International Journal of Linguistics, Literature and Translation
ISSN: 2617-0299 (Online); ISSN: 2708-0099 (Print)
DOI: 10.32996/ijllt
Journal Homepage: www.al-kindipublisher.com/index.php/ijllt

IJLLT
AL-KINDI CENTER FOR RESEARCH AND DEVELOPMENT

| RESEARCH ARTICLE

Creativity in an AI-Driven World: What Do We Fear?

Samia Moustaghfir[1]✉ **and Atimade Chankob**[2]
[1]Ph.D. Candidate, Literature, Arts and Pedagogical Engineering Research Laboratory, Faculty of Languages, Letters and Arts/ IbnTofail University, Kenitra, Morocco
[2]Ph.D. Candidate, Language and Society Research Laboratory, Faculty of Languages, Letters and Arts, Ibn Tofail University, Kenitra, Morocco
Corresponding Author: Samia Moustaghfir, **E-mail**: samia.moustaghfir@uit.ac.ma

| ABSTRACT

As educators and policymakers address the wide-ranging challenges of AI integration into educational frameworks, a compelling dichotomy emerges: does AI act as a catalyst for fostering intellectual growth and academic innovation, or does it present a threat to the creative autonomy of students? This study examines the layered relationship between AI, education, and creativity, focusing on how university students in Morocco utilize AI tools across three key domains: writing mechanics (spelling, grammar, and vocabulary), academic planning and outlining, and creative idea generation. Drawing on a mixed-methods approach, data was collected from 130 university students across a range of higher institutions. The findings indicate that, while students frequently use AI for non-creative tasks such as enhancing writing mechanics and structuring their academic work, they rely much less on AI for generating original or creative ideas. This suggests that concerns about AI suppressing creativity may be overstated. Furthermore, a systematic review of literature published between 2021 and 2024 provides a comprehensive analysis of broader apprehensions regarding AI's role in the humanities. The findings offer critical insights into the opportunities and challenges posed by AI, highlighting the need for careful consideration of its ethical implications, as well as the impact on academic freedom and innovation. Ultimately, this study underscores the importance of striking a balance between embracing AI's transformative potential and safeguarding creative autonomy in the educational sphere.

| KEYWORDS

Artificial Intelligence (AI) , Education , Creativity

| ARTICLE INFORMATION

ACCEPTED: 12 January 2024 **PUBLISHED:** 13 February 2025 **DOI:** 10.32996/ijllt.2025.8.2.10

1. Problem Statement

In a world where artificial intelligence is ubiquitous, we are witnessing a profound transformation in our ways of living and working. Education is no exception to this evolution. However, there is an increase number of skepticism about the use of AI in education more specifically in the field of human sciences which has been reflected by the amount of papers and research studies conducted in this area especially in the last 3 years. Hailed as a transformative force in education, Artificial intelligence (AI) is redefining the boundaries of learning and innovation while simultaneously provoking critical discourse on its implications for creativity and academic advancement (Moustaghfir & Brigui, 2024). As educators and policymakers grapple with the multifaceted challenges of integrating AI into educational frameworks, a compelling dichotomy arises: Does AI serve a driver for fostering innovation and intellectual growth, or does it pose an existential threat to the creative autonomy of students? To explore this paradox, this paper takes a structured approach, analysing the theoretical, empirical, and practical aspects of AI's role in higher education. It presents the findings from a study conducted with university students, combined with an in-depth review of the scientific literature on AI and creativity.

2. Purpose and Objectives

This paper seeks to provide a comprehensive examination of the complex relationship between artificial intelligence (AI) and creativity in higher education. Through a mixed-methods approach, the study investigates how university students utilize AI tools across a range of academic tasks, with particular attention to both non-creative and creative processes. Quantitatively, the research analyses patterns in AI usage for writing mechanics (spelling, grammar, and vocabulary), academic planning and outlining, and the generation of creative ideas. By doing so, the study evaluates whether concerns about AI stifling creativity are substantiated or exaggerated. In parallel, qualitative analysis explores the deeper perceptions and attitudes of students, investigating their experiences, fears, and perceived benefits regarding AI's role in fostering or hindering creative thought. Beyond the direct student experience, the study also includes a systematic review of existing literature (2021–2024) to explore the broader discourse on AI's impact on creativity within the humanities. This review seeks to identify key themes and arguments about AI's transformative potential as a tool for academic advancement, as well as the on-going fears that it could reduce intellectual autonomy and creativity. To better understand the origins and legitimacy of apprehension regarding AI, the literature review critically engages with multiple perspectives, particularly in disciplines where creativity is foundational. Combining quantitative data and qualitative insights, the research provides a framework that contributes to the scholarly conversation and offers actionable recommendations for educators and policymakers looking to integrate AI in ways that enhance creativity and academic excellence. Taking into account the multitude of challenges to preserve creativity in this AI-driven world, this study sets forth a series of objectives which will serve as a guiding framework to critically examine how AI impacts student creativity, shaping the way universities may approach AI integration in a manner that supports both technological advancement and the preservation of individual originality:

