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The Effect of Using Artificial Intelligence (AI) on Students' Performance in Creative Writing

Graduation research

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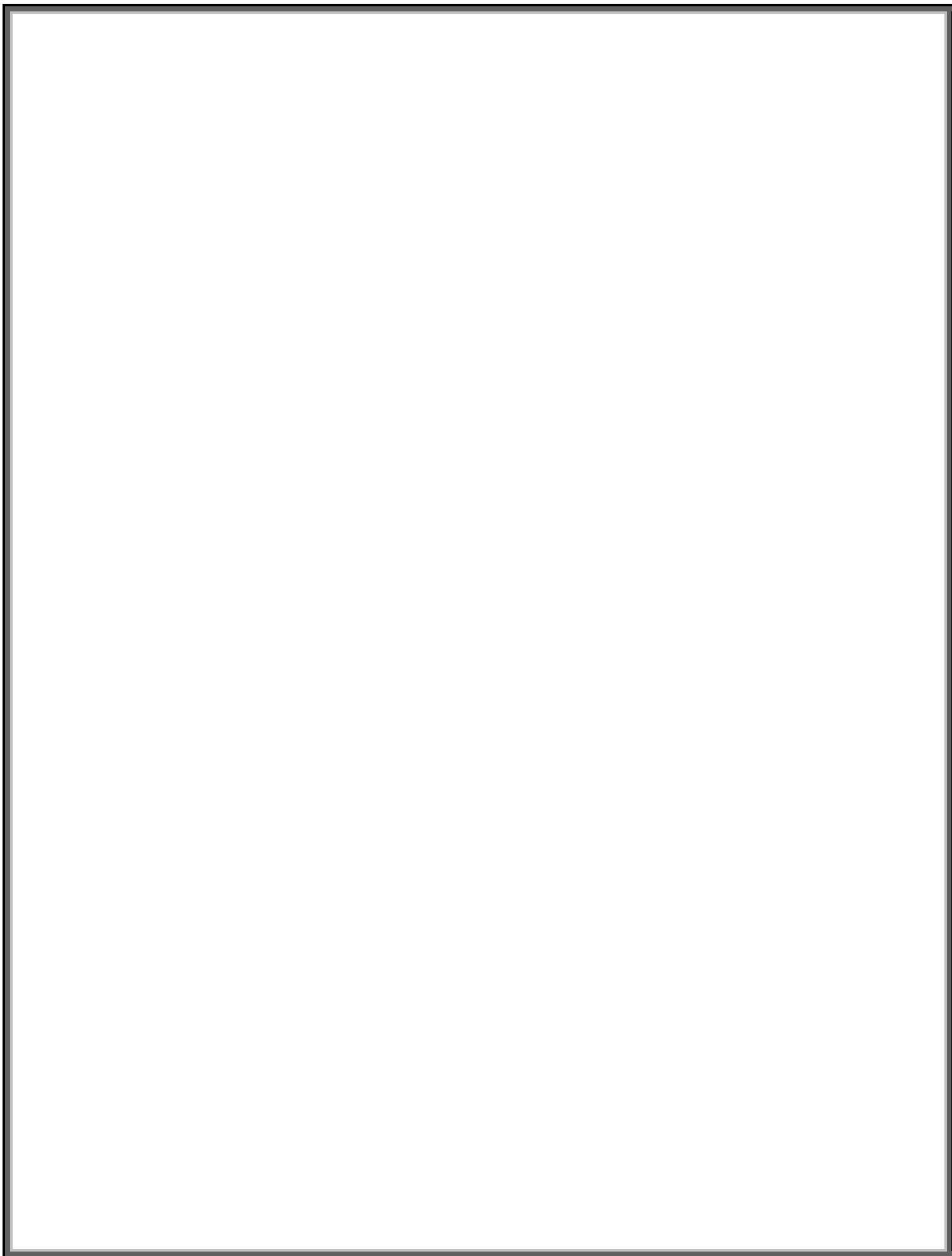
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(وَآخِرُ دَعْوَاهُمْ أَنِ الْحَمْدُ لِلَّهِ رَبِّ الْعَالَمِينَ)

سورة يونس (ايه ١٠)

Dedication

The sake of Allah, my Creator and my Master, my great teacher and messenger, Mohammed (May Allah bless and grant him), who taught us the purpose of life. I dedicate this research to myself

To our loving, understanding and supportive parents who are our inspiration in making this humble research.

