexible and original ideas in meaningful contexts. Drama-based learning, by its very nature, can change the way a standard classroom works by encouraging students to take risks, work together and use their language skills in a more creative way. Nevertheless, it is still largely inactive and hardly ever associated with the creative objectives which are clearly defined. At the same time, devices such as the EPoC battery offer well-organized ways to measure creativity; however, they are seldom used in the secondary English classroom, and the linkage between creative thinking and academic achievement is still a puzzle. These discrepancies pinpoint the necessity of a merge strategy which combines drama-based teaching, creativity assessment, and digital tools. This study is a response to that demand by the implementation and evaluation of a drama unit with AI support to stimulate creative thinking and English performance of 12th-grade students.

1.3 Significance of the study

This research not only enhances the theoretical and practical understanding of AI-assisted, drama-based teaching, but also demonstrates how creative thinking and academic skills of English language learners can be improved. This research moves well beyond traditional

educational practices that are heavily focused on grammar and memorization and turns its attention to more experiential, holistic, and cognitively challenging approaches to education. The study uses the Evaluation of Potential Creativity (EPoC) test battery as a measurement tool for students' divergent and convergent thinking to demonstrate the effectiveness of drama and AI integration in language education. Besides, it explores the association between creative potential and academic performance, thus making a substantial contribution to both creativity research and classroom practice.

The paper employs a thorough mixed-methods design that includes quantitative measures, such as pre- and post-tests, and EPoC assessments, along with qualitative classroom observations. This approach provides the opportunity for an in-depth understanding of learners' and teachers' behaviors, classroom interaction, and the emotional, collaborative, and expressive aspects that form the basis of creative development.

Besides, the suggested teaching method can be easily adapted in various settings and, at the same time, can be a great help to culturally and linguistically diverse communities like Wadi Ara as it not only enhances students' creative thinking but also their English language skills. According to the authors, comprehensive student profiling comprising cognitive, linguistic, and emotional aspects should not only be the foundation of differentiated instruction but also of creative and academic growth.

The results underscore the teachers' role as the main agents who create the conditions for the development of creativity and collaborative learning in classrooms where AI and drama are used. The in-depth investigation of the teaching and learning processes offers real-time solutions for professional development and teacher education, especially in the area of 21st-century skills.

To sum it up, this research work is a theoretical as well as a practical one as it unfurls the complex interrelations of drama, digital technologies, and creativity-focused pedagogies. Very little research has previously been done in a way that these three components are systematically combined to show their conjoint power for creatively. Evaluating immersive, narrative-based activities supported by adaptive digital tools, the presented work is an excellent example of how the theory and practice divide can be bridged and provides empirical evidence on how such a conceptual framework can nurture creativity.

This method is particularly applicable in places like Wadi Ara, where the focus of traditional English teaching is on grammar and comprehension, thus leaving little room for creative expression. This research weighs heavily in the ongoing debates on how to nurture creative skills in language learning. Its results provide a variety of useful measures for teachers, curriculum developers, and educational managers to come up with learning frameworks that are in line with the requirements of the 21st century and furthermore can be the basis for the next generation of teacher training, research, and policy-making in education.

1.4 Objectives of the study

1.4.1 Aim of the study

This study aimed to evaluate the impact of an AI-supported drama-based instructional unit on academic achievement in English among 12th-grade students in the Wadi Ara region.

1.4.2 Objectives of the study

- Identify the relationship between students' sociodemographic data and their academic achievement in English.
- Identify the relationship between students' sociodemographic data and their creative intelligency.
- Investigate the correlation between students' creative intelligency, as assessed by the EPoC test, and their academic achievement in English in both the experimental and control groups.
- Assess the effect between EPoC's subtests on students' creative intelligency.
- Assess the effect between EPoC's subtests on students' academic achievement in English.
- Explore how students demonstrate creative thinking, collaboration, and emotional expression during the implementation of the AI-supported drama-based instructional unit through classroom observations.
- Analyze the role of the teacher in facilitating creative thinking and collaborative learning within the classroom during the implementation of the AI-supported drama-based unit, based on systematic observations.

1.5 Questions of the study

- - Are there any statically significant differences in the impact of an AI-supported drama-based instructional unit on academic achievement in English among 12th-grade students in the Wadi Ara region?
- Are there any statically differences in the impact of an AI-supported drama-based instructional unit on creative thinking skills (divergent and convergent thinking) in English among 12th-grade students in the Wadi Ara region?
- What is the effect of students' sociodemographic data on their academic achievement in English?
- What is the effect EPoC's subtests on students' academic achievement in English ?
- How students demonstrate creative thinking, collaboration, and emotional expression during the implementation of the AI-supported drama-based instructional unit through classroom observations?
- What is the role of the teacher in facilitating creative thinking and collaborative learning within the classroom during the implementation of the AI-supported drama-based unit, based on systematic observations?

1.6 Hypothesis of the study

H₁: Implementation of AI-supported drama-based instructional unit will improve academic achievement in English among 12th-grade students in the Wadi Ara region at a p value 0.05.

H₂: Students' sociodemographic data will significantly affect their academic achievement in English at a p value 0.05.

H₃: Students' sociodemographic data will significantly affect their creative intelligency at a p value 0.05.

H₄: Students with higher levels of creative intelligency, as assessed by the EPoC test, will have better academic achievement in English in both the experimental and control groups at a p value 0.05.

H₅: The EPoC's subtests will have significant effect on students' creative intelligency at a p value 0.05.

H₆: The EPoC's subtests will have significant effect on students' academic achievement in English at a p value 0.05.

1.7 Definition of terms

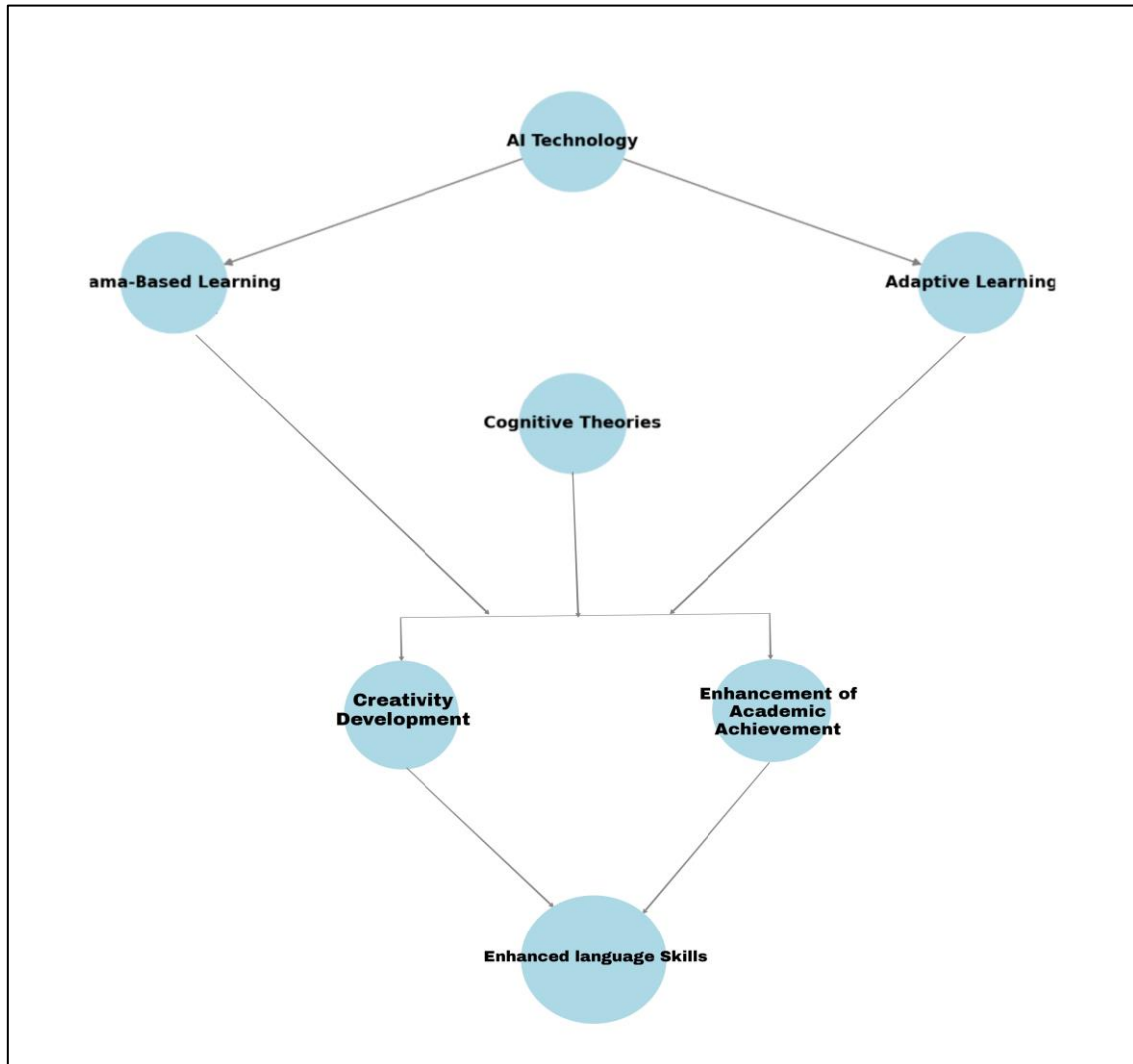
1.7.1 Conceptual definitions

The theoretical framework lays the groundwork for studying the intersection of teaching and learning English as a Foreign Language, creative thinking, and AI-supported drama pedagogy. This study brings together three interrelated areas—creativity research, AI-informed pedagogy, and drama pedagogy—rather than working from and only within a single disciplinary lens. Creativity is measured with the EPoC test battery (Lubart & Barbot, 2018), which measured the number of ideas along with originality, elaboration, and relevance. AI-supported pedagogy is informed by adaptive learning principles and the notion of digital scaffolding to personalize the learning experience, provide formative feedback, and facilitate cognitive advancement (Mayer, 2020).

Drama pedagogy is based on Experiential Learning Theory Kolb (1984) which highlights co-constructed storytelling, engaged, embodied experience, and action. In this way, the theoretical framework integrates these threads to guide the development of the instructional unit while highlighting classroom dynamics, teacher facilitation, and importantly the idea of examining learning goals, keep creativity, engagement and academic performance in the learning context, is based on theoretical constructs.

Figure (1)

Conceptual framework of the study



A conceptual framework acts as a guide to show how the theories, variables and constructs are interacting in a study. The study is designed to encourage creativity in acquiring English language through AI interactions and drama-based learning, indicating the conceptual framework is intentionally multidisciplinary, which combines cognitive theories of creativity, constructivist drama pedagogies, and AI adaptive learning models. The conceptual framework details the aspects regarding AI-supported multimodal learning environments, and their impact on students' creative thinking and academic achievement measured by the EPoC modular test battery, which follows through many different academic traditions to provide a strong justification for examining the possibility of how drama integrated with AI could increase students' creative abilities.

Creativity Development in Education

The idea that creativity is a dynamic cognitive talent that can be developed through organized, interactive environments is based on Torrance's Creative Thinking Model (1968) and the EPoC Model (Lubart & Barbot, 2018). Drama-Based Learning as an Experiential Framework – Cognitively and verbally, the process can be enhanced through the characters playing, the narrating the story, and the guided social interaction, said Piaget and Vygotsky.

AI's Role in Personalized and Adaptive Learning – AI is a major enabler that gradually adapts the content according to the needs, encourages the learner to think reflectively and open new doors for creative expression. Cognitive Theories Supporting AI-Driven Drama – Research in memory and learning, such as Dual Coding Theory and Cognitive Load Theory, provide evidence that multimodal input improves memory retention, lowers cognitive overload, and increases learner engagement.

Bridging Creative Thinking and Academic Achievement – The present research is the first to investigate the creative IQ as a source of measurable academic outcomes by studying the link between creative IQ scores and students' performance on the post-intervention academic assessments.

There is a significant academic basis for using AI-supported drama as an intentional educational experience, both theoretically and conceptually. This study examines whether integrating structured drama and some AI tools promotes students' creativity and their English language skills. The methodology includes various forms of direct field observation, pre- and post-assessing the students' creativity and language learning, and structured tutorials on a thoroughly structured drama programme. An overview of the procedures and assessment in action for the particular instructional approach are included in the next chapter.

1.7.2 Operational Definitions

The selection of assessment instruments had a significant impact on the extent of the research. Innovative thinking was measured by the Evaluation of Potential Creativity (EPoC) that assesses both divergent and convergent thinking (Lubart & Barbot, 2018), whereas the educational performance of the participants was determined by English pre-

and post-tests. The scope of the classroom observations was only the experimental group, and the absence of teacher and student interviews limited the qualitative data's interpretive potential (Al-Abdali & Al-Balushi, 2021).

Creative Thinking

The present study links creative thinking with the students' performance on the Evaluation of Potential Creativity (EPoC) test. The operationalization of the construct involves the students' scores in the verbal-domain divergent and convergent thinking tasks which mirror the quantity, originality, relevance, and elaboration of ideas generated. The progress of the students is evaluated through the comparison of pre-test and post-test scores.

Divergent Thinking

Divergent thinking is an idea that refers to the capability of a student to come up with multiple, diverse, and novel ideas in the EPoC generative tasks. This capability is gauged by the number of the total responses and the quality indicators that have been coded according to the EPoC scoring manual.

Convergent Thinking

The definition of convergent thinking includes a description of the process by which a person integrates information and arrives at a single, effective, and meaningful solution, as required in EPoC integrative tasks. The points reflect the extent to which the student's work is accurate, logical, and coherent and illustrates the skill of combining the elements to create a well-structured answer.

Academic Achievement in English

The concept of academic achievement is translated into measurable variables by the students' performance in the pre-intervention and post-intervention tests in English, which evaluate the written expression, comprehension, and language use according to the school standards. The progress is calculated through the difference in total scores.

AI-Supported Drama-Based Instruction

This variable is the educational unit available for the experimental group, the lessons numbered twelve. Each lesson features a well-planned drama activity such as role-play,

scene building, or character exploration, and the use of selected AI tools (ChatGPT, Padlet, Vidnoz, Notebook LM, Magic School). The primary goal of the AI was to provide new ideas, help the narrative, improve the language, and give the teacher feedback on the process.

Experimental Group

The experimental group is the students who have undergone the AI-supported drama-based unit for four weeks. Before and after the intervention, they took the EPoC and English language tests. Also, the scenes of their classrooms were filmed for research purposes.

Control Group

The control group is made up of kids getting a regular English class without any drama or AI elements. They had the same tests before and after the period as the experimental group.

Field Observations

Field observations are the records of the systematic monitoring of the classroom activities during the drama-based unit with the experimental group. The focus of the observations was the engagement, interaction, and participation of the students. No interviews or additional qualitative tools were employed.

EPoC Score

The EPoC score is an overall numeric measure derived from formal scoring routines for each student's work. The score covers separate and combined indices for divergent and convergent thinking and stands as the chief indicator of the creative thinking growth before and after the intervention.

1.8 Literature Review

First of all, the Pertiwi, Nugroho, & Hidayat (2024) study unveiled the fact that academic performance is one of the areas that is significantly impacted positively by the AI-supported instructional activities. Vera (2023), in a similar vein, also came to a conclusion that the usage of AI in English as a Foreign Language (EFL) class in Chile not only made students more engaged but also helped them to improve their language proficiency and

experience personalized learning. Additionally, she pointed out that there are some issues related to the accessibility, privacy, and overreliance on technology that need to be taken care of. Moreover, the importance of the teacher as a facilitator still remains.