1) Explore the Impact of AI on Human Academic Creativity
2) Investigate the Areas Where Students Use AI in Their Writing
3) Identify Challenges and Concerns Raised in the Literature Regarding AI's Impact on Creativity:
4) Analyse Concerns and Resistance Related to AI in Education:
5) Assess the Balance Between Technological Innovation and Human Creativity in Writing
6) Develop a Critical Understanding of AI's Benefits and Limits for Academic Creativity
7) Contribute to the Academic Debate on Integrating AI and Preserving Unique Human Skills

3. *Research Questions*

Research Question 1(**RQ1)**: How do university students utilize AI tools in academic tasks, specifically in the areas of writing mechanics (spelling, grammar, and vocabulary), academic planning and outlining, and creative idea generation?

Research Question 2 **(RQ2)**: To what extent do university students rely on AI for non-creative versus creative academic tasks, and what implications does this have for concerns about AI suppressing creativity?

Research Question 3 **(RQ3)**: What are the underlying causes of fear regarding AI's impact on creativity in higher education, particularly in humanities disciplines, as reflected in the recent academic literature (2021–2024)?

4. Research Hypotheses

The study tests the following hypotheses to evaluate the aforementioned research questions:

RQ1

•Ha1: University students primarily use AI for non-creative tasks such as writing mechanics and academic planning, with limited application for creative idea generation.

•H01: University students use AI equally across non-creative and creative academic tasks.

RQ2

•Ha2: The limited reliance on AI for creative tasks indicates that concerns about its suppression of creativity are overstated.

•H02: AI usage patterns among students substantiate concerns about its negative impact on creativity.

RQ3

•Ha3: Fear surrounding AI's role in higher education stems from misconceptions about its capabilities, a lack of understanding of its potential for fostering creativity, and concerns about originality and academic integrity.

•H03: Fear about AI in higher education is driven primarily by observable evidence of its negative impact on creativity in academic contexts.

5. Theoretical Framework

5.1. Creativity: Theories and Models

5.1.1. Defining creativity and its role in academic writing and humanities

Creativity has been a fundamental aspect of human development and progress for centuries, shaping fields such as science, art, and education (Araya, 2011; Lombardo, 2011). Ancient philosophers, including Aristotle, recognized that creativity stems from the human mind rather than divine intervention, laying the groundwork for a more intellectual approach to creativity. This philosophical perspective shifted the understanding of creativity from a mystical or divine process to one rooted in human cognition. Over time, this idea evolved, with creativity seen as a key driver of human progress and a natural force embedded in both human and natural evolution (Lombardo, 2011). It is now recognized that creativity is not confined to specific disciplines but is a fundamental human trait that spans across all areas of life, fostering personal and societal growth (Balsas & Espiña, 2020). As our understanding of creativity evolved, it began to take on a more scientific focus. In the 19th century, the study of creativity gained traction with pioneers like Francis Galton, who first introduced systematic approaches to the subject in the late 1800s. The early 20th century saw further developments, with scholars such as Théodule Ribot, Alfred Binet, and Sigmund Freud exploring the psychological and cognitive aspects of creativity. However, it was in the mid-20th century that the concept of creativity began to gain widespread attention in academic psychology, notably through the work of Joy Paul Guilford and Paul Torrance. Their introduction of divergent thinking—the ability to generate many ideas from a single stimulus—marked a significant shift in how creativity was conceptualized, moving beyond simple artistic expression to include problem-solving, intellectual development, and critical thinking. This broadening of the definition of creativity extended its relevance beyond the arts, allowing it to be explored in a variety of contexts, particularly in scientific discovery and innovation. Researchers like Santos (2007) utilized psychometric assessments, experimental designs, historiometric analysis, and case studies to investigate how creativity manifests in different domains, contributing to the fields of problem-solving, critical thinking, and academic achievement. These developments in creativity research have transformed our understanding of the creative process, positioning creativity not as an isolated trait but as a key intellectual skill central to success in many fields.

The on-going debate about the origins of creativity adds complexity to this field. While some theorists suggest that external forces, such as cultural or environmental influences, may drive creative outputs, others argue that creativity is an inherent human trait. According to this perspective, humans are active creators of original ideas and solutions, able to engage in creative acts independently. This on-going discourse underscores the need for an integrative approach to studying creativity, one that synthesizes insights from diverse fields, such as mythology, philosophy, science, and art (Lombardo, 2011). This multidisciplinary approach enhances our understanding of creativity, not only as an individual trait but also as a powerful force that bridges the natural and intellectual realms, playing a crucial role in human evolution and progress.