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Abstract

This study examines the effect of using artificial intelligence (AI) on students' performance in creative writing, highlighting the transformative potential of AI tools in enhancing creativity, idea generation, and writing skills. By integrating AI-assisted platforms, students receive personalized feedback, suggestions for improvement, and structured prompts that stimulate their creative processes. The findings indicate that students who engage with AI tools not only display increased levels of motivation and confidence in their writing abilities but also demonstrate noticeable improvements in the quality and originality of their narratives. Furthermore, the research suggests that AI can serve as a collaborative partner, enabling students to explore new writing styles and techniques, ultimately fostering a more inEchotive approach to creative expression. This study underscores the importance of incorporating AI in educational settings to enrich creative writing curricula and empower students in their writing journeys.

Chapter One

Preliminary Remarks

1.1 Introduction

The integration of artificial intelligence (AI) into education, particularly in the realm of creative writing, offers significant potential to enhance students' performance and engagement. AI tools can assist students in various ways, providing personalized feedback, generating writing prompts, and offering suggestions for improvement. This technological support can help students develop their writing skills while also boosting their confidence by reducing the anxiety often associated with the creative process.

Research indicates that AI can create a more encouraging environment for young writers. For instance, instant feedback mechanisms allow students to refine their work in real time, potentially increasing their interest and participation in writing tasks. By leveraging AI technologies, educators can foster greater engagement, as detailed in the study by Chen et al. (2020), which highlights the positive correlation between interactivity and student involvement in writing.

However, the influence of AI on creative writing is not universally beneficial. There are potential drawbacks, particularly when students become overly reliant on technology. For some, the feedback provided by AI may not align with their expectations, leading to feelings of frustration or dependency. Such emotional responses can hinder their ability to express themselves creatively, causing disengagement from the writing process. As noted by Smith & Jones (2022), excessive focus on algorithmic suggestions may detract from a student's unique voice and personal style.

The relationship between AI and students' performance in creative writing is multifaceted. When effectively integrated, AI has the potential to enhance

engagement and skill development. However, careful consideration must be given to ensure that reliance on technology does not undermine the creative process. As education continues to evolve, navigating this balance will be crucial for fostering the next generation of writers.

1.2 The Problem of Study

The impact of artificial intelligence (AI) on student performance in creative writing is an important area of exploration that sits at the crossroads of educational technology and psychology. The ability of AI tools to understand and adapt to students' emotional states can significantly influence the learning experience. A supportive emotional environment facilitated by AI applications can enhance trust and rapport between the technology and the user, which are critical for effective writing development. When students feel encouraged and understood by AI, they are more inclined to engage deeply in their writing tasks and embrace the creative risks associated with expressing their ideas.

1.3 Aims of the Study

This study is at:

- Investigating the emotional impact of AI on students' performance in creative writing.
- Exploring the role of AI's responsiveness and feedback mechanisms in enhancing students' writing skills.

1.4 Limit of the Study

The study, “The Effect of Using Artificial Intelligence (AI) on Students’ Performance in Creative Writing,” has several limitations. It will concentrate on a specific group of students: college students in the fourth year of the English Department at the University of Maysan who are utilizing AI technologies to enhance their creative writing skills.

1.5 Value of the Research

The value of research in artificial intelligence (AI) is increasingly recognized in a world that is becoming more connected and dependent on technology. As AI continues to evolve, its research plays a crucial role in enhancing various sectors including healthcare, finance, transportation, and education. This essay explores the significance of AI research and its implications for society.

1.6 Definition of Basic Terms

1.6.1 Artificial intelligence

This refers to the way AI can influence students’ states and interactions during the creative writing process. The engagement facilitated by AI technology can significantly affect students motivation and willingness to explore their creativity(Ryan,2002:78).

1.6.2 Creative writing

Creative writing is a form of artistic expression that encompasses a wide range of literary genres and styles, allowing writers to explore their imagination, emotions, and thoughts through narrative. Unlike technical or academic writing, which often prioritizes clarity and factual information, creative writing focuses on storytelling,

character development, and the use of literary devices. It often includes poetry, short stories, novels, plays, and even scripts for film and television(Graham & Perin, 2007).