Pakistan's research has shown that AI-powered tools like Grammarly and Turnitin can bring positive changes in writing, pronunciation, and critical thinking. However, the authors of the research still maintain that AI is not to be considered as the only way of language learning. In the same way, Ulfa (2023) suggests that the implementation of gamified AI applications and the provision of real-time feedback can facilitate student-focused learning, improve skill acquisition, and increase students' eagerness to learn.

These findings are echoed by further research. Vadivel, Kalaivani, & Roy (2024) found that gamified AI platforms and NLP-based feedback fostered not only language development, but student motivation, if combined with interactive teacher involvement. Yang (2024) noted improvement in vocabulary, grammar, motivation, and cognitive engagement, in conjunction with using AI, with high school and undergraduate EFL learners, but projected concerns about students becoming over-reliant on AI-generated prompts and with issues of data privacy.

Zhao (2023), utilizing TPACK-informed qualitative methods found that intelligent writing assistants and speech evaluators supported autonomous learning and increased speaking proficiency for students, while teacher pedagogical training was still necessary. Krishnan & Zaini (2025) generally agreed that AI has a positive impact on motivation, vocabulary, writing, and speaking despite limitations such as concerns for equity based algorithmic bias and privacy of students own data. Students may also articulate a position of lack of agency of their own learning with bias-based prompts. Viertiu & Petrea (2025) noted that students with AI-supported learning showed improvements in organizational skills and willingness to engage in academic success without addressing a need for ethical guidance and critical even instruction. Overall, the literature shows consistent evidence to support the idea that AI can be an incredibly powerful educational tool for students when guided thoughtfully and when the AI is balanced with human expertise, creativity, and pedagogy in its implementation.

In the end, Zheng, Chen, & Wang (2023) also, through their scoping review, synthesized the results of 27 empirical studies concerning AI and students' creative thinking.

According to their review, AI-supported platforms can raise divergent thinking, which may include originality and idea generation, as well as convergent thinking can be advanced through a structured evaluation and organization process. Nevertheless, they pointed out that the creative use of AI to promote learner creativity is heavily dependent on the design of learning activities and the level of learner autonomy.

Moreover, they proposed additional investigations on the merging of creativity assessment frameworks with AI-powered educational strategies. In summary, these investigations emphasize that AI is a significant source of innovation to English language learning and tertiary education; however, the manner in which it is utilized effectively is still teacher supervision, moral principles, and well-thought-out educational tactics.

Studies keep showing that AI has a major influence on higher education results. As an example, Mallillin (2024) conducted a study to comprehend the experiences of 100 university students in the Philippines, with the aim of finding out the changes brought about by AI-powered platforms to their learning.

The study used surveys and FGDs and revealed that AI extended educational results as it made learning more personalized, raised students' motivation, and facilitated the growth of cognitive skills, such as the ability to think independently, better study habits, and critical thinking.

However, the work continued to emphasize some concerns and risks of relying on AI platforms; relying too heavily on AI learning can distort the students' ability to learn genuinely, meaning any consideration of AI uses must always keep in mind the ethical use of the technology and constant human presence. Correspondingly, Fahira, Rahmi, & Syamsir (2025) engaged with 22 undergraduate students studying English literature to see how AI impacts the use of various forms of academic writing and reading comprehension, confidence while writing and/or reading in English, and overall picture of academic performance.

It is concluded that AI tools improve reading comprehension and writing skills while increasing students' confidence in academia, specifically their use of the English language. That study, however, also brought up worries about inventiveness and the possibility that too much use of AI might harm students' ability to think critically. The researchers point

out that it is very important to keep using the brain in a full way in order to help deep learning and general educational growth, at the same time that they recognize the teachers' very important role in creating the conditions for students to become independent and reflective. Therefore, these results, taken together, convincingly confirm that artificial intelligence has the potential to dramatically improve educational outcomes if it is used in a responsible manner under the supervision of teachers who can also ensure that the technology is used properly and that there is a balanced interaction with it.

1.8.1 Researcher Commentary on the Literature

Research to date on the use of AI in English language learning has been largely positive, recording improvements in linguistic proficiency, motivation, and access to personalized learning opportunities. However, in most papers, success with language is taken at face value or the technological features of AI tools are primarily in focus. Only a few works open up pedagogical and cognitive dimensions, especially the intentional development of creative thinking.

In cases where creativity is mentioned, it is usually considered as a by-product rather than a main instructional goal. Furthermore, most of the research has been done through surveys, interviews, or short-term digital interventions, thus there is a visible gap in research that positions AI as a tool within organized pedagogical models for students' cognitive and creative development. There is a conceptual necessity for tangible learning frameworks that show AI as a means to creativity through immersive and meaningful learning experiences rather than as just another digital tool.

On the other hand, research directly focusing on creativity, e.g., scoping reviews and exploratory analyses, reveals that AI can support both divergent and convergent thinking. However, they seldom implement these effects in real teaching scenarios or use validated creativity tests, such as the EPoC. No study has so far considered dramatising learning with AI, which is by nature experiential, collaborative, and tightly linked to the cognitive processes that facilitate creative growth. This deficiency is most visible in EFL classrooms and even more in the Arab educational sector in Israel where there is hardly any research in AI, drama pedagogy, and creativity.

The present study fills this gap by integrating AI-assisted tools with a systematic drama-based instructional unit and assessing their effects through a pre/post experimental design.

By linking the research to classroom practice, validated assessment tools, and experiential pedagogical principles, the study goes beyond the theoretical stance on AI and shows the way it can be an active agent in not only creative thinking but also academic achievement. Thus, it constitutes a substantial addition to the field and addresses a significant void in the existing literature.

Chapter Two

Methods

This chapter describes the methodological aspects that were adopted in the current study in terms of design, location, sampling, variables, data collection and analysis and ethical consideration.

2.1 Study Design

The research used a mixed-methods framework to investigate the impact of an AI-assisted drama-based learning unit on student learning outcomes while also considering creative thinking and IQ as effective learning conditions. There were 56 students in total who participated in the study and they were equally split between an experimental group that was given AI-supported instruction and a control group that continued with standard teaching practices. For the quantitative part, the researchers used a quasi-experimental design with pre- and post-tests to measure academic learning outcomes and evaluate student progress.

Additionally, the Evaluation of Potential Creativity (EPoC) battery was used to assess for creative intelligence. In the qualitative section of the study, structured classroom observations were conducted by the researcher, focusing on the experimental group, to record the interactions of teaching and learning during the unit.

By using this method, the team was able to check the results of the experimental and control groups and understand the changes of the classes during the intervention. It is true that the lack of random assignment might restrict the extent to which the findings can be generalized, however, the groups were made similar in aspects of sex, skill level, and number of students in the class by the different precautions taken.

2.1.1 Justification for Quasi-Experimental Design

The quasi-experimental design was selected instead of a true experimental design to accomplish different objectives. Firstly, the issue of practical feasibility was the main factor through which the fixed class groupings in public high schools in Wadi Ara were making random assignment practically impossible. Secondly, the design enabled students

to study in their regular classroom environment, which, in turn, increased the ecological validity of the study's results.

However, the layout was non-randomized, and hence, they took steps to tighten up the internal validity. These measures comprised pairing the experimental and control groups on the basis of pre-test scores and demographic characteristics, intervention ensuring that it was delivered similarly to all the experimental group participants, and classroom observations conducted to check the variations in the learning environment.

Though full randomization was not present, the study through the meticulous alignment of control measures and comparable group characteristics may still make causal inferences regarding the effects of the AI-supported drama-based intervention.

2.1.2 Qualitative Component: Classroom Observations

The qualitative part of the study helped to complete the quantitative data by showing how students used AI to help with drama activities. Eight structured classroom observations focused on students' use of AI tools like ChatGPT and Padlet, their behavioral expressions of creative thinking, and collaboration and peer interactions during drama-based learning. The observation data were thematically analyzed with MAXQDA software, which allowed for the identification of patterns and themes that explained differences in student creativity during the intervention.

Though only one English teacher was involved in the study, the research qualitatively insightful aspects the of the practical implementation of an AI-supported, drama-based instructional module. The point was not to make broad generalizations but to gain a detailed, contextually grounded understanding of how a single teacher used AI tools to promote creative thinking, collaborative dynamics, and student engagement. The accuracy of the results was improved with the help of detailed field notes, a consistent observation procedure, and several observations made during different sessions.

Analyzing teacher-student interactions, instructional support, and teacher's spontaneous responses to student creativity revealed the major ways the teacher encouraged students' autonomy, critical thinking, and imaginative expression.

These findings, however, are not meant to be representative of all English classrooms; nevertheless, they provide some insightful, practical ideas for the design and facilitation of the technology-enhanced drama instruction. The present case study can be a potential source of reference for the future research, especially the research studies that involve a larger or more diverse teacher samples.

2.2 Site and Setting

Research related to this matter was conducted at Musherfa High School, which is a public school, situated in Wadi Ara region, Israel. The students who are in the 12th grade were approached for the study. Wadi Ara is an area with a multicultural atmosphere where most of the students come from homes where two languages are spoken. The community mainly speaks Arabic while English is taught as a foreign language in schools.

High schools that are public and located in the region adhere to the national curriculum set by the Israeli Ministry of Education. Part of the Bagrut (matriculation) requirements is the teaching of the English language. The English curriculum highlights the skills of reading comprehension, vocabulary enrichment, essay writing, and oral communication. As technology becomes central in Israeli schools, the use of AI-driven, drama-based teaching is very much in line with the overall educational goals, especially the development of 21st-century skills such as creative thinking and digital literacy.

Out of the various programs, the three schools that decided to take part in Eric Cohen Books' Literature for 4 Points program, a detailed framework for literary research and advanced storytelling techniques, were the most enthusiastic. The program, which focuses on literary analysis, critical thinking, and language proficiency, is an excellent base for the introduction of a new teaching method, which will not only develop the students' creative self-expression but also their critical interpretation at a deeper level.

2.3 Study's Participants, Sample, and Sampling

2.3.1 Study's Participants

The study involved 12th-grade students from public high schools in the Wadi Ara area. They were learning English as per the Israeli 2020 curriculum during the 2024-2025 academic year. In addition, the participants were an English teacher who conducted

classes for both the experimental and control groups, following the researcher's instructional design.

2.3.1.1 Justification for the Participants'

Selection

The choice to concentrate the study on 12th-grade students in Wadi Ara was influenced by both academic arguments and the local situation. At this level, students have the intellectual and language skills that are necessary for drama-based learning and AI-powered technologies. Also, the twelfth grade is a very important year, with national Bagrut examinations getting closer, so English proficiency will be very important for academic success.

Wadi Ara public schools are sufficiently equipped and have the necessary technological infrastructure to use platforms like ChatGPT and Padlet in the classroom. Apart from the technology provision, there is a strong demand for teaching innovation: Wadi Ara is still struggling with the problem of students' creative thinking due to mainly teacher-centered instruction which has been the traditional way of the teachers. By introducing the interaction of technology and user, this research intends to solve these problems by providing a more dynamic and engaging model for English language learning.

2.3.2 Sample Size

The sample size was determined by G*Power software with the effect size set at 0.5, which means a medium effect. The alpha level was 0.05, and the statistical power was 0.95, which led to a minimum number of 56 participants. The participants were split evenly between two groups: an experimental group of 28 students and a control group of 28 students. Such a layout not only increases the statistical power of the results but also takes into account the drop of participants and missing data, especially at the post-test stage, thus, the reliability of the study is deepened.

As for fieldwork, the sample consisted of an English language teacher from a high school in the Wadi Ara region, who was selected by purposive sampling. The teacher was chosen based on long teaching experience of English as a foreign language, good classroom management skills, and preference for interactive, student-centered instruction.

Most importantly, the teacher promised to follow the researcher's detailed instructional guide closely, thereby ensuring the uniform implementation of the AI-supported, drama-

based curriculum. This selection and preparation process, on top of it, assured that the intervention was delivered as planned and that both instructional and research objectives were achieved.

2.3.3 Sampling Method

Regarding participant selection, the team of researchers chose two simple non-probability sampling methods that are both efficient and suitable for practical research in the real world. Initially, purposive sampling helped to get an English teacher who was a point of focus and showed a great deal of interest and excitement in being a part of the study. It was confirmed that the teacher had the right kind of professional background, competencies, and motivation to carry out the AI-assisted, drama-based teaching program in an effective manner.

It makes no sense to force someone who does not care, right? Furthermore, it was insuring that they had the necessary experience and "got the school mood" so that education (both traditional and AI-supported, drama-based activities) could go easily.

Then, for the student groups, the researcher took a conventional approach: convenience sampling. The researcher chose complete 12th-grade classes in the Wadi Ara region primarily because they were accessible and suited our goal of preparing students for the English Bagrut. It wasn't about obtaining the world's best sample; it was about ensuring that the research was applicable in the real classroom.

2.4 Eligibility Criteria

2.4.1 Inclusion criteria

1. Students of twelfth grade in the intended school.
2. Students who enrolled in English class during data collection period.
3. Students with completed data.
4. Teachers who showed the desire to participate in the study.

2.4.2 Exclusion criteria

1. Students of from grades other than twelfth grade, and students from other schools.
2. Students who didn't enroll in English class during data collection period.

3. Students with uncompleted data.
4. Teachers who disagreed to participate in the study.

2.5 Study variables

- **Dependent variables:** creative thinking and academic achievement in English among 12th-grade students in the Wadi Ara region.
- **Independent variables:** AI-supported drama-based instructional unit, sociodemographic factors including (gender, child's order in the family, type of work for mother, and type of work for father).

2.6 Data Collection Tool and Process

2.6.1 Data collection tools

To ascertain the changes of the AI-driven, drama-based educational unit on students' creative thinking, the researcher mixed quantitative and qualitative methods. The point was to deliver a full view – by not only measuring the outcomes but also capturing the classroom atmosphere and students' engagement during the intervention.

Furthermore, a brief and well-organized questionnaire was created, based on the techniques of (Fraenkel, Wallen, & Hyun, 2019; Cohen, Manion, & Morrison, 2018; Creswell & Plano Clark, 2018). The main objective of the questionnaire was to gather straightforward demographic information of the student participants, thus enabling the researcher to label the data and investigate the patterns of subgroups in case certain variables had an effect on the results.

The questionnaire content pieces were age, gender, birth order, and parents' occupations. The questionnaire was given before the pre-test phase and completed by students under the guidance and support of the teacher, thus ensuring that the answers were correct and consistent.

Tool II: Evaluation of Potential Creativity (EPoC) Scale

The main aim to the bright idea of students potential to creativeness was through the use of the EPoC (Evaluation of Potential Creativity) modular test battery (Barbot, Besançon, & Lubart, 2011) which they put into practice. They chose to use the first model of EPoC only as this model was able to explain the two major aspects involved in creative thinking.

One of these aspects was the divergent-exploratory thinking (the generation of a large number of different ideas) while the other was the convergent-integrative thinking (the combination and the organization of these ideas in order to make a logical and efficient solution).

This two-dimensional approach allows for a complete evaluation of creative profiles for both verbal and visual mediators. EPoC was chosen due to its theoretical foundation based on the multidimensionality of creativity, the availability of validity and reliability scoring rubrics that can be applied, established scoring procedures, and the capacity to objectively evaluate students' creative capacities in educational contexts.