5.1.2. Creativity in Humanities: The Power of Words

In the context of humanities, creativity takes on a particularly profound role. Humanities students often have no tools other than the power of words and ideas to express themselves, making creativity a critical component of their academic and intellectual journey. This reliance on the written word and the generation of ideas highlights the unique role that creativity plays in human development and academic success. Indeed, creativity is not just an aesthetic pursuit; it is a fundamental aspect of how we shape our thoughts, communicate our understanding of the world, and solve problems. The act of creating, whether in writing or other forms, becomes a way to not only express ourselves but to engage with the world intellectually. This leads us to a critical question: if we cannot create, in other words, if we cannot compose and articulate our ideas independently, then should we surrender this creative power to machines?

Recent research underscores the crucial role creativity plays in writing and human development. Sarraf (2023) emphasizes the need for research that is replicable, agreeable, and data-supported (RAD) to truly understand creativity in writing, particularly focusing on how writers generate texts and the environmental factors that influence their creative thinking. Araya (2011) puts forward that creativity is a cornerstone of human development, an essential cognitive process that extends beyond specific disciplines. In the realm of education, Sullivan (2015) advocates for integrating creativity into writing curricula, recognizing it as a sophisticated form of cognition that enhances both intellectual and personal growth. Furthermore, the therapeutic potential of creative writing has been explored by Sandbäck Forsell et al. (2020), who found that creative writing can serve as an emotional release, promote self-understanding, and contribute to personal growth. These studies collectively emphasize the importance of nurturing creativity, especially in the humanities, where ideas and expressions are bound by the unique power of language. If we abandon the role of independent creative expression, handing it over to machines, we risk losing a critical component of human identity and intellectual engagement. Therefore, the act of writing, of creating with words, remains a fundamental expression of human thought and creativity, central to the development of knowledge and understanding. To this end, it becomes vital to

preserve and cultivate our creative capacities in the humanities, ensuring that technology serves as a tool to enhance, not replace, this uniquely human ability.

5.1.3. Theories of Creativity in an AI-Driven World: Strengths, Weaknesses, and Implications

Creativity, as a dynamic concept, has long been a subject of theoretical exploration, offering a range of insights into how novel ideas are generated and how individuals express innovation. Over the years, various theories have been developed to understand the nature of creativity, from cognitive and social perspectives to neurological models. These theories provide a comprehensive view of creativity but also present limitations that are especially pertinent when considering the growing role of artificial intelligence (AI) in the creative process. In an AI-driven world, where machines increasingly participate in tasks traditionally associated with human creativity, these theories can shed light on the tensions between human and machine-generated creativity.

5.1.3.1. Divergent Thinking and the Creative Process

Divergent thinking, as explored by Baer (1993) and Sternberg (2019), is one of the most widely recognized models in creativity research. This theory posits that creativity stems from the ability to generate a wide variety of ideas from a single prompt, a skill typically linked to cognitive flexibility and fluency. Baer's review of divergent thinking emphasizes its task-specific nature, suggesting that training in divergent thinking can improve creative performance. This view aligns with Sternberg's *Investment Theory*, which argues that creative people deviate from conventional ideas and challenge established norms.

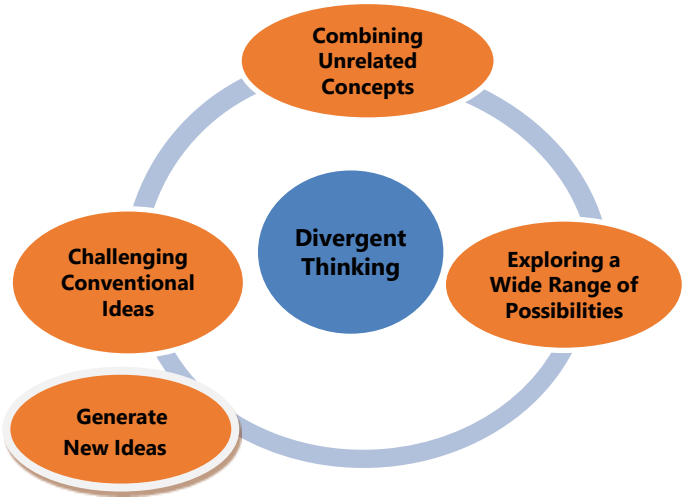
These theories offer a clear understanding of how creativity manifests in problem-solving and idea generation, making them applicable to various domains, including education and business. While divergent thinking is valuable for understanding creativity in traditional contexts, it may not fully capture the ways in which AI can generate diverse ideas without the same cognitive processes. AI systems, which operate on algorithms and vast datasets, can generate a multitude of ideas without engaging in the same cognitive activities that humans do. This discrepancy raises the question of whether AI can truly replicate the flexibility and originality central to human creativity. In addition, the task-specific nature of divergent thinking limits its applicability to broader, more integrated creative activities that involve emotion, subjective experience, and social context.