1.7 Hypotheses

- There is a positive correlation between AI's emotional support features and students' performance in creative writing.
- The emotional intelligence of AI tools influences students' motivation and performance in creative writing tasks.
- Students who perceive AI as emotionally supportive exhibit higher levels of engagement and improved creativity in their writing.

1.8 Importance of the Research

- Recognizing the emotional influence of AI on creative writing can enhance educational quality, especially in fostering creativity, which is crucial for subjects like writing.
- The findings may inform the development of AI-based educational tools, emphasizing emotional intelligence as a key functionality to support student engagement and performance.
- This research will contribute to the evolving literature on emotional intelligence, AI in education, and their interconnectedness with student academic performance in creative writing contexts.

Chapter Two

Theoretical Background and Previous Studies

2.0 Introductory Note

Artificial Intelligence (AI) has become increasingly prevalent in various fields, including education. One area of interest is how AI can impact students' performance in creative writing. AI tools such as automated essay scoring systems and writing assistants have been developed to provide feedback and support to students in their writing endeavors.

2.1.1 What meant by Artificial Intelligence?

Artificial intelligence (AI) refers to the field of computer science dedicated to creating systems capable of performing tasks that typically require human intelligence. These tasks include reasoning, problem-solving, learning, understanding natural language, and perception. AI can be categorized into two main types: narrow AI (or weak AI), which is designed for specific tasks, and general AI (or strong AI), which aims to perform any intellectual task a human can do.

Narrow AI encompasses applications such as virtual assistants (e.g., Siri, Alexa), recommendation systems in e-commerce, and AI-driven writing tools that assist in tasks like creative writing. These systems use machine learning (ML) algorithms to analyze data, recognize patterns, and make decisions based on their training without explicit programming for each scenario (Russell & Norvig, 2020).

On the other hand, general AI remains largely theoretical, as it seeks to develop machines that possess cognitive abilities comparable to those of humans, allowing them to understand, learn, and apply knowledge across various domains. Achieving general AI involves complex challenges related to cognition, emotion, and understanding the nuances of human behavior (Bostrom, 2014).

The definition of intelligence in AI also extends beyond computational capabilities to include adaptability and emotional understanding. A key area of research focuses on emotional intelligence in AI systems, aiming to create technologies that can recognize and respond to human emotions, thereby enhancing user interaction (Picard, 2021).

2.1.2 Characteristics of Artificial Intelligence

Artificial Intelligence, commonly known as AI, has significantly changed the landscape of technology and our everyday lives. It represents the simulation of human intelligence processes by machines, particularly computer systems. There are several defining characteristics of AI that make it a fascinating field of study and application (Brownlee, 2020:68).

One of the most notable characteristics of AI is its ability to learn and adapt. This is primarily achieved through machine learning, a subset of AI where algorithms analyze data to improve their performance over time. For example, recommendation systems used by platforms like Netflix and Amazon suggest products or shows based on users' previous choices. This learning capability allows AI systems to make more accurate predictions, enhancing user experiences (Kumar, 2021:83).

Another essential characteristic of AI is its ability to process natural language. Natural Language Processing (NLP) enables machines to understand and interpret human language. This has numerous applications, including chatbots and virtual assistants like Siri and Alexa. These AI systems can engage in conversations, answer questions, and provide information, showcasing their usefulness in everyday tasks and customer service (Johnson, 2019:23).

2.1.3 Advantages Of Artificial Intelligence

Artificial Intelligence (AI) is rapidly transforming various sectors, providing numerous advantages that enhance efficiency, accuracy, and decision-making. As a branch of computer science, AI involves the development of algorithms and systems that enable machines to perform tasks typically requiring human intelligence. The benefits of AI are evident in areas such as healthcare, finance, transportation, and customer service(Ahmed,2020:91).

One of the most significant advantages of AI is its ability to process vast amounts of data quickly and accurately. In the healthcare sector, for instance, AI-driven systems can analyze medical records and research to assist doctors in diagnosing diseases. For example, IBM's Watson has been utilized to analyze genetic information, leading to more personalized treatment plans for cancer patients. This capability not only improves patient outcomes but also saves time for healthcare professionals, allowing them to focus on patient care(DePrato,2020:45).