The research group did not end up directly providing the educational intervention, but did play an important role in the evaluation portion of the project by managing the logistics, providing all necessary materials, and supervising the administration of the EPoC battery in both experimental and control groups. The English instructor administered all of the pre- and post-tests, whereas the researcher observed the sessions so as to guarantee that procedures were applied consistently and that the fidelity was upheld

The EPoC subtests (A1–A16) were spread out over four weeks, with each week focusing on a different subset of topic-based tasks. Each session was of 30 to 45 minutes duration and was conducted in a controlled and time-bound manner, which was in accordance with the classroom timetable and also facilitated a rigorous evaluation of creative thinking both pre- and post-intervention.

The utilization of Model A was divided into two principal sessions in which four tests of Model A were administered in Session One, which included both the verbal and graphic domains; in Session Two, another four tests were likewise split between the two cognitive domains and hence carried out.

Tool III: Observational Methods and Emotional-Cognitive Engagement in AI-Enhanced Drama

The primary source of data that the present study relied on is systematic classroom observations conducted concurrently with the pre-test and post-test results which were used to gauge the effectiveness of the AI-supported, drama-based instructional unit. Standardized tests, while being a very accurate tool to show cognitive development, are

very often criticized for overlooking most of the important classroom learning aspects. By conducting direct classroom observations researchers get an opportunity to identify students' emotional involvement, creative expression, and collaborative interactions which are the main dimensions of learning tightly connected to the reality of a standard assessment that is usually unable to measure these aspects (Burnard, Colucci Gray, & Sinha, 2021).

This mixed-methods approach helps to contextualize the data which, in turn, allows a more nuanced and comprehensive evaluation. The researcher had eight opportunities to visit the classrooms during the intervention, and his visits were mainly focused on the experimental group.

Every time the session was recorded through organized structured field notes and with special focus on the students' usage of AI tools (e.g., ChatGPT, Padlet, Vidnoz). Moreover, students' interaction with AI-generated prompts, support, and scenarios was also considered. The observation recorded also the co-construction of the narrative, noting how students created and developed dramatic dialogue and storylines in response to AI input; creative risk-taking, like sudden ideation, improvisation, and the use of unconventional story paths for experimentation; and emotional expression, among them signs of curiosity, frustration, excitement, or confidence in the process of AI-supported storytelling.

The observations were based on the two constructs of divergent and convergent thinking (e.g., idea generation, improvisation) and (e.g., thematic organization, narrative coherence), respectively, as per the EPoC model. Students' behavioral engagement was also studied deeply in relation to their IQ-Creative scores which helped to understand how cognitive potential was realized during collaborative and AI-enhanced learning activities.

Tool IV Academic Achievement Measure (Equivalency Check)

Prior to executing the intervention, the experimenter took measures to make sure that the experimental and control groups were equivalent. One of these measures was to review the English grades of the last semester, which served as an objective evaluation of each student's academic status. On top of that, instructor ratings of students' English competence brought a qualitative viewpoint, highlighting those skills that the grades might not forgoing. Further, classroom participation records were scrutinized to measure each

student's daily interest and engagement. After merging these various sources - academic records, teacher evaluations, and participation logs - the researcher was able to ascertain that both groups had the same starting point, thus, increasing the study's internal validity (Philipsen, Tondeur, Pareja Roblin, Vanslambrouck, & Zhu, 2020).

2.6.2 Data Collection Process

Each participant in the intervention and control group was evaluated two times (pre- test period and post-test period) by using study's instrument.

2.6.2.1 Teacher Involvement and Researcher's Role

Teacher's Involvement

The study was carried out by an experienced English teacher from the school. She was the one who assured that both groups received the same instruction. This teacher followed the researcher's instructions to carry out the AI-enhanced, drama-based curriculum with the experimental group, and at the same time, using regular English methods, she taught the control group. The study kept instructional consistency and allowed a fair comparison of teaching approaches by having the same teacher for both groups. The researcher, on the other hand, was mainly involved in observing the classroom activities, checking the implementation of the curriculum, and gathering qualitative data to support the quantitative results.

Researcher's Role

The researcher was the sole person responsible for the creation and production of the AI-integrated, drama-based educational package. This cover the intervention, which is the whole process and included detailed lesson plans, comprehensive instructor guides with AI- driven activities using tools such as ChatGPT and Padlet, classroom materials, worksheets, and evaluation instruments.

After the design was completed, the researcher arranged training sessions with the English teacher who was going to deliver the course. These workshops were not only about the procedural instruction but also they were focusing on practical strategies for implementing AI within drama-based learning and managing classroom dynamics during interactive and role-playing activities.

Throughout the intervention, the researcher's position was changed to that of a silent spectator who is not involved in the activities but is only watching and recording. The researcher's detailed field notes offer a comprehensive account of the students' involvement, innovative expression, and the on-the-spot use of AI tools, and also encompass instructional fidelity, and the general atmosphere of the classroom. Such an exhaustive approach was employed to ascertain that the effectiveness of the intervention could be gauged precisely by the EPoC creativity test battery with the least possible researcher intervention and the highest possible fidelity to the original instructional design.

2.6.2.2 Data Collection From Study's Groups

Data collection occurred between **September 30, 2024, and April 10, 2025**, and was conducted in three main phases:

Phase 1: Baseline Creativity Assessment

At the start of the academic year, the EPoC test was administered to both groups to establish students' baseline creative intelligence (IQ-Creative).

Phase 2: Academic Pre-Test

At the end of the **first semester** (late December 2024), the **academic pre-test** was administered to both groups to evaluate their initial level of achievement in English.

Phase 3: Intervention and Observations

In the first week of the second semester (January 2025) the experimental group started an AI-supported, drama-based educational unit, and the control group kept on with traditional English instruction. The researcher made systematic classroom observations in the experimental group during the unit as a part of qualitative data collection. These observations provided the researcher with an understanding of student engagement, interaction with AI tools, and participation in drama-based activities.

Phase 4: Academic Post-Test

A post-test was given to the experimental and control groups to measure the academic progress of the students after they had completed the instructional unit. The whole testing was done under standard conditions. The data obtained from the tests and the classroom

observations were carefully documented and made ready for analysis. Quantitative data were subjected to statistical analysis by SPSS while qualitative data were analyzed through MAXQDA.

2.7 Pilot Study

A pilot study was carried out by the researcher using a group that represented 10% of the total number of the participants planned to be involved. In this pre-intervention stage, the participants were given the full questionnaire to complete. The main goal was to find possible situations in which the participants might cause problems or have difficulties during the data collection.

This trial stage was also used to determine the questions in the questionnaire in terms of their clarity, readability, flexibility, and usefulness. It enabled the researcher to find which items were ambiguous or unclear and to have the idea of the segments that might need to be changed before the formal data collection. Moreover, the pilot gave a preliminary evaluation of the effectiveness and usability of the questionnaire when it was given to a larger number of people.

2.8 Validity and Reliability

2.8.1 Validity and Reliability for Quantitative Part

To make sure the study tools are valid and appropriate, the researcher brought in the panel of five experts. The panel included professors from the university and educational supervisors who have had experience in creativity assessment and education. These experts examined the EPoC battery and the Demographic Questionnaire for clarity, relevance, and the degree of their being aligned with the study objectives.

As a result of their input, changes were made to reflect content validity better by including changes to the formatting, fixing grammatical issues, and making minor revisions to a few demographic questions while most of the items remained the same since they had already been validated in Arabic. The validation undertaken here has been a major factor in enhancing the rigor and credibility of the measurement instruments, thus providing a solid basis for the forthcoming analyses of the study.

2.8.2 Validity and Reliability for Qualitative Part

Different strategies were used to ensure validity and reliability of the qualitative data, thus the authors of the study established credibility and trustworthiness in their findings. First, triangulation was put into practice by comparing classroom observations with EPoC results and informal teacher reflections in order to reduce the influence of researcher bias. Moreover, the classroom teacher went through the main points of the observation to verify that the interpretations truly reflected the realities of the classroom.

To ensure that the researchers' coding selections and the thematic analysis were in line with the study's objectives, two independent specialists in educational drama and creativity assessment examined the researchers' work. In line with the suggestions of (O'Reilly & Parker, 2013), an audit trail was kept during data collection in order to facilitate transparency, traceability, and to permit an external check of the observations, coding procedures, and MAXQDA outputs. These steps, taken together, enhanced the methodological rigor and increased the confidence in the qualitative findings.

2.9 Statistical Analysis

2.9.1 Analysis of Quantitative Data

Data analysis was performed with SPSS version 25. First, frequencies and percentages were computed for all categorical variables. The Kolmogorov–Smirnov test was used to check the normality of the data prior to conducting inferential analyses. Several assumptions for parametric tests, as it was anticipated, were not met, therefore, the researcher decided to use non-parametric methods. In particular, the Mann–Whitney U test and the Kruskal–Wallis H test were conducted to investigate the relationships between the dependent and independent variables. Moreover, Pearson's correlation coefficient was computed to measure the relationship between students' academic performance and their creative intelligence (IQ).

3.9.2 Analysis of Qualitative Data

The qualitative part of the research was based on detailed structured classroom observations that aimed to record the students' behavioral, emotional, linguistic, and cognitive reactions to a drama-based learning unit facilitated by AI. The key objective was to fathom the level of students' involvement with AI tools- chiefly ChatGPT and Padlet-

along with drama activities and to study the resultant effects of such interactions on their creative thinking and academic performance in English. The researchers observed a total of eight formal sessions and two extra optional sessions in one experimental classroom over three weeks.

The primary method for analyzing the observational data was Thematic Analysis, which was informed by Braun and Clarke's (2006) framework. The framework was selected because it is flexible and can reveal significant patterns in the qualitative data. The use of MAXQDA Analytics Pro helped to organize the data and create a digital setting that was efficient for the management of the field notes, the coding and categorizing of the data, the clustering of the themes, and the ensuring of the methodological rigor for the whole analysis.

2.9.2.1 Observation Recording and Preparation

Observation information was obtained through a structured template that involved comprehensive checklists, open-ended field notes, and reflective comments. The researcher during the classroom observations was like a ghost in the machine—he was there physically but did not meddle with the lessons. Depending on the language used in class that day, the researcher wrote down field notes in either English or Arabic. The observations captured students' behaviors related to AI tool usage, group activities, creative or dramatic tasks, and the use of academic English when it emerged in classroom activities.

Afterward, the researcher would type out the notes and upload them to MAXQDA for a thorough qualitative analysis. Each document of notes was checked for accuracy and completeness so that there would be no ambiguous or missing entries. The data were labeled by the date of the session, the topic of the lesson, and the types of student engagement. Such a methodical layout made it possible to sort the data clearly, thus facilitating the later retrieval of the data for thematic analysis as well as making the process more efficient and coherent.

2.9.2.2 Analytical Procedure Using MAXQDA

The thematic analysis in MAXQDA was structured around six ordered phases. Initially, the researcher familiarized herself with the data by reading through all the observation transcripts in MAXQDA in detail. At this point, some initial notes and memos were also made to record the researcher's first impressions of students' behavioral and cognitive patterns. These early reflections brought out the ideas that were beginning to emerge and the potential points of significance, thus, they helped to determine the direction of the subsequent analysis.

The next step was for the researcher to employ MAXQDA coding functions to generate initial codes, thus, she was able to inductively label segments of text that were of significant meaning. The focus of these codes was on the behaviors that were creatively linked, the emotional responses, the collaboration, and the academic performance. For instance, "AI exploration," "peer assistance," "metaphorical language," "organized writing," and "risk-taking" were some of the terms that described the behaviors.

Following that, the researcher looked for potential themes by collating the related codes and arranging them into broader categories. MAXQDA's "code map" and "code matrix browser" tools helped a lot in visualizing the relationships between the codes, finding the overlaps and also the tracking of the recurring patterns across the different observation sessions. The process was very important in the work of the thematic structures that are the main dynamics of the classroom data and which were really reflected in them.

Reviewing themes

Every new theme that arose was scrutinized in detail to ensure that they were logical, significant, and that they received support from multiple observation sessions. During this refinement phase, the researchers looked at the codes and changed them, combined them, or got rid of them depending on the quality and the trustworthiness of the evidence. The aim was to make sure that each theme was an accurate representation of a different and relevant side of the students' experiences while at the same time not overlapping or being redundant.

After that, they used memos in MAXQDA to write very exact descriptions of the themes when the themes were final. The names of the themes were chosen very carefully to reflect

not only their direct meaning but also their wider importance for students' creative and academic development. Differences between high- and low-achieving students, for example, were figured out as sub-themes. Then, MAXQDA was used to create a report based on the coded excerpts and thematic summaries.

They did this by showing the main points with the help of the selected excerpts from the observation notes, which are real examples. In the end, the themes were looked at in connection with the study's research questions, especially the ones about the use of AI tools and how that affects students' creative engagement and academic performance in English.

2.9.2.4 Trustworthiness and Researcher Reflexivity

To make sure that the observational analysis was dependable, the researcher used a rigorous approach. The entire analytic process details were recorded in MAXQDA along with coding logs, detailed thematic memos, and reflective journal entries, which facilitated the transparency and the clarity throughout the analysis.

Moreover, triangulation was used by comparing the themes derived from classroom observations with the quantitative post-test results and EPoC creativity scores, thus enabling the researcher to check if the qualitative patterns corresponded to the measurable student outcomes. The involvement of peers in the research process also contributed to the analysis' trustworthiness: after each session, the researcher shared her interpretations with the English teacher who conducted the instructional unit, thus getting confirmation of her understanding of students' behaviors and responses.

The researcher also confessed that she wore two hats simultaneously – that of the unit designer and that of the analyst. Being aware of the possibility of bias, she kept reflexive notes all along to carefully separate the parts where the data actually demonstrated something and where she might have made an assumption. This reflexive stance helped her to locate the discoveries in the data and thus ensure that the interpretations were based on students' real behaviors and not her own personal expectations or predispositions.

2.10 Ethical Consideration

All studies and experiments were ethical and followed the rules stated in the Helsinki Declaration for human research. The review board at An-Najah National University

approved the research (see Appendix D), and the school also gave consent. After the students finished reading the consent form written in Arabic (see Appendix C), only then was permission to participate given. The form explained in detail the reason for the research, the questions in the questionnaire, and the following steps. It also gave great assurance that the records would be kept under complete anonymity and confidentiality of all participants.

As the research was on students, the researcher took extra care to follow the most important moral principles like beneficence and nonmaleficence. The participants' comfort and safety were ensured at all times. The data collection process was very easy and non-intrusive as it involved only filling out questionnaires, and no one was forced to participate. Moreover, it did not affect students' learning experience or the teaching quality in the classroom.

The ideal of justice was also upheld, resulting in a diverse group of individuals that better represented the entire student participants.

Names and personal information were kept confidential, accessible only to the researcher and supervisors for study reasons. Finally, participation was fully voluntary—students could leave from the study at any moment, for any reason, with no penalty or obligation to explain their decision.

Chapter Three

Results

3.1 The results of quantitative part

Sociodemographic characteristics of study sample

The sample included 56 students, with a higher percentage of females (57.1%) than males (42.9%). Most of the students were second-born (32.1%), followed by first-borns (26.8%). Regarding mothers' occupations, the majority were homemakers (46.4%), while teaching was the second most common occupation (35.7%). As for fathers, construction work predominated (42.9%), followed by teaching (17.9%). Academically, half of the students were ranked within the top percentile (≥ 90). Other details shown in table (1).