To illustrate, when we tackle a complex question such as **"How can we reduce plastic waste in our communities?"** the way a human and an AI system respond to this question differs significantly. This contrast stems from the nature of divergent thinking, which underpins the human ability to generate a wide array of creative solutions. In contrast, AI, while efficient and precise, relies on algorithmic processes that follow predefined models. Let us examine how each of these entities might respond to this question.

When a human responds to this question, they draw on their creativity, cognitive flexibility, and subjective experiences. In other words, Humans are able to incorporate emotions and social contexts, offering solutions that go beyond mere efficiency. For instance, **one might suggest local campaigns to reduce plastic, such as organizing "plastic-free" days where citizens are encouraged to adopt eco-friendly behaviors**. Additionally, they might propose community cleanup events, involving children in educational activities, or advocate for behavioral changes through school programs, where children are not only educated but also encouraged to come up with new and personal solutions. These responses demonstrate how humans utilize divergent thinking, considering a broad range of possibilities, some of which may be unexpected, risky, or even radical. In this context, the human mind is able to integrate intuition, emotion, and lived experience to generate solutions that go beyond the obvious.

In contrast, an AI system would respond to this question in a manner based on big data, predictive algorithms, and optimized models. Although AI is extremely adept at sorting, analyzing, and processing information, it does not generate creative solutions driven by intuition or emotional understanding of the problem. For example, based on consumption data, **AI might suggest alternatives to plastic for businesses, analyzing consumption patterns and providing tailored recommendations to consumers for more eco-friendly products.** These solutions, while relevant and efficient, show that AI primarily focuses on optimization, efficiency, and the practical application of solutions based on data. It excels at analyzing vast amounts of information and forecasting outcomes, yet it does not integrate the emotional depth or creative flexibility that characterizes human thinking. In other words, AI operates within the confines of algorithmic patterns and vast datasets. AI systems can produce variations based on existing information, but they do so without the intuitive, emotional, or experiential depth that humans bring to the creative process.

In nutshell, divergent thinking involves:



5.1.3.2. The Person, Product, Process, and Place Model

One of the foundational frameworks in creativity research is the Four P model, introduced by Rhodes (1961). It offers a broader perspective on creativity by incorporating four central viewpoints: according to this model, creativity is not solely an individual trait but also depends on the environment and social context in which it occurs. For that reason, *Rhodes categorized creativity research into four interrelated dimensions: Person, Product, Process, and Press. These dimensions address key questions:*

What type of person exhibits creativity?

What defines something as creative?

How is creativity enacted?

And how does the surrounding environment influence creative outcomes?

(Kaufman & Glăveanu, 2021, p. 4).

Together, those dimensions offer a holistic perspective on creativity, emphasizing both individual and contextual factors.

In addition, it is highly adaptable and can apply to various domains, from educational settings to the workplace and beyond, which is particularly useful in considering how AI interacts with human creative processes in these environments.
Nonetheless, while the model captures the complexity of creativity, it can be difficult to operationalize, particularly when trying to measure the impact of external factors (place) on creativity. The subjective nature of creativity and the challenge of quantifying personal and contextual influences can complicate its application in research and practice. Moreover, AI's interaction with these four components is not yet well understood. For example, while AI can generate creative outputs (product), it does not experience the same cognitive or emotional processes (person and process) as humans. Additionally, AI operates in a relatively controlled environment, which limits the role of external factors (place) in shaping its outputs**.**

a. Person: The Creative Individual

The "Person" dimension focuses on the psychological and personal traits that enable creativity. Characteristics such as curiosity, intrinsic motivation, and openness to experience play a crucial role in fostering creative potential. In contrast, AI lacks the emotional depth and lived experiences that shape human creativity, calling into question whether creativity can exist without the human capacity for intentionality and self-expression.

b. Product: The Outcome of Creativity

Bessemer and O'Quinn (1999) note, creative products are often evaluated based on their novelty, resolution, and elegance, criteria that AI can fulfill to an extent but without the deliberate cognitive processes humans apply.
The Product" dimension examines the tangible or intangible results of creative effort, judged by their originality, usefulness, and value. While AI systems can produce outputs that appear creative whether music, or text art, these outputs are derived from patterns in existing data rather than true innovation.

c. Process: The Path to Creation

The "Process" element delves into the mechanisms and steps involved in generating creative work, including brainstorming, problem-solving, and iterative refinement. This dimension underscores the cognitive and emotional engagement inherent in human creativity. While AI can assist with aspects of the creative process, such as generating ideas or suggesting refinements, it lacks the subjective experience and adaptability that characterize human creators. Thus, AI may complement human creativity by handling routine tasks, freeing humans to focus on higher-order processes.

d. Press: The Role of the Environment

The "Press" dimension, also referred to as environment, explores how external factors such as cultural, social, and physical contexts influence creativity. Csikszentmihalyi's (1999) concept of "social agreement" aligns with this idea, suggesting that creativity emerges in interaction with societal norms and values. Environments that encourage collaboration, risk-taking, and openness can nurture creativity. However, while AI operates within specific programmed environments, its ability to dynamically interact with and reshape these contexts is limited compared to humans, who actively respond to and transform their surroundings.