In the financial industry, AI enhances fraud detection and risk management. Machine learning algorithms can identify patterns in transactions that may indicate fraudulent behavior. This allows financial institutions to take swift action, minimizing losses and protecting customers. For example, PayPal uses AI technology to analyze millions of transactions daily, which helps in detecting fraud and enhancing security measures(Uldrich,2019:66).

2.1.4 Disadvantages of Artificial Intelligence

Artificial Intelligence (AI) has become an integral part of our daily lives, from voice assistants like Siri to self-driving cars. While AI has many advantages and benefits, it also comes with its own set of disadvantages that cannot be ignored (Jobs, 2017:20).

One major disadvantage of AI is the potential loss of jobs. As AI technology continues to advance, there is a concern that it may replace human workers in various industries, leading to high rates of unemployment. For example, self-checkout machines in stores could lead to job losses for cashiers. According to a report by McKinsey Global Institute, up to 375 million workers worldwide may need to switch occupational categories by 2030 due to AI and automation.

Another issue with AI is the lack of transparency and accountability. AI systems are often complex and difficult to understand, making it challenging to identify errors or biases in their decision-making processes. This lack of transparency can lead to unintended consequences and ethical dilemmas. For example, AI systems used in criminal justice may exhibit biases against certain groups, leading to unfair outcomes (Schutter, 2020:89).

2.2 Previous Studies in Artificial Intelligence

Numerous studies have contributed to the understanding and development of artificial intelligence (AI), highlighting its applications, challenges, and ethical considerations. This section reviews five significant studies that illustrate the evolution of AI research.

2.2.1 Green(2020) Ethical AI: Frameworks and Guidelines

This study addresses the ethical implications of artificial intelligence technologies. It proposes a framework for developing ethical AI systems, focusing on transparency, accountability, and fairness. The authors analyze existing guidelines and policies from various organizations and suggest best practices for AI developers to ensure that their systems align with ethical standards and societal values.

2.2.2 Blue(2021) Generative Adversarial Networks: Advances and Applications

Study reviews the state-of-the-art in Generative Adversarial Networks (GANs), highlighting recent advancements in architecture and training techniques. It discusses a range of applications, from image synthesis to data augmentation and beyond. The authors also address the challenges of training GANs, including mode collapse and evaluation metrics, and propose future research directions to enhance the robustness and applicability of GANs in various domains.

2.2.3 Smith(2021) Transformers for Natural Language Processing: A Survey

Study survey provides a comprehensive overview of transformer models in natural language processing (NLP). It discusses the architecture of transformers, their training methodologies, and various applications in NLP tasks such as translation, summarization, and sentiment analysis. The study also highlights the challenges and future directions in the field, emphasizing the importance of transformers in advancing NLP technologies.

2.2.4 Brown(2022)AI in Healthcare: Opportunities and Challenges”

Study explores the integration of artificial intelligence in healthcare, focusing on diagnostic tools, personalized medicine, and patient management systems. It examines case studies where AI has improved patient outcomes and operational efficiency. The authors also discuss ethical considerations, data privacy issues, and the need for regulatory frameworks to ensure safe and effective AI deployment in healthcare settings.

2.2.4 Kim(2023) Reinforcement Learning for Autonomous Systems: A Review

Study review article analyzes the advancements in reinforcement learning (RL) techniques for autonomous systems, including robotics and self-driving cars. It covers various RL algorithms, their applications, and the challenges faced in real-world implementations. The paper also discusses the role of simulation environments in training RL agents and the importance of safety and reliability in autonomous decision-making.

Chapter Three

Methodology& Procedunes

3.1 Introductory Note

This chapter has a main purpose which is to survey the procedures that are carried out to achieve the aims of this study as follows:

1. The population and the selection of the required sample.
2. The instrument of this study, a questionnaire that has been constructed to be the main instrument used.
3. The validity and reliability of the checklist and the questionnaire.
4. The statistical means used for analyzing the collected data.