Table (1)*Sociodemographic characteristics of study sample*

Item	Frequency	Percentage
Gender		
Male	24	42.9%
Female	32	57.1%
Total	56	100.0%
Child Placement in the Family		
1 st	15	26.8%
2nd	18	32.1%
3rd	11	19.6%
4th	6	10.7%
5th	6	10.7%
Total	56	100.0%
Mother's Job		
House wife	26	46.4%
Teacher	20	35.7%
Student Advisor	3	5.4%
Dress Maker	1	1.8%
Secretary	2	3.6%
Nurse	2	3.6%
Other	2	3.6%
Total	56	100.0%
Father's Job		
Construction Worker	24	42.9%
Teacher	10	17.9%
Driving Teacher	1	1.8%
Driver	6	10.7%
Engineer	2	3.6%
Tractor Operator	1	1.8%
Businessman	1	1.8%
Mechanic	2	3.6%
Accountant	1	1.8%
Lawyer	4	7.1%
Auto Parts Importer	2	3.6%
University Lecturer	1	1.8%
Nurse	1	1.8%
Total	56	100.0%
Their levels in the class (percentile)		
≥90	28	50.0%
80-89	11	19.6%
<70	17	30.4%
Total	56	100.0%

Sociodemographic characteristics of participants cross interventional and control group

Table 2 shows the participant split for the intervention and control groups. The control group has a significantly higher number of females, whereas the intervention group contains more males. Students in the intervention group had a slightly higher likelihood of falling into the top academic percentile (≥ 90). Further details are provided below.

Table (2)*Sociodemographic characteristics of participants cross interventional and control group*

Variable	Category	Interventional	Control	Total
Sex	Male	16 (28.6%)	8 (14.3%)	24 (42.9%)
	Female	12 (21.4%)	20 (35.7%)	32 (57.1%)
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)
Child Placement in the Family	1st	7 (12.5%)	8 (14.3%)	15 (26.8%)
	2nd	7 (12.5%)	11 (19.6%)	18 (32.1%)
	3rd	6 (10.7%)	5 (8.9%)	11 (19.6%)
	4th	3 (5.4%)	3 (5.4%)	6 (10.7%)
	5th	5 (8.9%)	1 (1.8%)	6 (10.7%)
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)
Mother's Job	House Wife	16 (28.6%)	10 (17.9%)	26 (46.4%)
	Teacher	10 (17.9%)	10 (17.9%)	20 (35.7%)
	Student Advisor	1 (1.8%)	2 (3.6%)	3 (5.4%)
	Dress Maker	1 (1.8%)	0 (0.0%)	1 (1.8%)
	Secretary	0 (0.0%)	2 (3.6%)	2 (3.6%)
	Nurse	0 (0.0%)	2 (3.6%)	2 (3.6%)
	Other	0 (0.0%)	2 (3.6%)	2 (3.6%)
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)
Father's Job	Construction Worker	13 (23.2%)	11 (19.6%)	24 (42.9%)
	Teacher	4 (7.1%)	6 (10.7%)	10 (17.9%)
	Driving Teacher	1 (1.8%)	0 (0.0%)	1 (1.8%)
	Driver	2 (3.6%)	4 (7.1%)	6 (10.7%)
	Engineer	1 (1.8%)	1 (1.8%)	2 (3.6%)
	Tractor Operator	1 (1.8%)	0 (0.0%)	1 (1.8%)
	Businessman	1 (1.8%)	0 (0.0%)	1 (1.8%)
	Mechanic	1 (1.8%)	1 (1.8%)	2 (3.6%)
	Accountant	1 (1.8%)	0 (0.0%)	1 (1.8%)
	Lawyer	2 (3.6%)	2 (3.6%)	4 (7.1%)
	Auto Parts Importer	1 (1.8%)	1 (1.8%)	2 (3.6%)
	University Lecturer	0 (0.0%)	1 (1.8%)	1 (1.8%)
	Nurse	0 (0.0%)	1 (1.8%)	1 (1.8%)
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)
Their level in class Percentile	≥90	17 (30.4%)	11 (19.6%)	28 (50.0%)
	80-89	4 (7.1%)	7 (12.5%)	11 (19.6%)
	<70	7 (12.5%)	10 (17.9%)	17 (30.4%)
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)

Frequency distribution of divergent and convergent attributes for participants

Table 3 shows that most individuals performed on average across several qualities, including graphic (83.9%), verbal (89.3%), social (92.9%), humanistic (91.1%), and scientific (85.7%) aspects. When it comes to convergent traits, the distribution changes: a significantly larger proportion of people achieved "high" or "very high" levels in specific categories, particularly graphic (30.4% and 8.9%, respectively) and verbal attributes (37.5%). This shows that, while divergent skills tended to cluster around the average, convergent skills showed a broader range of proficiency among participants.

Table (3)*Frequency distribution of divergent and convergent attributes for participants*

Item	Category	Frequency	Percent
Divergent Graphic	below moderate	5	8.9%
	moderate	47	83.9%
	above moderate	4	7.1%
	Total	56	100.0%
Divergent Verbal	below moderate	2	3.6%
	moderate	50	89.3%
	above moderate	4	7.1%
	Total	56	100.0%
Divergent Social	moderate	52	92.9%
	above moderate	4	7.1%
	Total	56	100.0%
Divergent Humanity	below moderate	2	3.6%
	moderate	51	91.1%
	above moderate	3	5.4%
	Total	56	100.0%
Divergent Science	below moderate	3	5.4%
	moderate	48	85.7%
	above moderate	5	8.9%
	Total	56	100.0%
Convergent Graphic	below moderate	11	19.6%
	moderate	13	23.2%
	above moderate	10	17.9%
	high	17	30.4%
	very high	5	8.9%
	Total	56	100.0%
Convergent Verbal	moderate	22	39.3%
	above moderate	13	23.2%
	high	21	37.5%
	Total	56	100.0%
Convergent Social	below moderate	2	3.6%
	moderate	45	80.4%
	above moderate	9	16.1%
	Total	56	100.0%
Convergent Humanity	below moderate	5	8.9%
	moderate	43	76.8%
	above moderate	8	14.3%
	Total	56	100.0%
Convergent Science	below moderate	10	17.9%
	moderate	38	67.9%
	above moderate	8	14.3%
	Total	56	100.0%

Frequency distribution of divergent and convergent attributes for participants across two group

There were no statistically significant changes between the intervention and control groups in terms of divergent or convergent thinking (all p-values were greater than 0.05).

The distribution patterns were also very similar, particularly in the "average" category for divergent thinking. Table 4 contains more particular details.

Table (4)

Frequency distribution of divergent and convergent attributes for participants across two group

Variable	Category	Interventional	Control	Total	p-value
Divergent Graphic	below moderate	4 (7.1%)	1 (1.8%)	5 (8.9%)	0.244
	Moderate	23 (41.1%)	24 (42.9%)	47 (83.9%)	
	above moderate	1 (1.8%)	3 (5.4%)	4 (7.1%)	
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)	
Divergent Verbal	below moderate	2 (3.6%)	0 (0.0%)	2 (3.6%)	0.353
	Moderate	24 (42.9%)	26 (46.4%)	50 (89.3%)	
	above moderate	2 (3.6%)	2 (3.6%)	4 (7.1%)	
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)	
Divergent Social	Moderate	25 (44.6%)	27 (48.2%)	52 (92.9%)	0.305
	above moderate	3 (5.4%)	1 (1.8%)	4 (7.1%)	
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)	
Divergent Humanity	below moderate	1 (1.8%)	1 (1.8%)	2 (3.6%)	0.838
	Moderate	25 (44.6%)	26 (46.4%)	51 (91.1%)	
	above moderate	2 (3.6%)	1 (1.8%)	3 (5.4%)	
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)	
Divergent Science	below moderate	2 (3.6%)	1 (1.8%)	3 (5.4%)	0.330
	Moderate	25 (44.6%)	23 (41.1%)	48 (85.7%)	
	above moderate	1 (1.8%)	4 (7.1%)	5 (8.9%)	
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)	
Convergent Graphic	below moderate	6 (10.7%)	5 (8.9%)	11 (19.6%)	0.450
	Moderate	9 (16.1%)	4 (7.1%)	13 (23.2%)	
	above moderate	5 (8.9%)	5 (8.9%)	10 (17.9%)	
	High	6 (10.7%)	11 (19.6%)	17 (30.4%)	
	very high	2 (3.6%)	3 (5.4%)	5 (8.9%)	
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)	
Convergent Verbal	Moderate	14 (25.0%)	8 (14.3%)	22 (39.3%)	0.234
	above moderate	6 (10.7%)	7 (12.5%)	13 (23.2%)	
	High	8 (14.3%)	13 (23.2%)	21 (37.5%)	
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)	
Convergent Social	below moderate	2 (3.6%)	0 (0.0%)	2 (3.6%)	0.221
	Moderate	23 (41.1%)	22 (39.3%)	45 (80.4%)	
	above moderate	3 (5.4%)	6 (10.7%)	9 (16.1%)	
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)	
Convergent Humanity	below moderate	3 (5.4%)	2 (3.6%)	5 (8.9%)	0.894
	Moderate	21 (37.5%)	22 (39.3%)	43 (76.8%)	
	above moderate	4 (7.1%)	4 (7.1%)	8 (14.3%)	
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)	
Convergent Science	below moderate	6 (10.7%)	4 (7.1%)	10 (17.9%)	0.638
	Moderate	19 (33.9%)	19 (33.9%)	38 (67.9%)	
	above moderate	3 (5.4%)	5 (8.9%)	8 (14.3%)	
	Total	28 (50.0%)	28 (50.0%)	56 (100.0%)	

Association of sociodemographic characteristics and creative IQ

The findings revealed a substantial link between gender and academic percentile and creative IQ scores. Female participants demonstrated stronger creative intelligence than males ($p = 0.042$). Students in the ≥ 90 th academic percentile showed significantly higher creative intelligence than those below the 70th percentile ($p < 0.001$). There were no significant relationships with other sociodemographic variables, such as birth order or parental occupation. Table 5 has further statistics.

Table (5)

Association of sociodemographic characteristics and creative IQ

Variable	Category	N	Mean	Std. Deviation	p-value
Gender	Male	24	109.58	9.65	0.042*
	Female	32	114.38	6.56	
Child Placement in the Family	1st	15	115.00	7.55	0.301
	2nd	18	109.17	8.26	
	3rd	11	113.64	8.09	
	4th	6	115.00	8.36	
	5th	6	110.00	9.48	
Mother's Job	House Wife	26	114.04	8.12	0.186
	Teacher	20	111.25	8.09	
	Student Advisor	3	110.00	10.00	
	Dress Maker	1	115.00	-	
	Secretary	2	107.50	10.60	
	Nurse	2	120.00	-	
	Other	2	100.00	-	
Father's Job	Construction Worker	24	114.79	8.53	0.233
	Teacher	10	114.00	5.16	
	Driving Teacher	1	100.00	-	
	Driver	6	108.33	9.30	
	Engineer	2	117.50	3.53	
	Tractor Operator	1	105.00	-	
	Businessman	1	105.00	-	
	Mechanic	2	105.00	7.07	
	Accountant	1	120.00	-	
	Lawyer	4	105.00	7.07	
	Auto Parts Importer	2	110.00	14.14	
	University Lecturer	1	110.00	-	
	Nurse	1	120.00	-	
	Percentile	≥ 90	28	119.29	
80-89		11	111.36	2.33	
<70		17	101.47	2.34	

Comparison of Creative IQ Between Interventional and Control Groups

The interventional group had a little higher creative IQ mean (113.57) than the control group (111.07), but the difference was not statistically significant ($p = 0.291 > (0.05)$). This lends support to the notion that the two groups had equivalent cognitive potential prior to the intervention. Other details can be found in Table 6.

Table (6)

Comparison of Creative IQ Between Interventional and Control Groups

Variable	Group Type		Total	p-value
	Interventional	Control		
Creative IQ	N	28	28	0.291
	Mean	113.57	111.07	
	St.D	8.03	8.54	

Association of sociodemographic characteristics & academic achievement (pretest)

In the data analysis, only gender had a statistically significant relationship with pre-test academic achievement ($p = 0.038$), with females outperforming males. Other characteristics, such as birth order, parents' occupations, and academic percentile, did not have significant associations with pre-test results.

Table (7)*Association of sociodemographic characteristics and academic achievement (pre-test*

Variable	Category	N	Mean	Std. Deviation	p-value
Gender	Male	24	86.92	6.38	0.038*
	Female	32	90.53	5.61	
Child Placement in the Family	1st	15	90.33	6.66	0.290
	2nd	18	90.00	5.97	
	3rd	11	87.46	5.52	
	4th	6	88.67	4.55	
	5th	6	85.67	7.94	
Mother's Job	House Wife	26	87.27	5.50	0.367
	Teacher	20	89.55	7.09	
	Student Advisor	3	92.00	7.55	
	Dress Maker	1	92.00	-	
	Secretary	2	90.00	-	
	Nurse	2	96.00	5.66	
	Other	2	91.50	0.71	
Father's Job	Construction Worker	24	87.54	6.38	0.291
	Teacher	10	93.20	5.45	
	Driving Teacher	1	82.00	-	
	Driver	6	91.00	4.82	
	Engineer	2	92.00	-	
	Tractor Operator	1	84.00	-	
	Businessman	1	87.00	-	
	Mechanic	2	82.00	-	
	Accountant	1	90.00	-	
	Lawyer	4	87.00	9.45	
	Auto Parts Importer	2	89.50	2.12	
	University Lecturer	1	94.00	-	
	Nurse	1	92.00	-	
	Percentile (their level in class)	≥90	28	89.39	
80-89		11	90.18	6.29	
<70		17	87.53	5.80	

Comparison of pre-test academic achievement between interventional & control groups

The study revealed that students in the control group had somewhat greater pre-test academic achievement (mean = 90.32) than in the intervention group (mean = 87.64), albeit the difference approached but did not reach statistical significance ($p = 0.060$). Other details are presented in Table 8.

Table (8)*Comparison of pre-test academic achievement between interventional and control groups*

Variable	Group Type		Total	p-value
	Interventional	Control		
Pre-Test Academic Achievement	N	28	28	0.060
	Mean	87.64	90.32	
	St.D	6.52	5.58	

Association of sociodemographic characteristics and academic achievement (post-test)

None of the sociodemographic variables had a statistically significant relationship with post-test academic performance. Although females had higher average scores, the difference was not statistically significant ($p = 0.119$). Similarly, characteristics like child order and parental occupation had no statistically significant effect. Table 9 includes further related data.

Table (9)

Association of sociodemographic characteristics and academic achievement (post- test)

Variable	Category	N	Mean	Std. Deviation	p-value
Sex	Male	24	90.50	5.03	0.119
	Female	32	92.41	5.51	
Child Placement in the Family	1st	15	92.93	5.66	0.451
	2nd	18	92.00	5.18	
	3rd	11	89.91	4.72	
	4th	6	91.67	3.72	
	5th	6	90.00	7.72	
Mother's Job	House Wife	26	90.15	5.55	0.404
	Teacher	20	92.45	5.42	
	Student Advisor	3	93.33	5.51	
	Dress Maker	1	95.00	-	
	Secretary	2	91.00	-	
	Nurse	2	97.50	3.54	
	Other	2	92.00	2.83	
Father's Job	Construction Worker	24	90.75	5.57	0.459
	Teacher	10	94.90	4.91	
	Driving Teacher	1	88.00	-	
	Driver	6	92.50	3.27	
	Engineer	2	95.00	-	
	Tractor Operator	1	90.00	-	
	Businessman	1	92.00	-	
	Mechanic	2	81.00	1.41	
	Accountant	1	93.00	-	
	Lawyer	4	91.50	5.97	
	Auto Parts Importer	2	90.00	8.49	
	University Lecturer	1	94.00	-	
	Nurse	1	92.00	-	
	Percentile (their levels in class)	≥ 90	28	92.61	
80-89		11	90.91	6.72	
< 70		17	90.35	4.43	

Comparison of post-test academic achievement between interventional & control groups

Post-test academic achievement was higher in the intervention group (mean = 92.43) than in the control group (mean = 90.75), while this difference was not statistically significant ($p = 0.324$). other details shown in table (10).