When comparing human creativity to AI-generated creativity, it becomes evident that while AI has made significant strides in producing outputs and assisting in creative processes, it remains fundamentally distinct from human creativity. AI demonstrates proficiency in generating creative products by analyzing existing patterns and data, and it can efficiently support specific aspects of the process by automating routine tasks or offering innovative suggestions. However, it lacks the intrinsic emotional depth, intentionality, and lived experiences inherent to the person dimension. Similarly, AI's interaction with the press, which refers to the cultural, social, and environmental contexts shaping creativity, is limited to predefined parameters. It lacks the dynamic adaptability that humans bring to their creative environments. Despite these limitations, AI serves can serve as a powerful collaborator rather than a competitor to human ingenuity in that it can enhance creative potential by amplifying human capabilities across the Four Ps, allowing individuals to direct their focus toward more profound, complex, and nuanced aspects of creativity. However, the operationalization of this model, particularly the measurement of external factors like the environment, remains challenging due to the subjective nature of creativity.

5.1.3.3. The Role of Knowledge in Creativity

Weisberg's (1998) theory emphasizes that creativity goes beyond the mere generation of new ideas as it involves deep knowledge of a domain and the ability to synthesize new insights from existing knowledge. This theory challenges the simplistic notion that creativity is solely about novelty, suggesting that creative ideas are built upon a foundation of expertise. Weisberg's model helps clarify the distinction between novelty and creativity, emphasizing that true creative output requires not only new ideas but also a deep understanding of the subject matter. More than this, the theory aligns with the idea that creativity is not a random process but one that involves structured thinking, problem-solving, and expertise.

However, this model is said to heavily rely on the individual's knowledge, which is a limitation in the context of AI, as AI systems can process vast amounts of data far more efficiently than humans. AI's ability to synthesize information and generate creative outputs from large datasets challenges the notion that human expertise is necessary for creative production. Put differently, AI's capacity to generate creative outputs from existing knowledge could undermine the notion that creativity is always based on human expertise, leading to questions about whether AI can truly innovate or merely remix existing ideas.

5.1.3.4. The Role of Emotions in Human Creativity

Emotions play a significant role in the creative process, contributing to both motivation and the expression of creativity. Research has shown that emotional states, whether positive or negative, influence creativity by helping to regulate our emotional balance. Essentially, creativity can act as a mechanism for emotional homeostasis, allowing individuals to find emotional equilibrium through their creative expressions. Positive emotions may foster an open mind-set, while negative emotions can drive the need for creative problem-solving as individuals seek ways to manage their emotional states. This emotional interplay reinforces the idea that creativity is not just an intellectual exercise but is deeply connected to our emotional e.

Moreover, certain soft skills, such as self-confidence, are key drivers of creativity. When individuals believe in their creative capabilities, they are more likely to engage in creative activities. Similarly, curiosity and observational skills contribute significantly to creativity, as they provide the foundation for making connections, both conscious and subconscious, that lead to innovative solutions. These abilities allow individuals to tap into their emotional experiences, resulting in solutions that are not only novel but also personally meaningful.

5.1.3.5. Cognitive Processes and Neurobiological Models

Cognitive and neurobiological theories play a central role in understanding creative processes. Recent research in neuroscience has shown that the differences between the brains of creative individuals and the general population are minimal. Shelley Carson, a researcher at Harvard University, emphasizes that all individuals possess brain mechanisms capable of generating creative ideas. The distinction lies in how these mechanisms are activated and interconnected, ultimately influencing creative abilities. In her book *Your Creative Brain*, Carson describes the CREATES model of brain states, which includes seven activation modes: Connect, Reason, Envision, Absorb, Transform, Evaluate, and Stream (Carson, 2010). Each of these modes reflects a key aspect of human creativity, such as cognitive openness, mental imagery, and divergent and convergent thinking. Dietrich (2007) emphasizes the importance of mental mechanisms such as generation, synthesis, and selection, which are fundamental for creative thinking. A deeper mastery of these mechanisms, alongside an understanding of transversal skills (soft skills), paves the way for training programs that enable individuals to fully exploit their creative potential. These theories highlight how certain brain regions are activated during creative tasks and underscore the importance of cognitive flexibility in generating new ideas. Cognitive models establish a direct link between mental processes and creative outcomes, while neurobiological theories anchor creativity to specific brain functions and networks. However, these approaches mainly focus on human creativity, which makes them less applicable to AI. While AI can replicate certain cognitive functions, such as pattern recognition, it does not replicate brain processes such as emotional engagement or the complex interaction between different forms of cognitive flexibility. Furthermore, the emphasis on neurobiological aspects often overlooks the social and emotional dimensions of creativity, elements that are essential for understanding human creative expression.