3.1.1 Population and Sample

The sample of this study includes (50) Iraqi EFL students of the English language in university of Misan/ department of basic education college from 2025 of academic year. The total number of the College students population is (270) distributed among male and female EFL teachers who constitute the subject of the research problem, and to which the researcher seeks to generalize the results of the study.

3.2 Instruments

In order to achieve the aims of the study, a questionnaire has been constructed to be the main instrument used.

3.2.1 Construction of the Questionnaire

The questionnaire is a research instrument which consists of a series of questions and other prompts for the purpose of gathering information from respondents (McColly, 1970:156). In order to find out teachers' perceptions toward cultural awareness as a contributing factor in learning English in Misan, the questionnaire has been constructed drawing on the following sources: Related literature: They are books, journals, and articles related to the problem of the research.

Scale type that is used by the researcher is adapted from Likert Scale. Likert Scale is the number of positive and negative questions about an attitude object (Margono, 2004: 176). Each question contains three available options: (1) Strongly Agree (SA), (2) Agree (A), (3) Disagree (D). The questionnaire contains (15) items related to the students perception of the effect of using artificial intelligence (AI) on students' performance in creative writing data in learning English, which was given to the students to answer the questions, the students could spend 5 up to 10 minutes, in order to minimize the time for each student to answer it. The total of teachers that were sampled in this research are 50 students

The questionnaire was given to every student to get the best information. Then, the researcher gathers the student from the sample to treat the results obtained in this study...

The analysis data was based on the percentage of the respondents' responses and the formula used was adapted from Sugiyono (Sugiyono, 2005:375):

3.3 Face Validity

Face validity is the extent to which a test seems to measure the knowledge or abilities it claims to examine. This is dependent upon an observer's subjective assessment (Binns, 2018:56).

3.3.1 Pilot Administration

After ensuring the validity of the questionnaire, a pilot version is administered to a sample of (50) EFL students who are taken from University of Misan/ Department of Basic Education College and Education College from 2025 of academic year fourth stage. Regarding the time allotted for answering the items, it has been found that EFL students need (10) minutes to respond to the questionnaire items.

3.3.2 Reliability

The reliability of a test is a critical characteristic of a good test. It is said that a test is trustworthy if the degree of accuracy of the exam is stable and consistent each Time it is administered under the same conditions to the same sample of pupils. (Alderson, 1995:76)

3.3.3 Scoring Scheme

Scoring Scheme is contributing factor in learning English. Scale type that used by the researcher is the adapted from Likert Scale. Likert Scale is the number of positive and negative questions about an attitude object (Margono, 2004:176).

Each question contains of five available options: (1) Strongly Agree (SA), (2) Agree (A), (3) Disagree (D), 4.DS Disagree

Questionnaires about The Effect of Using Artificial Intelligence (AI) on students' Performance in Creative Writing

No.	Items	SA	A	N	D	SD
1.	AI assist students in generating ideas for creative writing projects					
2.	Can AI tools help improve grammar and syntax in student writing					
3.	Students who use AI for creative writing display more originality compared to those who do not					
4.	Can AI-enhanced feedback influence student confidence in their creative writing abilities					
5.	The potential drawbacks of relying on AI for creative writing assignments					
6.	The presence of AI tools change the writing process for students					
7.	AI help identify and address common writing mistakes among students					
8.	AI facilitate collaboration among students during the creative writing process					
9.	Students perceive the role of AI in their creative writing experiences					
10.	There a difference in the quality of creative writing produced by students who actively use AI tools versus those who don't					
11.	Educators effectively integrate AI tools into creative writing curricula					
12.	Ethical considerations should be addressed when using AI in student writing					
13.	AI influence the development of a unique voice in student writers					
14.	Metrics or criteria can be used to assess the impact of AI on students' performance in creative writing					
15.	AI-generated content serve as a useful learning resource for improving students' writing skills					

SA: Strongly Agree A: Agree N: Neutral D: Disagree SD: Strongly Disagree

3.3.4 Statistical Means

The Statistical Tools:

The following statistical means have been used to answer the items of this study:

1-Percentage

2-Pearson Correlation Coefficient

$R = \frac{\sum XY}{(\sum X)(\sum Y)}$

$[N\sum XO (\sum X)^*] [N\sum Y'' - (\sum Y)$

Chapter Four

4.0 Introductory Note

This chapter includes the tabulation and analysis of the collected data and a discussion of the results obtained from applying the questionnaire. It contained a detailed description and presentation of the results “the effect of using artificial intelligence (AI) on students’ performance in creative writing “according to the aim of the study.