Table (10)

Comparison of Post-Test Academic Achievement Between Interventional & Control Groups

Variable	Group Type		Total	p-value
	Interventional	Control		
Post-Test Academic Achievement	N	28	28	0.324
	Mean	92.43	90.75	
	St.D	4.92	5.70	

3.2 The results of qualitative part (Findings from Classroom Observations)

Over a six-week period, eight structured classroom observations were conducted to investigate the implementation of an AI-supported drama-based instructional unit in the experimental group. These observations particularly addressed two main qualitative research questions: First, how can students demonstrate creative thinking, teamwork, emotional expression, and academic accomplishment throughout the drama-based unit? Second, how does the teacher promote creative thinking, collaborative learning, and academic skill development throughout the curriculum's implementation?

The MAXQDA-supported thematic analysis of the eight interrelated themes revealed interaction of the students on a cognitive, emotional, and academic level with the unit of instruction. Besides creative and collaborative behaviors, the results of the study show that the students have made considerable progress in literary understanding, interpretive reasoning, and the use of contextually appropriate language. Such growth corresponds to the stated academic achievement criteria derived from the Module F Literature Rubrics (English Inspectorate, Israel 2020).

3.2.1 Students' Creative Thinking, Collaboration, Emotional Expression, and Academic Achievement

When students were first introduced to new technological tools like ChatGPT and Padlet, they had a mixture of curiousness and doubtfulness. But by the second week, almost all

of them had got the hang of generating AI-content and turning it into their own unique, meaningful interpretations of Mr. Know-All.

One of the ways the students showed creative thinking was through the repertoire of narrative events, drafting the internal thoughts, and creating the podcasts of the different characters. One of the students used this metaphor to explain:

“He wore his smile like a mask,” which not only showed the use of figurative language but also demonstrated the student's emotional understanding.

Collaboration were the qualities which the students exhibited in their joint planning, respectful negotiations, and peer-led revisions. They motivated each other with words like:

“What quote fits better here?”

and

“Try adding more emotion when you say that line.”

The dramatizations in which the students performed their characters' internal conflicts by improvising tone, gesture, and dialogue became an especially prominent avenue for emotional expression. One of the students exclaimed:

“I tried to make the class feel what he [Mr. Kelada] felt, I didn't just say the words.”

The literary side of the curriculum was a consistent source of great academic achievement. The students developed concepts of characters and conflicts to a deeper level, they supported their creative decision-making with references from the text, they used the literary terms ironies, symbols, and subtexts that they have learned in correct contexts, and they progressively maintained better coherence and become clearer in writing their personal responses to literature. These accomplishments are closely related to the standards set out in the Literature Rubrics for Module F, which include interpretative understanding of text and theme, the creative and relevant personal response, logical organization and idea development, and appropriate and accurate language usage.

One of the students summed up the learning process in these words:

“It's like the AI gives me a direction, but I decide the story. It helps me write better, but not for me—it's with me.”

Such statements are indicative of metacognitive awareness and self-directed engagement with academic tasks.

3.2.2 The Teacher's Role in Supporting Creativity and Academic Growth

The teacher, through an exemplary and facilitative manner, was the central figure in the creation of a safe learning environment that was student-centered. Instead of the teacher directing every step of the way, the teacher brought in the open-ended challenges and students were empowered to decide the manner in which they would interact with the story.

Interpretation was always the focus of the guidance given throughout the unit and no fixed answers were provided. Some of the questions that were posed to the students were:

"What do you think the author is implying about Mr. Kelada's values?"

and

"In what way does your rewrite mirror the story's message?"

These questions helped the students to connect their artistic creation with further literary comprehension.

Through the teacher's arrangement of students into collaborative groups and the creation of performance-based tasks—like rewriting scenes in different genres or making podcasts from a character's point of view—the teacher was able to equip the learners with the necessary academic skills for literature-based assessment. Students were given the opportunity to substantiate their ideas with evidence, present intricate viewpoints, and use language smartly.

Each and every one of the culminating activities was based on the main domains of the Module D/F Literature Rubric, which, among others, cover interpretation and reflection, creativity and originality, coherence and organization, and linguistic range and accuracy.

3.2.3 Summary of Thematic Findings and Alignment with Literature Rubric Criteria

Appendix (J) presents a synthesis of the eight key themes observed during the unit, including examples of creative thinking, collaboration, emotional expression, and literature-based academic achievement, as well as how the teacher supported these developments.

3.3 Conclusion

The implementation of AI-supported drama activities in a literature class was observed during more than six weeks of classroom sessions to have a great impact on students' development in many dimensions. Students became more creative, they invested more deeply in literary texts, they communicated their understanding more clearly, and they questioned the textual evidence more critically through writing, speaking, and performing.

The teacher was instrumental in encouraging the students to become independent, giving them well-organized chances to explore and keeping them responsible for maintaining the level of their studies. These results indicate that the use of AI tools along with drama-based activities, if done in a proper way, can be a means of raising the students' creative involvement without the resumption of academic standards being weakened in the teaching of English Literature.

Chapter Four

Discussion, Conclusions and Recommendations

4.1 Discussion

This study employed a mixed-methods design, integrating both quantitative and qualitative methodologies to assess how a drama-based pedagogical intervention augmented with artificial intelligence influenced students' academic performance and creative thinking skills. The present chapter synthesizes the analytical findings, situates them within the broader scholarly literature, and examines the implications and constraints of this research for future scholarly inquiry.

The quantitative strand of this research was attached in a quasi-experimental design, which according to Melnyk and Fineout-Overholt (2022), constitutes Level III evidence within the hierarchy of research designs. Although positioned below systematic reviews and randomized controlled trials in terms of evidential hierarchy, this design maintains considerable methodological rigor and credibility.

Data quality was notably robust, with minimal data loss, and the instruments utilized demonstrated both reliability and validity, having been previously employed in published randomized controlled trials. This lent considerable weight to the findings. The sample consisted of 56 students, distributed roughly equally between the intervention and control conditions. Demographic information was systematically collected, encompassing gender, parental occupation, and birth order. The collection of granular demographic data served multiple functions: it facilitated control of potential confounding variables, enriched the overall dataset, and enhanced the contextual applicability of the conclusions drawn from this study. Taken together, the study's design and execution provided a reasonably solid foundation for evaluating the intervention's academic effects while simultaneously accounting for potential confounding influences.

4.2 Comparison Analysis with Existing Literature

The findings of this study revealed that students in the intervention condition achieved slightly elevated scores ($M = 92.43$) relative to their counterparts in the control condition ($M = 90.75$). However, this difference failed to reach statistical significance ($p = 0.324$),

suggesting that the integration of AI technologies did not yield a measurable impact on academic performance within this particular context.

This outcome stands in notable contrast to several recent systematic reviews. Pertiwi, Nugroho, and Hidayat (2024) and Dong and Clements (2025), for instance, documented substantial improvements in academic achievement following AI-enhanced instruction. The discrepancy likely reflects fundamental differences in methodological approach and research design. The methodology of this study diverged considerably from theirs, which could plausibly account for the divergent outcomes. The researcher also examined additional studies employing comparable mixed-methods frameworks—Yang (2024) and Mallillin (2024)—yet even these investigations reported pronounced advantages associated with AI integration. The results of this study thus appear somewhat anomalous. Notably, Vieriu and Petrea (2025) conducted a mixed-methods study with university students and concluded that AI technologies substantially enhanced academic performance. This suggests that educational level may constitute an important moderating variable, potentially explaining some of the heterogeneity in findings across studies.

Regarding creative capacity, no statistically significant correlations were observed between the divergent and convergent components of the EPoC and overall creative output. This finding diverges from Zheng, Chen, and Wang (2023), who reported that AI could meaningfully enhance these dimensions. The discrepancy likely reflects differences in how creativity was conceptualized and measured. Whereas prior research adopted more expansive definitions of creativity, the present investigation focused on specific operationalizations of creative capacity.

The qualitative data revealed a striking finding: teacher facilitation emerged as the paramount factor influencing outcomes. This aligns closely with earlier work by Longobardi, Settanni, Lin, and Fabris (2021) and Chen (2005), which identified robust relationships between teacher support and student academic progress. Students in the sample for this study demonstrated notable creative thinking abilities, a finding consistent with contemporary scholarship recognizing AI's potential to foster creativity. This consistency likely reflects the shared mixed-methods approach across investigations.

Collaboration constituted another significant thematic finding. The qualitative data furnished multiple instances of collaborative planning, respectful negotiation, and peer-

driven revision processes. These observations suggest that AI-augmented learning environments not only facilitate cooperative endeavors but may also cultivate students' inclination toward collaborative engagement. This aligns with prior research by Tomić and colleagues (2022), which demonstrated that AI-based instructional methods effectively promote student collaboration.

Collectively, these findings underscore how assessment methodologies and sample characteristics substantially influence research outcomes. Simultaneously, they highlight the notable academic achievements of female students within the present sample.

4.3 Recommendations

Recommendations for Future Research

Future investigations should examine the longitudinal effects of creative interventions on both academic performance and creative development. Such work would illuminate whether delayed or cumulative benefits emerge over extended timeframes, phenomena potentially obscured in short-term studies.

Researchers should investigate the specific mechanisms through which convergent creative intelligence—encompassing both verbal and graphic modalities—facilitates student development and learning outcomes.

Gender-related phenomena warrant more extensive investigation. Understanding the factors underlying female students' apparent advantages in both creative thinking and academic achievement remains an important research priority.

Future work should incorporate more expansive and heterogeneous samples to enhance statistical power and improve the generalizability of findings to broader populations.

Recommendations for Educational Practitioners and Policy Makers

Educational institutions should actively promote student-centered pedagogical approaches wherein learners exercise meaningful agency and educators function primarily as facilitators. Such approaches foster greater creative autonomy and encourage students to assume ownership of their learning trajectories.

Professional development initiatives should equip educators with competencies necessary for designing open-ended creative challenges that simultaneously integrate substantive academic content.

Policymakers and administrators should recognize that creative thinking skills contribute to multiple facets of student development—including engagement, emotional maturation, and collaborative capacity—beyond conventional academic metrics. These dimensions merit consideration in educational planning and assessment frameworks.

Educational systems should invest in skill development and knowledge acquisition through carefully designed curricula that emphasize both verbal and graphic modalities of convergent thinking. Simultaneously, educators should be encouraged to employ qualitative assessment approaches that capture student growth in creativity, emotional expression, and collaboration alongside standardized academic measures.

4.4 Conclusion

The intervention group demonstrated marginally superior academic performance relative to the control group, though this difference lacked statistical significance. Similarly, the investigation did not reveal the anticipated strong relationship between creative thinking capabilities and academic outcomes. Female students, however, generally outperformed their male counterparts in academic achievement, suggesting that gender may exert a meaningful influence on educational outcomes.

Perhaps most significantly, the qualitative findings underscore the pivotal role of teacher facilitation. Educators who employ facilitative pedagogies—involving students in narrative exploration, nurturing creative thinking, fostering collaboration, and validating emotional expression—appear to cultivate student autonomy and self-directed learning. By cultivating classroom environments characterized by openness and encouragement, teachers can guide students not merely toward academic success but toward the fuller development of their creative potential.

4.5 Study Limitation

Sample size represents a notable constraint. The relatively modest sample size ($N = 56$) may have limited statistical power and consequently constrained the ability to detect significant effects. This limitation reduces the generalizability of findings and increases

the risk of sampling bias. Future investigations should endeavor to recruit larger, more representative samples.

The use of convenience sampling introduces potential selection bias. Non-random participant recruitment may have resulted in a sample that does not fully represent the broader population of interest.

This investigation was confined to a single educational site. All participants were recruited from one school, which substantially constrains the generalizability of findings to other educational contexts and populations.

Political circumstances at the research site created practical constraints on data collection procedures, potentially affecting the implementation fidelity of the intervention and the comprehensiveness of the data gathered.

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Appendices

Appendix (A)

Observation Tracking Table

Instructions for Observer

- Stay as unobtrusive as possible during the session. Avoid influencing student behavior.
- Focus on recording natural interactions, spontaneous expressions, and genuine reactions.
- Use the checklist during live observation and elaborate field notes immediately after the session.
- Write a short general reflection after each session, summarizing surprising or notable behaviors.
- Be attentive to both verbal and non-verbal student actions.

Observation No.	Date & Time	Focus of Observation (with Guiding Prompts)	Checklist (✓/✗)	Field Notes (Detailed Descriptions)	General Reflection
1		Initial Student Engagement with AI and Drama Are students curious about AI prompts? Is there hesitation, excitement, or confusion?	<input type="checkbox"/> Explored AI <input type="checkbox"/> Showed hesitation <input type="checkbox"/> Initiated ideas independently		
2		Early Peer Collaboration and Creativity Signs Do students collaborate naturally? Are ideas being built together or dominated by one person?	<input type="checkbox"/> Mutual idea-sharing <input type="checkbox"/> Dominance by few students <input type="checkbox"/> Respectful negotiation		
3		Adaptation to AI and Growth in Story Development Do students modify AI prompts creatively? Is story complexity increasing?	<input type="checkbox"/> Diverged from AI prompts <input type="checkbox"/> Created multi-layered stories		
4		Peer Leadership and Group Dynamics Who leads the group activities? Is leadership	<input type="checkbox"/> Shared leadership <input type="checkbox"/> Single student dominating		

		distributed or centralized?	Encouragement among peers		
5		Emotional Expression and Improvisation Do students express emotions convincingly? Are students able to improvise naturally?	<input type="checkbox"/> Emotional depth visible <input type="checkbox"/> Spontaneous improvisations <input type="checkbox"/> Struggled with unexpected shifts		
6		Overall Creative Performance and Fluency Are students' stories more fluent and imaginative? Is the language becoming richer?	<input type="checkbox"/> Clear narrative flow <input type="checkbox"/> Creative story endings <input type="checkbox"/> Risk-taking in expression		
7 (Optional)		Handling Unexpected AI Challenges How do students react to AI errors or unexpected twists?	<input type="checkbox"/> Adapted creatively <input type="checkbox"/> Showed frustration		
8 (Optional)		Differentiated Student Progress Are stronger and weaker students showing different patterns?	<input type="checkbox"/> Noticeable differences <input type="checkbox"/> Strong students supporting weaker ones		

Appendix (B)

Teacher's Guide

AI-Enhanced Educational Drama for *Mr. Know-All*

Unit Plan Overview

Grade Level: 12th Grade

Story: *Mr. Know-All* by W. Somerset Maugham

Duration: 6 Weeks (12 Lessons, 45 minutes each)

Name of the Book: *Literature for 4 Points* – Eric Cohen Books

Curriculum Base: English Curriculum 2020

Pedagogical Approach: AI-supported educational drama & creative thinking development

Creativity Model: EPoC Model of Creativity

Unit Objectives

To analyze literary elements and themes in *Mr. Know-All*, including character development, point of view, and the impact of prejudice and stereotyping.

To develop creative thinking skills—specifically **divergent thinking** (generating multiple ideas and perspectives) and **convergent thinking** (selecting and refining practical ideas)—through AI-enhanced dramatization, rewriting, and role-based activities.

To use AI tools to support collaboration, creative expression, and reflective learning in both written and spoken tasks, including podcasts, debates, and scene adaptations.