5.1.3.6. Human vs. AI Creativity

Table1

Implications

Aspect	Human Creativity	AI Creativity	Implications
Relevance	Humans assess the relevance of ideas based on context, experience, and social needs	AI generates ideas based on algorithms but may lack full understanding of relevance in context.	Relevance is crucial for creativity; AI can help but lacks the full discernment that humans possess.
Knowledge	Human creativity is deeply linked to prior knowledge and personal experience	AI accesses vast amounts of knowledge but lacks personal experience and context	AI can complement human creativity by processing large amounts of data, but it doesn't possess the nuanced understanding that human knowledge provides
Motivation	Human creativity is driven by intrinsic motivations (e.g., self-expression, curiosity).	AI lacks intrinsic motivation and works based on optimization goals.	AI can assist but can't match the intrinsic motivation that propels human creativity.
Environment	Creativity thrives in supportive, diverse environments that foster exploration and experimentation.	AI operates within predefined environments and frameworks, limiting its creative scope.	Human creativity benefits from varied environments, whereas AI requires human direction and context to perform effectively.
Emotional Engagement	Creativity driven by emotions (joy, frustration, self-expression).	AI lacks emotional engagement in the creative process.	AI can support creative work but cannot replicate the emotional depth of human innovation.
Cognitive Flexibility	Humans adapt to new contexts, drawing from experiences and emotions.	AI lacks cognitive flexibility, performing based on predefined algorithms.	Human creativity involves dynamic thinking, whereas AI lacks the adaptability to innovate contextually

Pattern Recognition	Humans recognize patterns in novel ways, integrating emotions and experience.	AI can recognize patterns but without emotional or experiential context.	AI excels in data processing but lacks the context and nuances necessary for true innovation.
Innovation Process	Humans innovate by synthesizing knowledge, emotions, and context	AI generates ideas based on data, but lacks emotional depth or personal context.	AI serves as a tool to enhance human creativity but cannot replace the holistic human process of innovation.

6. Methodology

This study examines the layered relationship between AI, education, and creativity, focusing on how university students in Morocco utilize AI tools in three key domains: writing mechanics (spelling, grammar, vocabulary), academic planning and outlining, and creative idea generation. The methodology integrates both quantitative and qualitative methods to provide a holistic understanding of the effects of AI on student creativity.

6.1. Participants

A total of 130 university students from various humanities fields participated in the study. These students were selected across a range of academic levels, from first-year undergraduates to master's program students. The demographic characteristics of the participants are as follows:

Table 2

Demographic Characteristics of Participants

Demographics	N	Percentage (%)
Gender	**130**	
Male	60	46.15
Female	70	53.85
Academic Year		
1st Year	30	23.08
2nd Year	35	26.92
3rd Year	25	19.23
Master's Program	40	30.77

6.2. Data Collection Methods

Quantitative Data:

A Likert scale questionnaire was used to gather quantitative data on students' usage of AI tools, their perceptions of AI's impact on creativity, and their attitudes toward AI in academic and creative work. The Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree) to assess various statements related to AI's role in students' academic and creative processes.

Qualitative Data:

A systematic review of literature published between 2021 and 2024 was conducted to gain insights into the broader perceptions and concerns regarding AI's role in the humanities. The review examined how AI is perceived as both an enabler and a barrier to creativity. The systematic review was guided by rigorous criteria for selecting studies, including:

- Studies that focus on AI's influence on creativity in educational settings, particularly in the humanities.
- Peer-reviewed articles from reputable academic journals or conferences.
- Articles exploring concerns, challenges, and opportunities associated with AI in creativity and academic advancement.
- Only articles published between 2021 and 2024 were included.

7. Findings

Descriptive Statistics

Table 3

Category	Mean	Standard Deviation	Median	Mode
Writing Mechanics	4.30	0.45	4.25	4.50
Academic Planning and Outlining	4.35	0.50	4.40	4.60
Creative Idea Generation	3.20	0.80	3.00	3.00

Inferential Statistics

7.1. Comparison of AI Usage across Categories

Table 4

One-Way ANOVA (for Writing Mechanics and Academic Planning)

Source	Sum of Squares	Df	Mean Square	F	p-value
Between Groups	5.67	2	2.84	22.56	< 0.001
Within Groups	48.91	387	0.13		

Table5

Kruskal-Wallis Test (for Creative Idea Generation

H Statistic	Df	p-value
25.87	2	< 0.001

7.2. Post-hoc Analysis

Table6

Tukey HSD Test (ANOVA post-hoc)