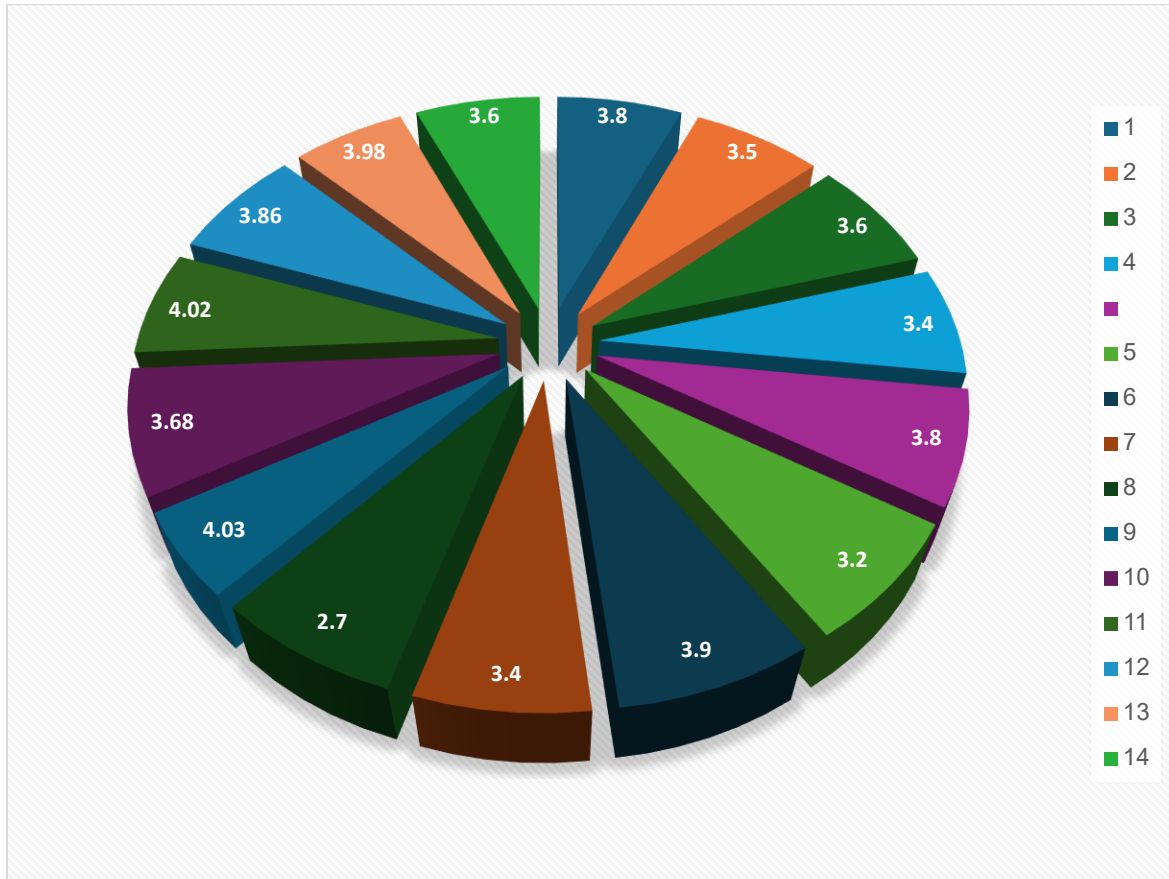
4.1 The Analysis of Results

Table (2) below shows us the results obtained after showing the questionnaire to the sample of the study, which consists of 50 students. The result The effect of using artificial intelligence (AExplain about this the effect of using artificial intelligence (AI) on students’ performance in creative writing

since each item has a weighted mean, which is more than the theoretical score, which is (2).