Main AI Tools Used:

ChatGPT – Dialogue rewriting, character analysis

Padlet – Digital mind mapping and visual collaboration

Vidnoz – AI-generated avatars and visual dramatization

Magic School – Debate generation, creative writing

Notebook LM – Reflective podcast recording

Lesson 1: Introducing Stereotypes and Prejudice

Objectives:

Understand prejudice, stereotyping, and how they relate to *Mr. Know-All*.

Activate prior knowledge using AI.

Time	Activity	Method/Tool
5 min	Warm-up discussion on judging others	Whole class
10 min	AI Prediction: Describe Mr. Kelada via ChatGPT	ChatGPT
10 min	Padlet mind map: Examples of stereotypes	Padlet
15 min	Roleplay: "You Are Not Who I Expected"	Drama
5 min	Exit reflection: Have you ever judged someone too fast?	Individual task

Worksheet: Mind map comparison – Stereotypes vs. Reality

AI Prompt: “Based on the name and background, describe who Mr. Kelada might be.”

Can-Do: “I can describe how prejudice affects character interactions.”

Lesson 2: First Impressions & Character Traits

Objectives:

Analyze how initial impressions form and evolve.

Identify character traits using textual evidence.

Time	Activity	Method/Tool
5 min	Review of Lesson 1	Whole class
10 min	Padlet: Trait chart of Kelada and Narrator	Padlet
15 min	Vidnoz's rebuilding of the meeting scene	Vidnoz
10 min	Interview activity: Narrator interviews Kelada	Pair roleplay
5 min	Reflection discussion	Whole class

Worksheet: Character Trait Tracker

Can-Do: “I can describe a character using examples from the story.”

Lesson 3: Debate – Is Mr. Kelada a Gentleman?

Objectives:

Develop critical thinking and use AI to form arguments.

Engage in structured debate.

Time	Activity	Method/Tool
10 min	Class is split into teams	Group work
15 min	Magic School: Generate points for debate	Magic School
15 min	Mock debate	Structured drama
5 min	Reflection	Whole class

Worksheet: Debate Planning Sheet

AI Prompt: “List reasons why Mr. Kelada is or is not a gentleman.”

Can-Do: “I can explain different sides of an argument using details from the story.”

Lesson 4: Bridging Text and Context

Objectives:

Link story events to historical/social prejudice.

Reflect using podcast tools.

Time	Activity	Method/Tool
10 min	Context: Imperialism, Racism	Teacher-led
15 min	Podcast: Prejudice in the past vs. now	Notebook LM
15 min	Dramatic monologue (Kelada’s POV)	Solo drama
5 min	Share and reflect	Whole class

Worksheet: Podcast Planning Sheet

Can-Do: “I can connect the story to real-world social issues.”

Lesson 5: Rewriting with a Twist

Objectives:

Explore different outcomes based on one change.

Use AI to create and revise dialogue.

Time	Activity	Method/Tool
10 min	Brainstorm: "What if Kelada spoke the truth?"	Whole Class
15 min	AI Task: Rewrite the dinner scene	ChatGPT
15 min	Table-read & feedback	Group drama
5 min	Reflection: What changed in the message?	Class discussion

Worksheet: Rewriting with Perspective Shift

Can-Do: “I can rewrite a scene from a different perspective.”

Lesson 6: The Pearl Scene – Creative Rewrite

Objectives:

Retell key scenes in new genres or tones (comedy, tragedy, thriller).

Practice **divergent thinking** by generating multiple versions of the same scene.

Apply **convergent thinking** by selecting and performing the most effective version.

Time	Activity	Method/Tool
5 min	Choose genre (comedy, tragedy, thriller)	Group
10 min	ChatGPT generates a first draft	ChatGPT
20 min	Rehearsal of a genre-based skit	Group drama
10 min	Presentations	Performance

Worksheet: Scene Transformation Sheet

AI Prompt: “Rewrite the pearl scene as a comedy/tragedy.”

Can-Do: “I can retell a scene in a new way.”

Lesson 7: HOTS – Inferring and Interpreting

Objectives:

Use HOTS to interpret Kelada’s actions.

Evaluate character motivation.

Time	Activity	Method/Tool
10 min	Review key quotes	Whole class
15 min	ChatGPT: Infer emotions based on quotes	AI task
15 min	Write an internal monologue	Notebook LM Individual
5 min	Share & Discuss	Padlet

Worksheet: Quote-Based Inference Sheet

Can-Do: “I can infer a character’s feelings from what they say or do.”

Lesson 8: Podcast Perspectives

Objectives:

Reflect on how characters feel before/after significant events.

Record creative podcast entries.

Time	Activity	Method/Tool
10 min	Plan a podcast topic	Whole class
20 min	Record with Notebook LM	Podcast
10 min	Peer feedback on recordings	Padlet
5 min	Share the best moments	Class

Worksheet: Podcast Script Planner

Can-Do: “I can talk about how a character changes over time.”

Lesson 9: Bridging to Me – Personal Response

Objectives:

Relate themes to personal experience.

Write and dramatize your own story of prejudice.

Time	Activity	Method/Tool
10 min	Think-pair-share: “When was I misjudged?”	Partner
20 min	Story writing using Magic School	AI writing
10 min	Monologue presentation	Individual
5 min	Emotional takeaway discussion	Whole class

Worksheet: Personal Prejudice Story Frame

Can-Do: “I can express a personal experience connected to the theme.”

Lesson 10: AI-Inspired Creative Writing Challenge

Objectives:

Engage in divergent thinking by generating a variety of creative story ideas and styles (e.g., sci-fi, news report, fantasy).

Apply convergent thinking to select, refine, and develop the most promising idea into a coherent narrative.

Use AI tools to support creative expansion and editing.

Time	Activity	Method/Tool
10 min	Rapid AI brainstorming	ChatGPT
15 min	Creative writing (sci-fi, fantasy, news report)	Individual- ChatGPT
15 min	Share and rotate reading	Carousel activity
5 min	Reflection: “Which idea surprised you?”	Padlet -Individual

Worksheet: Creative Genre Writing Tracker

Can-Do: “I can write a story in different styles.”

Lesson 11: Final Performance Prep

Objectives:

Prepare polished scenes for final performance.

Integrate AI visuals/audio.

Time	Activity	Method/Tool
10 min	Review scripts and edit	ChatGPT -Group
20 min	Rehearsal with Vidnoz AI avatars	Vidnoz
10 min	Set up visuals, transitions	Vidnoz Group
5 min	Final checklist	Teacher walkthrough

Can-Do: “I can prepare a script for a short performance using AI support.”

Lesson 12: Showcase & Reflection

Objectives:

Present final projects that demonstrate the application of divergent and convergent creative thinking throughout the unit.

Reflect on how AI tools supported idea generation, decision-making, and creative expression.

Evaluate personal growth in creativity and collaboration.

Time	Activity	Method/Tool
20 min	Presentations	Performance
10 min	Peer feedback using a rubric	Group
10 min	Final reflection (podcast or paragraph)	Notebook LM
5 min	Unit wrap-up	Whole class

Worksheet: Final Reflection Guide

Can-Do: “I can reflect on how I used **divergent and convergent thinking** to develop creative ideas and make meaningful choices during AI-supported tasks and performances.”

Appendix (C)

Mind Map Comparison – Stereotypes vs. Reality

Lesson 1 Worksheet:

Part 1: Predicting Mr. Kelada

Before reading the story, use your imagination and write 3–5 personality traits or details you think describe Mr. Kelada based **only** on his name.

Trait / Detail	Why do you think so?
1.	
2.	
3.	
4.	
5.	

Part 2: Common Stereotypes (Padlet Activity)

Use Padlet to brainstorm and list **common stereotypes** that people might have based on:

- Name
- Appearance
- Nationality
- Accent

Write at least **four stereotypes** that your group discussed.

Stereotype	Who might be affected by it?	Is it fair or unfair? Why?

Part 3: After the Roleplay

After acting out the short drama “You Are Not Who I Expected”...

Reflect:

- Did your view of Mr. Kelada or similar characters change?
- What surprised you during the roleplay?

Write 4–5 sentences:

Part 4: Personal Reflection

Think deeply: Have you ever judged someone quickly and discovered later that you were wrong?

Describe the situation briefly. What did you learn from it?

Lesson 2 Worksheet: Character Trait Tracker

Part 1: Mr. Kelada's Traits

List **three traits** that describe Mr. Kelada. For each trait, write a short explanation and one piece of **evidence from the story** to support your answer.

Trait	Explanation	Textual Evidence (Quote or Event)
1.		
2.		
3.		

Part 2: The Narrator's Traits

List **three traits** that describe the Narrator. For each, explain your reasoning and include a quote or event from the story.

Trait	Explanation	Textual Evidence (Quote or Event)
1.		
2.		
3.		

Part 3: Compare and Contrast

Fill in the chart to compare **Mr. Kelada** and the **Narrator**.

Category	Mr. Kelada	The Narrator
Personality		
Communication Style		
Prejudices or Judgments		
Social Behavior		

Part 4: Final Reflection

How did your **opinions** about Mr. Kelada and the Narrator **change** after this lesson?

Write at least **five complete sentences**:

Lesson 3 Worksheet: Debate Planning Sheet

Debate Question:

Is Mr. Kelada a gentleman?

YES NO

(Check the side you will argue)

Part 1: Arguments for and Against

Fill in at least **three arguments** supporting your side and at least one argument the opposing side might use.

Arguments FOR (Mr. Kelada is a gentleman)	Arguments AGAINST (Mr. Kelada is not a gentleman)
1.	1.
2.	
3.	

Part 2: Structured Debate Paragraph

Use this format to plan your speech or paragraph:

- **Opening sentence (introduce your opinion):**
“I believe that Mr. Kelada is/is not a gentleman because...”
- **Main Point 1:**
“First, ...”
- **Main Point 2:**
“Also, ...”
- **Main Point 3:**
“Finally, ...”
- **Conclusion:**
“In conclusion, ...”

Now write your whole paragraph:

Part 3: Self-Assessment

Reflect on your performance in the debate preparation.

Question	Answer
Were my arguments clear and well-organized?	Yes / No
What was my strongest argument?	
What could I improve next time?	
Did I understand the other side’s perspective?	Yes / No

Lesson 4 Worksheet: Podcast Planning Sheet

Part 1: Prejudice – Then and Now

Please list **at least three** examples of how prejudice existed in the past (during the time of *Mr. Know-All*) and compare them to examples of prejudice today.

Past (in the story's time)	Present (in today's society)
1.	
2.	
3.	

Part 2: Dramatic Monologue – Mr. Kelada's Voice

Imagine you are Mr. Kelada. Write a **dramatic monologue** where you express your true feelings about how others treat you. Use emotional, personal language. (6–8 sentences)

Part 3: Podcast Planning

You are going to record a short podcast segment. Use the chart below to plan your podcast.

Main Idea	What is your message or topic?
Personal Example or Quote	Include one story, situation, or quote to support your idea.
Question for the Listener	Ask a question that makes your audience think.

Part 4: Reflection After Recording

After you record your podcast, answer these questions:

- **How did you feel while expressing your opinion and feelings?**

Were you confident? Nervous? Inspired?

Did the activity help you understand prejudice more deeply?

Write 3–5 sentences:

Lesson 5 Worksheet: Rewriting with Perspective Shift

Part 1: The Original Dinner Scene – Summary

Write a summary (4–5 sentences) of what happened during the dinner scene in *Mr. Know-All*.

Focus on the argument about the pearl and how Mr. Kelada responded.

Part 2: “What If He Told the Truth?”

Rewrite the dinner scene, but imagine that Mr. Kelada **tells the truth** about the pearl **instead of protecting Mrs. Ramsay**.

What would he say? What would happen next?

Write your version of the scene (6–8 sentences):

Part 3: Reflection Questions

Answer the following questions based on your rewritten scene:

1. **How did the meaning of the scene change when Mr. Kelada told the truth?**
Did the atmosphere, characters' reactions, or message change?

2. **Who “wins” or “loses” in your version of the story? Why?**

3. Do you think telling the truth was the right decision? Explain.

Part 4: Comparison Table

Compare the original and rewritten versions of the dinner scene.

Element	Original Version	Your Rewritten Version
Mr. Kelada's Action		
Mrs. Ramsay's Reaction		
Narrator's Attitude		
Message or Theme		

Lesson 6 Worksheet: Scene Transformation Sheet

Part 1: Choose Your Genre

Choose one genre to rewrite the **Pearl scene** from *Mr. Know-All*.

Comedy Tragedy Thriller

Write the chosen genre here: _____

Part 2: Rewrite the Scene

Retell the pearl scene according to the **tone and style** of the genre you selected.

Your version should be **8–10 sentences** and include dramatic or humorous elements as appropriate.

Part 3: What Did You Add or Change?

List **three elements** you added or changed to fit your selected genre.

Element	Description	How does it fit the genre
1.		
2.		
3.		

Part 4: Group Reflection – Which Version Was Most Powerful?

After your group presents your scenes:

1. Which group's version had the **most substantial emotional or creative impact**?

Explain your choice in 3–4 sentences.

2. What did you learn about how **tone** changes the meaning of a scene?

Lesson 7 Worksheet: Quote-Based Inference Sheet

Part 1: Inference from Quotes

Read the following quotes from *Mr. Know-All* and infer what the character might be feeling or thinking. Add **textual evidence** to support your answer.

Quote	What does the character feel or think?	Why do you think so? (Evidence/Reason)
“I was prepared to dislike him even before I saw him.”		
“I admit he was a good mixer.”		
“I had to admit that I was wrong.”		
“I knew he was trying to help her.”		

Part 2: Analysis Question

Why did Mr. Kelada act the way he did during the pearl scene?

Write a short paragraph (3–5 sentences) explaining his **motivation** and **internal conflict**.

Part 3: Internal Monologue

Imagine Mr. Kelada is thinking silently right after the dinner scene.

Write an **internal monologue** (at least two sentences) showing what he might say to himself.

Example starter: “They will never know why I stayed silent, but...”

Part 4: Padlet Sharing

Post your monologue or reflection on Padlet.

Prompt:

What did you learn about Mr. Kelada’s character through his silence?

Do you respect his choice more or less after this analysis?

(Use the Padlet link provided by your teacher.)

Lesson 8 Worksheet: Podcast Script Planner

Part 1: Choose Your Focus

Think of a key event in *Mr. Know-All* that had a significant emotional or moral impact.

What event will your podcast focus on?

(Example: The dinner scene, the first meeting between the narrator and Mr. Kelada, etc.)

Event: _____

Part 2: Before and After – Character’s Feelings

Choose **one character** (Mr. Kelada, the narrator, or Mrs. Ramsay) and describe how they felt **before** and **after** the event.

Character: _____	Before the Event	After the Event
Feelings / Thoughts		
Behavior or Attitude		

Part 3: Podcast Script

Write a short podcast entry (6–8 sentences) **from the point of view of the character** you chose.

Speak in the **first person** and express thoughts, emotions, or lessons learned.

Example starter:

"I did not expect that one moment at dinner would change how I see everything..."

Part 4: Peer Feedback

After listening to a classmate’s podcast, answer the questions below.

Question	Your Answer
What did you like most about their podcast?	
Was the character’s voice and emotion believable?	Yes / No
What would you suggest to improve it?	

Lesson 9 Worksheet: Personal Prejudice Story Frame

Part 1: Have You Ever Been Misjudged?

Think of a time when someone **judged you too quickly** or misunderstood who you are.

Briefly describe what happened (2–3 sentences):

Part 2: Write Your Story

Turn your experience into a short story (6–8 sentences).

Include what happened, how you felt, and how the situation ended.