Comparison	Mean Difference	p-value
Writing Mechanics vs. Planning	-0.05	0.315
Writing Mechanics vs. Creative	-1.10	< 0.001
Planning vs. Creative	-1.05	< 0.001

***Pairwise Mann-Whitney U Tests (Creative Idea Generation*):**

Comparison	U Statistic	p-value	Effect Size (r)
Writing Mechanics vs. Creative Ideas	850.50	< 0.001	0.65

Academic Planning vs. Creative Ideas	**900.75**	**< 0.001**	**0.60**

8. Interpretation of Results

- **Research Question 1 (RQ1): How Do University Students Utilize AI Tools?**

The results from the quantitative data provide a clear trend in students' usage of AI tools:

1. Usage for Writing Mechanics:

With a mean score of 4.30 (on a 5-point Likert scale), students overwhelmingly favor AI for tasks related to spelling, grammar, and vocabulary correction. This aligns with AI's capabilities in language refinement and its ease of use for addressing specific writing challenges.

2. Usage for Academic Planning:

Students also reported high usage of AI for academic planning (mean = 4.35), including outlining essays and organizing ideas. This reflects the efficiency of AI in providing structure to academic work, often serving as a tool for managing cognitive load.

3. Usage for Creative Idea Generation:

In contrast, reliance on AI for creative tasks such as generating novel ideas was significantly lower (mean = 3.20). This suggests skepticism or a perceived limitation in AI's ability to contribute to ideation and originality.

These findings support Ha1, confirming that students primarily use AI for non-creative applications. AI's role as a supplementary tool for mechanical and structural improvements in academic tasks appears more established than its role as a creative partner.

- **Research Question 2 (RQ2): To what extent do university students rely on AI for non-creative versus creative academic tasks, and what implications does this have for concerns about AI suppressing creativity?**

A comparative analysis of the mean scores revealed a statistically significant difference between non-creative (mean = 4.33) and creative (mean = 3.20) applications of AI, with a p-value < 0.001. This confirms a clear preference for AI in mechanical and planning tasks over creative tasks.

While the lower usage of AI for creativity might initially suggest limitations, it actually demonstrates that students retain autonomy over uniquely human intellectual tasks. The data counters fears that AI suppresses creativity, suggesting instead that it complements rather than replaces human ingenuity. The findings confirm Ha2, indicating that concerns about AI undermining creativity are overstated, which corroborates recent academic debates emphasizing AI as a collaborative tool rather than a creative threat (Hutson & Ceballos, 2023).

The reliance on AI for non-creative tasks suggests students value AI's strengths in efficiency and accuracy while retaining creative tasks as a human domain.

- **Research Question 3 (RQ3): What are the underlying causes of fear regarding AI's impact on creativity in higher education, particularly in humanities disciplines, as reflected in the recent academic literature (2021–2024)?**

As for the systematic review of literature, the primary drivers of fear about AI's impact on creativity were mainly attributed to the following:

1. Misconceptions About AI's Capabilities:

Studies show that many educators and students perceive AI as an entity that replaces human input rather than enhancing it (Giray, 2024).

These fears are rooted in misunderstandings of AI's limitations and potential, particularly in creative domains.

2. Lack of Awareness About AI's Creative Potential:

Research indicates that AI can play a collaborative role in brainstorming and ideation. However, students and educators often overlook these possibilities, focusing instead on AI's mechanical outputs (Ringvold et al., 2023).

3. Concerns About Originality and Academic Integrity:

The fear of plagiarism and over-reliance on AI tools continues to dominate discussions about AI in education. Notably, case studies highlight how these concerns can overshadow the potential benefits of AI for fostering creativity and critical thinking (Nguyen et al., 2022).

4. Ethical and Pedagogical Challenges:

Debates persist over whether integrating AI into higher education undermines traditional pedagogies. Some argue that over-reliance on AI could erode intellectual independence and ethical reasoning, while others advocate for using AI to enhance these qualities through guided integration (Kumar, 2024).

Ultimately, these insights support Ha3, positioning fear about AI's impact on creativity as largely stemming from misconceptions and a lack of informed discourse. Proper education and training on AI's capabilities and limitations could help mitigate these fears.

8. Discussion and Significance

The results affirm the critical role of AI in non-creative academic tasks, particularly for improving efficiency and accuracy. While concerns about AI suppressing creativity persist, this study demonstrates that such fears may be unfounded. Instead, AI appears to occupy a complementary role, enhancing academic work without encroaching on human creativity.

In other words, AI is a powerful tool that complements, rather than replaces, human creativity. It supports the creative process but remains limited by its inability to understand relevance, context, and motivation the way humans do. Ultimately, human creativity flourishes in diverse environments that foster exploration and personal experience, attributes that AI, constrained by predefined algorithms, cannot emulate.