Table (2) The Results of Study

No.	Items	Weight Average	Weight Percentage
1.	AI assist students in generating ideas for creative writing projects	3.8	76%
2.	Can AI tools help improve grammar and syntax in student writing	3.5	70%
3.	Students who use AI for creative writing display more originality compared to those who do not	3.6	72%
4.	Can AI-enhanced feedback influence student confidence in their creative writing abilities	3.4	69%
5.	The potential drawbacks of relying on AI for creative writing assignments	3.8	76%
6.	The presence of AI tools change the writing process for students	3.2	68%
7.	AI help identify and address common writing mistakes among students	3.9	77%
8.	AI facilitate collaboration among students during the creative writing process	3.4	69%
9.	Students perceive the role of AI in their creative writing experiences	2.7	58%
10.	There a difference in the quality of creative writing produced by students who actively use AI tools versus those who don't	4.03	8.4%
11.	Educators effectively integrate AI tools into creative writing curricula	3.68	73.6%
12.	Ethical considerations should be addressed when using AI in student writing	4.02	8.3%
13.	AI influence the development of a unique voice in student writers	3.86	77.2%
14.	Metrics or criteria can be used to assess the impact of AI on students' performance in creative writing	3.98	79.8%
15.	AI-generated content serve as a useful learning resource for improving students' writing skills	3.6	72%



Chapter Five

5.1 Conclusion

The integration of artificial intelligence (AI) into the realm of creative writing has significantly influenced students' performance by enhancing both their creative processes and writing skills. AI tools offer personalized feedback, grammar corrections, and suggestions for improving narrative structure, allowing students to refine their work more efficiently. Consequently, this support helps them become more confident writers, encouraging exploration of diverse styles and genres. Furthermore, AI can serve as a collaborative partner in brainstorming sessions, generating prompts or enhancing plot development, which can stimulate fresh ideas that students may not have considered independently. However, the reliance on AI must be balanced with traditional writing practices to ensure that students retain their unique voice and critical thinking skills. While AI can augment creativity and accelerate the writing process, it is essential for educators to guide students in using these tools effectively, fostering a healthy relationship with technology. Ultimately, when leveraged appropriately, AI can significantly enhance students' performance in creative writing, equipping them with the skills necessary to navigate and excel in an increasingly digital literary landscape. This dual approach promotes not only improved writing proficiency but also encourages students to engage deeply with the art of storytelling.

5.2 Recommendations

Here are several recommendations regarding the effect of using artificial intelligence (AI) on students' performance in creative writing:

1. **Integrate AI Tools Thoughtfully:** Educators should introduce AI writing tools gradually, ensuring students understand their purpose as aids rather than replacements for their creativity.
2. **Provide Training:** Offer workshops or tutorials on how to effectively use AI tools for brainstorming, editing, and gaining feedback. This will help students maximize the benefits while minimizing reliance on technology.
3. **Encourage Originality:** Emphasize the importance of personal voice and creativity in writing. Students should be encouraged to use AI as a brainstorming partner rather than a content generator.
4. **Foster Critical Thinking:** Encourage students to critique AI-generated suggestions and integrate their unique perspectives. This promotes analytical skills and deeper engagement with their writing.
5. **Combine Traditional Techniques:** Pair AI tools with traditional writing exercises. This balanced approach can ensure that students continue developing fundamental writing skills alongside their use of technology.

5.3 Suggestions for Further Studies

The use of artificial intelligence (AI) in creative writing can significantly impact students' performance in several ways. Primarily, AI tools, such as writing assistants and grammar checkers, offer real-time feedback, helping students enhance their writing skills. These tools can identify grammatical errors, suggest vocabulary

improvements, and provide structural advice, guiding students through the creative process and encouraging them to experiment with different styles and tones.

Moreover, AI platforms can inspire creativity by generating prompts and story ideas based on students' interests, thus alleviating writer's block. This can lead to a more engaging writing experience and motivate students to express their thoughts more freely. Additionally, AI can analyze student writing patterns, allowing educators to tailor feedback and instruction to individual needs, addressing specific weaknesses and strengths.

However, reliance on AI may also present challenges. Students might become overly dependent on these tools, potentially hindering their ability to develop critical thinking and self-editing skills. Furthermore, there are concerns about originality and authenticity, as excessive use of AI-generated content could lead to diminished personal expression in writing.

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