Part 3: Dramatic Monologue

Now, imagine you are a **character in a play** retelling this story to an audience.

Write a short dramatic monologue (3–5 sentences) expressing your emotions.

Example starter:

"They thought they knew me from the outside, but inside, I was breaking..."

Part 4: What Did You Learn?

Reflect on your experience.

- What did this moment teach you about **judgment and prejudice**?
- Has it changed how you treat or view others?

Write a short paragraph (3–5 sentences):

Lesson 10 Worksheet: Creative Genre Writing Tracker

Part 1: Brainstorm with AI

Use ChatGPT to help you generate **three story ideas**, each in a different genre:

Genre	Story Idea (1–2 sentences)
Science Fiction	
News Report	
Fantasy	

Part 2: Write Your Story

Choose **one genre** and develop your idea into a **short story (8–10 sentences)**.

Chosen Genre: _____

Title of Your Story: _____

Your Story:

Part 3: Peer Comments

After sharing your story with a classmate, ask them to write a short comment.

Peer's Name	What they liked most about your story

Part 4: Reflection

Which story or idea from your classmates surprised you the most? Why?

Write 3–4 sentences:

Lesson 11 Worksheet: Final Performance Checklist

Part 1: Script and Editing

Check off each step as you prepare your final scene.

Task	Done? (✓)	Notes or Comments
The group wrote the script.		
The script was revised or edited using ChatGPT.		
Dialogue fits the genre or message we chose		

Part 2: Rehearsal and AI Tools

Evaluate how your group used technology to enhance your performance.

Task	Done? (✓)	Notes or Comments
Practiced using Vidnoz (avatars/visuals)		
Added sound effects or music		
Tested transitions or background visuals		
Everyone in the group participated.		

Part 3: What Still Needs Work?

List at least two things your group still needs to improve before the final performance.

- 1.
- 2.

Part 4: Final Rehearsal Plan

Create a time plan for the last day(s) before your performance.

Time Block	Task	Who is Responsible?
10 minutes		
15 minutes		
10 minutes		
5 minutes		

Lesson 12 Worksheet: Final Reflection Guide

Part 1: AI and Creative Thinking

How did AI tools (like ChatGPT, Vidnoz, Magic School, etc.) help you develop creative ideas during this unit?

Write 3–4 sentences:

Part 2: Divergent Thinking – Idea Generation

Give one example of a creative or unexpected idea that you came up with during the unit, thanks to **divergent thinking** (thinking in many directions).

Part 3: Convergent Thinking – Decision Making

What is one decision you made (e.g., choosing a scene version, editing a script, planning a podcast) using **convergent thinking** (choosing the best idea from many)?

Explain how and why you made that decision.

Part 4: Growth in Expression and Collaboration

Reflect on your personal growth during the unit.

- How has your **group work** improved?
- Have you become more confident in **expressing your thoughts creatively**?

Write a short paragraph (4–6 sentences):

Appendix (D)

Module F Literature Rubric

Rubrics for Marking Module F

Rubric 1: LOTS questions (5 points)

Accept HOTS answers to LOTS questions.

Criteria	Descriptors				
Content	<ul style="list-style-type: none"> ● Answer is correct. 		<ul style="list-style-type: none"> ● Answer is partially correct. 		<ul style="list-style-type: none"> ● Answer is incorrect.
	80%		40%		0
Language	<ul style="list-style-type: none"> ● Correct use of grammar, vocabulary, spelling and punctuation. 		<ul style="list-style-type: none"> ● Partially correct use of grammar, vocabulary, spelling and punctuation. 		<ul style="list-style-type: none"> ● Incorrect use of grammar, vocabulary, spelling and punctuation.
	20%		10%		0

Rubric 2: HOTS questions (10 points)

For the extended HOTS questions:

- 1) Students are allowed to use any HOTS that appears in the Literature Handbook.
- 2) Students must show use of the chosen thinking skill in their answer.

Criteria	Descriptors				
Content	<ul style="list-style-type: none"> ● Answer is correct. ● The answer includes supporting details/examples when necessary. ● Message is clear. 		<ul style="list-style-type: none"> ● Answer is partially correct. ● The answer does not include sufficient details/examples when necessary. ● Message is partially clear. 		<ul style="list-style-type: none"> ● Answer is incorrect. ● There is no reference to the text or the reference is inaccurate. ● The answer is general and does not relate to the text. ● Message is unclear.
	80%		40%		0
Language	<ul style="list-style-type: none"> ● Correct use of grammar, vocabulary, spelling and punctuation. 		<ul style="list-style-type: none"> ● Partially correct use of grammar, vocabulary, spelling and punctuation. 		<ul style="list-style-type: none"> ● Incorrect use of grammar, vocabulary, spelling and punctuation.
	20%		10%		0

Rubric 3: Extended HOTS question (5 points)

This rubric should be used in addition to Rubric 2.

There are no language criteria for this part because language is included in Rubric 2.

Criteria	Descriptors		
Content	<ul style="list-style-type: none"> The chosen thinking skill is appropriate. There is appropriate evidence of the use of the thinking skill. 	<ul style="list-style-type: none"> The chosen thinking skill is appropriate. There is partial evidence of the use of the thinking skill. 	<ul style="list-style-type: none"> The chosen thinking skill is appropriate but there is no evidence of its use. OR The chosen thinking skill is not appropriate.
	100%	50%	0

Rubric 4: Bridging Text and Context question (20 points)

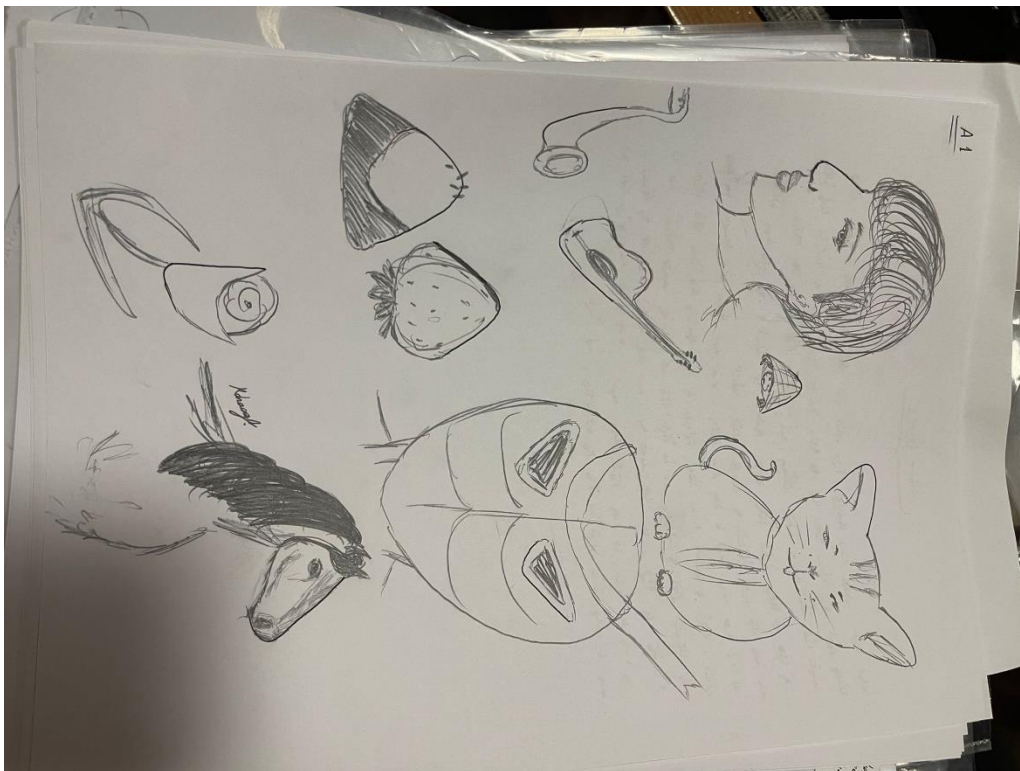
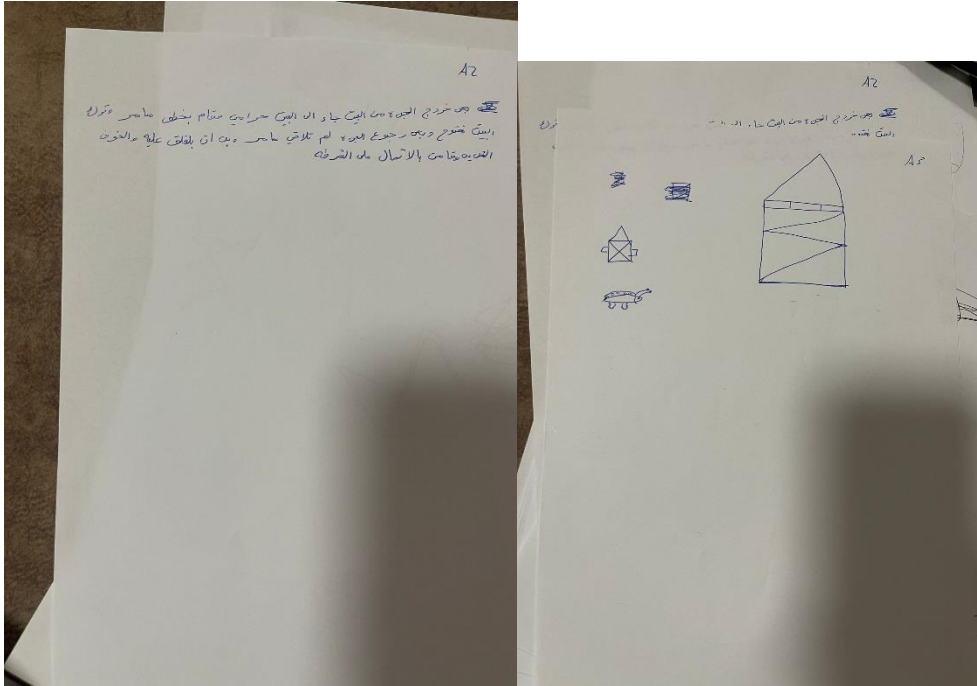
If answers are only a summary/analysis of the text and do not relate to the new information given, deduct 70%.

Criteria	Descriptors		
Content	<ul style="list-style-type: none"> Answer is well organized. All information is relevant and accurate. Answer explicitly states the connection between the new information and the text. Details/examples from the text are given to support the answer. 	<ul style="list-style-type: none"> Answer is fairly well organized Most information is relevant and accurate. The connection between the new information and the text is not clearly stated. Details/examples given to support the answer are insufficient and/or not entirely appropriate. 	<ul style="list-style-type: none"> Answer is poorly organized. No information is relevant or accurate. Answer does not show connection between the new information and the text. No details/examples are given to support the answer.
	80%	40%	0
Language	<ul style="list-style-type: none"> Correct use of basic language structures. Mostly correct use of advanced language structures. Hardly any errors of mechanics (spelling, punctuation). 	<ul style="list-style-type: none"> Mostly correct use of basic language structures. Incorrect or no use of advanced language structures. Some errors of mechanics (spelling, punctuation). 	<ul style="list-style-type: none"> Incorrect use of basic language structures. Many errors of mechanics (spelling, punctuation).
	20%	10%	0

There is no deduction for answers shorter/longer than recommended length (80-100 words).

Appendix (F)

EPoC – Students' Sample



Appendix (G)

Statistical tables from EPoC


Creative IQ	Standard Index (I.Sc)	Standard Index (I.Hu)	Standard Index (I.Se)	Standard Index (IV)	Standard Index (IG)	Standard Index (D.Sc)	Standard Index (D.Hu)	Standard Index (D.Se)	Standard Index (DV)	Standard Index (DG)	Percentile
	%										
115	4	4	4	4	3	4	4	5	4	4	90
110	4	4	4	6	6	4	4	4	4	4	84
120	4	5	5	5	5	4	4	5	4	4	93
120	3	4	4	6	6	4	4	4	4	4	93
105	5	4	4	4	4	4	4	4	4	3	63
120	4	4	4	6	5	4	4	4	4	4	93
120	3	4	3	5	6	4	4	4	4	4	93
100	4	4	3	4	3	4	4	4	4	4	62
105	4	4	4	4	4	4	4	4	4	4	63
100	3	3	4	4	4	4	4	4	4	4	63
110	4	4	5	6	7	4	4	4	4	4	84
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115	4	4	4	4	4	4	4	4	4	4	90
115	4	5	4	5	5	4	4	4	5	5	90
120	4	4	4	6	6	4	4	4	4	4	93
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110	4	5	4	4	4	4	5	4	4	4	84
100	4	4	4	4	4	4	4	4	4	3	63
115	3	4	4	6	4	3	4	4	4	4	90
110	4	4	4	5	5	4	4	5	4	4	84

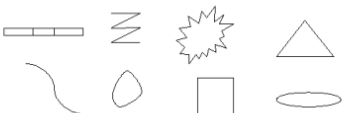
الفقرات الاصحاح															ملفاتية المصروفين										
Iso	DSe	Ihu	Ihu	Iso 2	DSe 2	Iso 1	DSe 1	IV Character S	IG Concrete	DV Beginning	DG Concrete	IV Title	IG Abstract	DV Endings	DG Abstract	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة				
A16	Words	A15	A14	Words	A13	A12	Words	A11	A10	Words	A9	A7	Words	A6	A5	A4	A3	A2	A1	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
5	30	1	5	30	5	7	5	7	5	7	4	4	8	8	5	6	8	8	7	96	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة	
4	40	1	5	30	5	7	5	7	5	7	4	4	8	8	5	6	8	8	7	96	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة	
6	7	6	15	6	13	6	13	6	13	6	6	49	1	16	7	6	52	2	16	96	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة	
7	44	1	7	13	6	15	7	13	6	6	5	14	6	6	4	16	4	16	96	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
4	17	1	2	23	1	3	22	1	2	15	1	4	4	29	1	4	3	4	28	1	6	344	مجموع الال	مجموع الال	
6	8	7	16	6	46	1	6	14	7	6	41	1	13	7	7	7	28	1	6	14	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة	
6	4	7	14	6	15	7	14	6	6	9	13	6	7	40	1	13	1	13	212	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
6	9	5	10	4	7	5	39	1	6	6	39	1	9	5	4	9	8	9	517	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
4	7	5	10	5	20	1	6	7	4	6	36	1	8	4	4	7	10	9	233	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
3	4	2	27	1	2	17	1	2	5	4	2	17	1	5	2	3	16	1	4	34	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة	
5	40	1	5	29	1	4	9	4	24	1	5	6	7	8	4	5	23	1	7	94	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة	
6	5	6	16	6	15	7	14	6	6	9	15	6	7	53	1	16	9	16	314	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
6	7	5	10	5	9	5	8	4	6	8	9	5	5	5	9	9	9	9	517	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
6	8	6	9	6	10	4	7	6	5	36	1	8	6	5	21	1	9	9	565	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
3	20	1	4	6	2	25	1	4	19	1	2	4	15	1	6	4	4	5	6	233	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة	
4	8	6	34	1	6	9	6	9	6	4	9	8	5	4	6	10	9	9	517	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
6	46	1	7	15	7	14	6	15	6	6	14	7	6	9	14	7	6	9	214	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
4	8	6	8	6	24	1	4	30	1	4	6	7	7	6	5	26	1	7	93	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
6	9	6	12	7	48	1	7	13	6	7	6	13	7	6	13	13	13	13	314	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
6	7	7	14	6	16	6	16	6	6	41	1	13	7	7	9	13	13	13	415	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
5	29	1	6	34	1	5	32	1	4	7	6	5	9	9	5	5	8	10	414	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
5	7	6	8	4	7	4	8	4	6	25	1	7	5	6	28	1	7	7	414	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
5	8	6	15	1	7	16	7	13	7	6	5	13	6	6	8	16	16	16	212	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
6	8	4	26	1	5	32	1	6	10	6	4	9	10	6	4	21	1	10	313	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
3	28	1	3	17	1	3	4	4	26	1	2	2	4	5	2	4	6	6	215	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
7	9	6	15	7	14	6	16	7	6	7	14	7	6	14	7	6	14	7	313	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
6	8	5	34	1	4	30	1	5	7	5	6	7	10	4	5	7	7	7	314	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة		
3	26	1	9	3	2	26	1	3	22	1	3	2	15	1	4	3	2	18	1	6	314	مجموع الال	مجموع الال	مجموع الفقرات الى العنطة	مجموع الفقرات الى العنطة