While these debates are undeniably important, they must serve as a catalyst for action, not paralysis. AI is no longer an abstract concept for future generations to grapple with; it is firmly embedded in the present. The time has come for us to move beyond simply asking questions. We need to embrace the opportunities AI offers, recognizing that this is the era of AI, and its potential to amplify human creativity is immense.

Rather than fearing AI or viewing it as a competitor to human ingenuity, we should view it as a powerful tool to push the boundaries of what is possible. If used thoughtfully and responsibly, AI can help unlock new dimensions of creativity and innovation, propelling education and human potential to new heights. The debate should not just linger on hypothetical concerns, but on how best we can integrate AI into our lives and educational systems to enrich rather than replace the human spirit of creativity.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

ORCID iD

Samia Moustaghfir: https://orcid.org/0009-0000-7673-8413

Atimade Chankob: https://orcid.org/0009-0007-8269-3953

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

References

[1] Araya, Y. C. (2011). *Una revisión crítica del concepto de creatividad. Actualidades Investigativas en Educación, 5*(1), 1–15. https://doi.org/10.15517/AIE.V5I1.9120

[2] Balsas, M. A., & Espiña, S. (2020). The concept of creativity in education: A review of definitions, theories, and challenges. *Journal of Educational Psychology*, 112(2), 342–358. https://doi.org/10.1037/edu0000367

[3] Baer, J. (1993). *Creativity and Divergent Thinking: A Task-Specific Approach*. Psychology Press.

[4] Carson, S. (2010). *Your creative brain: Seven steps to maximize imagination, productivity, and innovation in your life*. Jossey-Bass. ISBN: 978-0470547632.

[5] Csikszentmihalyi, M. (1999). Implications of a systems perspective for the study of creativity. In R. J. Sternberg (Ed.), *Handbook of Creativity* (pp. 313–335). Cambridge University Press.

[6] Dietrich, A. (2007). Who's afraid of a cognitive neuroscience of creativity? *Methods, 42*(1), 22–27. https://doi.org/10.1016/j.ymeth.2006.12.009

[7] Giray, L. (2024). *Ten Myths about Artificial Intelligence in Education*. *Higher Learning Research Communications*. https://eric.ed.gov/?id=EJ1376345

[8] Hutson, J., & Ceballos, J. (2023). *Rethinking education in the age of AI: The importance of developing durable skills in the industry 4.0. Journal of Information Economics, 1*(2), 9. https://doi.org/10.58567/jie01020002

[9] Kaufman, J. C., & Glăveanu, V. P. (2021). An overview of creativity theories. In J. C. Kaufman & R. J. Sternberg (Eds.), *Creativity: An introduction* (pp. 17–30). Cambridge University Press.

[10] Kumar, Y. (2018). Artificial Intelligence & Robotics – Synthetic Brain in Action. SSRN. https://ssrn.com/abstract=3325115

[11] Lombardo, A. (2011). The intersection of creativity and technology: A critical look at innovation in the digital age. *Creativity Research Journal*, 23(3), 167-180. https://doi.org/10.1080/10400419.2011.583195

[12] Moustaghfir, S., & Brigui, H. (2024). Navigating Critical Thinking in the Digital Era: An Informative Exploration. *International Journal of Linguistics, Literature and Translation*, *7*(1), 137-143. https://doi.org/10.32996/ijllt.2024.7.1.11x

[13] Nguyen, D. M., Chiu, Y.-T.-H., & Le, H. D. (2021). Determinants of continuance intention towards banks' chatbot services in Vietnam: A necessity for sustainable development. *Sustainability, 13*(14), 7625. https://doi.org/10.3390/su13147625

[14] Ringvold, T. A., Strand, I., Haakonsen, P., & Saasen Strand, K. (2023). *AI Text-to-Image Generation in Art and Design Teacher Education: A Creative Tool or a Hindrance to Future Creativity? The 40th International Pupils' Attitudes Towards Technology Conference Proceedings*. https://openjournals.ljmu.ac.uk/PATT40/article/view/1350

[15] Sandbäck Forsell, J., Nyholm, L., & Koskinen, C. (2021). A caring science study of creative writing and human becoming. *Scandinavian Journal of Caring Sciences, 35*(1), 156–162. https://doi.org/10.1111/scs.12830

[16] Sarraf, K. (2023). Charting RAD research as an orientation to creativity in writing studies. *Written Communication, 40*(1), 3–28. https://doi.org/10.1177/07410883231184897

[17] Sternberg, R. J. (1985). *Beyond IQ: A Triarchic Theory of Human Intelligence*. Cambridge University Press.

[18] Sullivan, P. (2015). The UnEssay: Making room for creativity in the composition classroom. *College Composition and Communication, 67*(1), 6–34. https://www.jstor.org/stable/24633867

[19] Weisberg, R. W. (1999). Creativity and knowledge: A challenge to theories. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 226–250). Cambridge University Press.