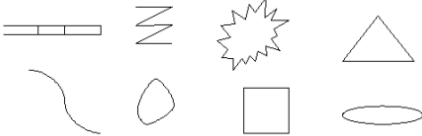
Appendix (H)

Evaluation of Potential Creativity (EPoC) Graphic & Verbal Domains Form (A)

<p>A0 تهيئة وتحضير 5 دقائق</p> <p>افتراض أن لديك قطعة من الخشب؛ وترغب في إيجاد أكبر عدد ممكن من الاستخدامات لهذا الخشبية. حاول أن تكون أفكارك والاستخدامات التي تقترحها غير مسبوقه ولا مألوفة وتختلف عن أفكار واقتراحات الآخرين. أبدأ الآن، ومعك خمسة دقائق.</p>	<p>A2 نهايات قصص 10 دقائق</p> <p>سأقرأ لك بداية قصة. حاول أن تخترع نهايات ممكنة مختلفة تناسب بداية القصة هذه. حاول أن تتخيل نهايات قصص مثيرة وأصيلة، ومختلفة عن تلك التي يمكن أن يرويها الأطفال الآخرون. لديك 10 دقائق للكتابة أكبر عدد ممكن من نهايات القصص. الآن استمع جيداً لبداية القصة التي سأرويها لك.</p> <p>ذات صباح. أفاق سامر من النوم. كان الطقس جميلاً جداً. بعد الفطور قالت له جدته: سأذهب للتسوق من المدينة. ابق هنا وكن عاقلاً. غادرت الجدة وبقي سامر وحده في الحديقة.</p>
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<p>A1 الرسم المجرد 10 دقائق</p> <p>تشاهد شكلاً مرسومًا. عليك أن تعمل أكبر عدد ممكن من الرسومات باستخدام هذا الشكل، ويجب أن تختلف رسوماتك عن بعضها البعض. حاول أن تمثل رسوماتك أفكارًا مثيرة للاهتمام وأصيلة ومختلفة عن الأفكار التي قد يقترحها الآخرون.</p> 	<p>A2</p> <p>ذات صباح. أفاق سامر من النوم. كان الطقس جميلاً جداً. بعد الفطور قالت له جدته: سأذهب للتسوق من المدينة. ابق هنا وكن عاقلاً. غادرت الجدة وبقي سامر وحده في الحديقة.</p>
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<p>A3 الرسم المجرد 15 دقيقة</p> <p>باستخدام هذه العناصر، عليك أن ترسم رسمة واحدة باستخدام 4 عناصر منها على الأقل. حاول أن يكون رسماً مبتكراً أصيلاً، ومختلفاً عن الرسومات التي يمكن أن ينتجها الآخرون جميعهم.</p> 	<p>A4 عنوان قصة 3 دقائق؛ للتفكير ثم 10 دقائق</p> <p>والآن، عليك أن تخترع قصة يكون عنوانها: ثقب المفتاح. حاول أن تتخيل قصة مبتكرة ومختلفة عن القصص التي يمكن أن يرويها جميع الأطفال الآخرين. لديك بضع دقائق للتفكير في قصة عنوانها ثقب المفتاح ثم عليك أن تكتبها.</p>
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<p>A3</p> 	<p>A4</p> <p>ثقب المفتاح</p>
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A5

الرسم المجسم

10 دقائق

انظر إلى هذه الصورة:

يوجد صورة لجسم. عليك أن تعمل أكبر عدد ممكن من الرسومات باستخدام هذا الجسم. ويجب أن يكون كل رسم مختلفًا عن الرسومات الأخرى. حاول أن تقترح أفكارًا مثيرة ومبتكرة ومختلفة عن الأفكار التي يمكن أن يقترحها الآخرون جميعهم. لديك 10 دقائق لترسم أي عدد تريد من الرسومات.



A6

بدايات قصص

10 دقائق

... وسقطت آخر تفاحة
عن الشجرة.

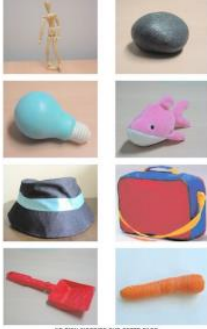
سأقرأ لك نهاية قصة. حاول أن تخترع بدايات ممكنة مختلفة تناسب نهاية القصة هذه. حاول أن تتخيل بدايات قصص مثيرة وأصيلة، ومختلفة عن تلك التي يمكن أن يرويها الأطفال الآخرون. لديك 10 دقائق لتكتب أكبر عدد ممكن من بدايات القصص. الآن استمع جيدًا لنهاية القصة التي سأرويها لك.

A7

الرسم المجسم

15 دقيقة

انظر إلى هذه الصورة:



عليها عدة صور لأجسام. عليك أن تخترع رسمًا باستخدام أربعة أجسام على الأقل. تختارها من بين هذه الأجسام. حاول أن تعمل رسمًا واحدًا أصيلًا ومختلفًا عن الرسومات التي يمكن للأطفال الآخرين أن يرسموها. لديك 15 دقيقة لتنجز رسمك.

NE RIEN INSCRIRE SUR CETTE PAGE

A8

شخصيات القصة

3 دقائق للتفكير؛ ثم 10 دقائق

والآن عليك أن تخترع قصة تتحدث عن طفل وعجوز وطير. حاول أن تتخيل قصة أصيلة ومختلفة عن القصص التي يمكن أن يكتبها الأشخاص الآخرون. لديك بضع دقائق للتفكير في قصة فيها طفل وعجوز وطير، ثم اكتبها لي.

Appendix (I)

Sociodemographic Questionnaire

1 **استبيان المعلومات الديموغرافية للطلاب**

1 **يهدف هذا الاستبيان إلى جمع معلومات ديموغرافية أساسية لأغراض بحثية. جميع الإجابات ستُعامل بسرية تامة، وتستخدم فقط لأغراض تحليل البيانات الأكاديمية.**

ما هو عمرك؟*

סקסט של תשובה קצרה

.....

ما هو جنسك؟*

ذكر

أنثى

ما هو ترتيبك بين إخوتك؟*

الابن / الابنة الأولى

ابن / ابنة في الوسط

الابن / الابنة الأخيرة

وحيد / وحيدة

ما هي مهنة والدك؟*

סקסט של תשובה קצרה

.....

Appendix (J)

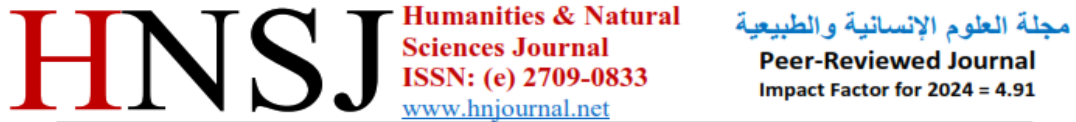
Thematic Findings from Classroom Observations with Academic Achievement Indicators

Theme	Observed Behaviors	Creative / Collaborative Indicators	Academic Achievement Indicators	Teacher's Role
1. Initial Engagement and Curiosity	Students transitioned from AI hesitation to exploration.	Speculative thinking and personal engagement.	Use of prompts to create original interpretations; initiation of theme-based responses.	Introduced tools and allowed exploratory learning.
2. Collaboration and Peer Learning	Students worked in teams, used Padlet, and shared roles.	Group dialogue, co-creation, feedback loops.	Developed stronger textual justifications and coherence in responses.	Created group structures and encouraged peer voice.
3. Creative Divergence from AI Outputs	Students reimagined AI-generated ideas with originality.	Narrative innovation and thematic reinterpretation.	Applied subtext, irony, and transformation of plot to show understanding.	Promoted open-ended writing tasks.
4. Distributed Leadership and Emotional Intelligence	Peer-led roles emerged: directing, editing, performing.	Empathy, active listening, performance coaching.	Clear organization of ideas and genre-specific expression.	Allowed organic leadership and peer scaffolding.
5. Emotional Expression and Improvisation	Monologues and performance reflected emotional depth.	Embodied learning and improvisational skill.	Used literary devices (metaphor, tone shifts) with fluency and purpose.	Designed HOTS-based reflection tasks.
6. Narrative Fluency and Risk-Taking	Students experimented with tone, genre, and structure.	Figurative language, thematic layering.	Achieved logical sequencing, creative expression, and stylistic variety.	Gave freedom to explore forms like podcast and satire.
7. Creative Adaptation to AI Limitations	AI "errors" became opportunities for imagination.	Playfulness, divergent thinking.	Demonstrated flexible use of language and coherence under unexpected conditions.	Encouraged adaptive thinking and reinterpretation.
8. Differentiated Progress and Peer Support	Stronger students mentored weaker peers in tasks.	Mutual coaching and inclusive dialogue.	Weaker students improved in clarity, relevance, and language control.	Promoted supportive class culture and positive risk-taking.

Note: (Aligned with Module D/F Literature Rubrics).

Appendix (H)

Certificate of acceptance of the research extracted from the dissertation
The Impact of Using AI-Enhancing Educational Drama on Creative Thinking
Skills and Academic Achievement in English Among 12th-Grade Students in the
Wadi Ara Region



Date: November 18, 2025

Dear Authors: **Noran Suheil Mohammed Agbariyah, Dr. Walid Salameh & Dr. Raja Sawidan**
An-Najah National University, Palestine

Article Acceptance

We are pleased to inform you that your manuscript entitled:

The Impact of Using AI-Enhancing Educational Drama on Creative Thinking
Skills and Academic Achievement in English Among 12th-Grade Students in
the Wadi Ara Region

has been reviewed and accepted for publication in the Humanities & Natural Sciences Journal, Volume 6. Issue 12 in December 01, 2025. (ISSN:2709-0833).

Thank you very much for your submission to our journal.

Similarity ratio using (Turnitin)	10%
Clarity of the title, goal, problem and justification	Yes
The originality of the research, its inclusion in the elements of innovation, and its contribution to community issues	Yes
Clarity and integrity of the research methodology and procedures, and their compliance with the terms of publication	Yes
The significance and contribution of the conclusion or findings and recommendations to the support and development of scientific research	Yes
Coherence and fluidity of the research and clarity of the writing language	Yes

Best Wishes

Dr. Ibrahim A. Ahmed



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جامعة النجاح الوطنية
كلية الدراسات العليا

أثر استخدام الدراما التعليمية المعززة بالذكاء الاصطناعي على مهارات
التفكير الإبداعي والتحصيل الأكاديمي في اللغة الإنجليزية لدى طلاب
الصف الثاني عشر في منطقة وادي عارة: دراسة شبة تجريبية

إعداد

نوران سهيل محمد اغبارية

إشراف

د. وليد سلامة

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قدمت هذه الأطروحة استكمالاً لمتطلبات درجة الدكتوراه في التعلم والتعليم، كلية الدراسات العليا، جامعة
النجاح الوطنية، نابلس، فلسطين.

2025

أثر استخدام الدراما التعليمية المعززة بالذكاء الاصطناعي على مهارات التفكير الإبداعي
والتحصيل الأكاديمي في اللغة الإنجليزية لدى طلاب الصف الثاني عشر في منطقة وادي

عارة: دراسة شبه تجريبية

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نوران سهيل محمد اغبارية

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د. رجاء سويدان

الملخص

يُعد دمج الدراما التعليمية مع الأدوات الرقمية المتقدمة - ولا سيما الذكاء الاصطناعي (AI) - نهجًا واعدًا لتعزيز تفاعل المتعلمين، وتنمية الإبداع، وتحقيق التحصيل الأكاديمي. توفّر الدراما التعليمية بيئة خصبة للتعلم التجريبي، ولعب الأدوار، وبناء المعنى في سياقات حقيقية. هدفت هذه الدراسة إلى تقييم أثر وحدة دراسية قائمة على الدراما التعليمية المدعومة بالذكاء الاصطناعي على التحصيل الأكاديمي في اللغة الإنجليزية لدى طلاب الصف الثاني عشر في منطقة وادي عارة. تم اعتماد منهج مختلط يجمع بين البحث الكمي والنوعي ضمن تصميم شبه تجريبي. جُمعت البيانات باستخدام أربع أدوات، وجرى استخدام تقنيتين غير احتمالتين في أخذ العينات: العينة القصدية لاختيار المعلم الذي درّس المجموعتين، وعينة التيسير لاختيار 56 طالبًا تم توزيعهم بالتساوي بين المجموعة التجريبية والمجموعة الضابطة. أظهرت النتائج أن التحصيل الأكاديمي كان أعلى في المجموعة التجريبية (المتوسط = 92.43) مقارنةً بالمجموعة الضابطة (المتوسط = 90.75)، إلا أن هذا الفارق لم يكن ذا دلالة إحصائية ($p = 0.324$). كما بيّن تحليل الارتباط عدم وجود علاقة ذات دلالة إحصائية بين معامل الذكاء الإبداعي والتحصيل الأكاديمي في كل من الاختبار القبلي ($p = 0.554$) والبعدي ($p = 0.124$). بالإضافة إلى ذلك، لم تُسجَل علاقات دالة بين السمات التباعدية في اختبار EPoC والذكاء الإبداعي، في حين ظهرت علاقات ارتباط إيجابية ذات دلالة إحصائية بين الذكاء الإبداعي وكل من السمة التقاربية الصورية ($p < 0.001$) واللفظية ($p < 0.001$). كما لم تكن

هناك علاقة دالة إحصائيًا بين السمات التباعدية أو التقاربية والتحصيل الأكاديمي في الاختبار البعدي (p > 0.05). أظهرت النتائج أيضًا أن الجنس الأنثوي ارتبط بشكل دال إحصائيًا بكل من الذكاء الإبداعي والتحصيل الأكاديمي، كما ارتبطت النسبة المئوية الأكاديمية الأعلى بارتفاع مستوى الذكاء الإبداعي. وقد أظهرت النتائج النوعية تجليات التفكير الإبداعي في قدرة الطلاب على إعادة تخيل الأحداث السردية، وكتابة مونولوجات داخلية، وإنشاء بودكاست من منظور شخصيات مختلفة، مع تعبير عاطفي قوي في أثناء أداء المشاهد الدرامية. كما كان دور المعلم محوريًا في توفير بيئة تعليمية آمنة ومتمركزة حول الطالب، من خلال تقديم تحديات مفتوحة وإتاحة المجال للطلاب لتولي زمام المبادرة في عملية التعلم. وفي الختام، وعلى الرغم من تفوق المجموعة التجريبية في التحصيل الأكاديمي، فإن عدم وجود علاقة ذات دلالة بين الذكاء الإبداعي والأداء الأكاديمي يسلط الضوء على أهمية كل من النوع الاجتماعي ودور المعلم في دعم الإبداع والتعلم.

الكلمات المفتاحية: التفكير الإبداعي، التحصيل الأكاديمي، الذكاء الاصطناعي في التعليم، الدراما التعليمية.