Int. J. of AI and Education Technology

♦ ISSN: 2835-2432 Vol: 03, No. 02, 2024 ♦ PP. 01–11

Article DOI: https://doi.org/10.54216/IJAIET.030201



FULL LENGTH ARTICLE

Traditional and AI-Powered Storytelling Tactics with Multimedia Elements (Images, Sounds, videos, and Texts) to Promote Teachers' Skills in Creating Storytelling Content

Reham Mohamed Al-Ghoul[1,*] **Ramy Samir Mohammed ALSeragy**[2]

[1] Senior Instructional Designer, Lecturer in Educational Technology Center, Faculty of Education, Mansoura University, Egypt
[2] Assistant Professor of Educational Technology, Manager of Education Technology Center, Faculty of Education, Mansoura University, Egypt

Emails: drreham@mans.edu.eg • Ramy.ALSeragy@gamil.com

Received: June 28, 2024 Revised: September 14, 2024 Accepted: November 01, 2024 ⋆ Corresponding author

ABSTRACT

Storytelling has long been recognized as a powerful tool for engaging and educating audiences, and with the advancements in technology, educators now have more resources at their disposal than ever before. By combining traditional storytelling techniques with AI-powered tools and multimedia elements such as images, sounds, and texts, teachers can create dynamic and interactive stories that captivate and inspire their students. This integration of old and new storytelling tactics not only enhances the learning experience for students but also helps teachers develop their own skills in constructing compelling and innovative content. Therefore, research is essential to investigate whether these applications are useful in developing teacher's skills in creating compelling storytelling with innovative content. The purpose of this research was to investigate the impact of AI-powered tools and technology on storytelling and the relationship between human fantasy and AI fantasy to create successful storytelling. Participants were 90 teachers enrolled in vocational diploma programs in the faculty of education at Mansoura University. Results indicated participants in the AI-Powered Storytelling Tactics groups significantly increased scores on storytelling video assignment creation and engagement with the experience, and indicated a likelihood to use AI-Powered Storytelling Tactics with their future students.

Keywords: Artificial Intelligence ▪ AI Storytelling Tactics ▪ Traditional Storytelling Tactics ▪ Human fantasy ▪ AI fantasy ▪ Storytelling

1. INTRODUCTION

Storytelling is a powerful pedagogical tool that has been utilized for generations to share cultural knowledge and teach values and beliefs. A method allows individuals to connect with students and work towards desired learning outcomes. [26] There are many forms of storytelling, like traditional storytelling, AI-powered storytelling, etc.

Traditional storytelling is a form of oral performance that originated from oral narration. It focuses on the dynamic aspect of 'telling' rather than just the static aspect of a story. Traditional storytelling involves reflexivity, which is a form of self-reference, and the use of frames to establish the time and space of the narration. It is different from modern storytelling and emphasizes the importance of the interaction between the storyteller and the audience. [16] AI-powered storytelling involves using generative AI tools like ChatGPT, Stable Diffusion, and Midjourney for literacy development and creative

© 2024 The Author(s). Published by ASPG. This article is licensed under CC BY 4.0.

expression for children. A visual narrative app called AI Story has been proposed as a prototype for children's creative expression, storytelling, and literacy development. [33]

The different functions of storytelling include therapeutic functions such as healing and personal transformation through life narratives. Storytelling can be a process of co-authoring life narratives that helps and heals clients, with therapists serving as writing coaches. Life writing, as a meaning-constructing activity, has therapeutic functions and can take place in a classroom setting characterized by openness and empathy. Self-1 and Self-2 co-author life narratives and foster healing, with Self-2 offering different perspectives and resources to re-narrate and assign new meanings to life experiences. Storytelling can also be used in organizational settings to make sense of experiences, influence others, and express emotions through narratives. [38] To effectively help students store information in their long-term memory, the structures that constitute human cognitive architecture, which refers to how memory structures are organized to process and store information, should be considered. If information is stored in context form, it will stay in memory longer than if it were stored in isolated form.

New storytelling delves into AI fantasy and human fantasy, where AI fantasy refers to the use of artificial intelligence in creating imaginative and creative works, such as AI art. While human fantasy refers to the traditional association of imaginative creativity with human art. Both AI and human fantasy can coexist and collaborate in the creation of meaningful art forms. [36], [2]

Nevertheless, storytelling is widely used in educational fields. Storytelling is a pedagogical strategy that can improve literacy learning by capitalizing on students' desire to interact and talk with others. It finds its disciplinary inheritance in the humanities and aesthetic ways of knowing, drawing heavily on the performing arts. Storytelling allows participants to be transported to another time and place, enhancing their experience with literature through descriptive oral language. [6], [20] It should be said that storytelling with AI, human fantasy, and technology tools can become a more efficient and high potential learning tool. [17]

2. PURPOSE OF THE RESEARCH

In this regard, the aim of this research is to determine how to complete human fantasy with AI fantasy and AI tools. By integrating AI technology into storytelling, educators can create more interactive and engaging learning experiences for students. This innovative approach has the potential to enhance students' understanding and retention of information, as well as foster creativity and critical thinking skills. Additionally, by combining human fantasy with AI fantasy, educators can tailor storytelling experiences to meet the diverse needs and interests of students, ultimately leading to a more personalized and effective learning environment.

3. RESEARCH QUESTIONS

To what extent can promote teachers' skills in creating storytelling content?

To what extent can the teachers combine human fantasy with AI fantasy?

Does AI-Powered Storytelling Tactics affect the competency level of teachers' skills to create Storytelling Content compared to Traditional Storytelling Tactics?

4. DEFINITION OF TERMS

4.1 Definition of traditional storytelling

Traditional storytelling is a form of oral performance that involves the dynamic aspect of 'telling' rather than just the static aspect of 'story'. It focuses on the interaction between the storyteller and the audience, emphasizing reflexivity and the use of framing to shape the narrative in terms of time and space. [13]

4.2 Definition of AI-powered storytelling

AI-powered storytelling involves AI systems that support the creative design process, known as Intelligent Creative Support Tools (CST), and AI systems that support interactive digital narrative (IDN) creation, called AI Authoring Systems. AI Co-creativity Support Systems for IDNs represent a hybrid category where AI co-creates with designers in building IDNs. AI in storytelling can act as a storytelling assistant, flagging misrepresentations, supporting reflection on representation, and taking on character embodiment roles usually done by humans. [9], [10]

Researcher define AI-powered storytelling tactics as AI tools that support the design process of storytelling with all elements that are needed, like photos, sounds, movie clips, and ideas, and can combine human fantasy and AI fantasy to convert human fantasy ideas to real life by using AI assistants.

5. STUDY OF THE CONTEXT

5.1 Importance of incorporating multimedia elements in storytelling:

Incorporating multimedia elements in storytelling is important as it enhances the aesthetic presentation of a story by integrating digital text, imagery, video, and audio to create a compelling narrative. Digital storytelling allows for the creation of engaging and interactive stories that resonate with the audience, especially in educational settings. Multimedia components like audio, video, and visuals play a crucial role in captivating viewers and conveying complex concepts effectively. [3], [1], [28]

Incorporating multimedia elements in storytelling can significantly enhance the audience's engagement and comprehension, offering a more immersive and impactful experience. Key reasons for incorporating multimedia elements include:

- Enhanced engagement.
- Increased comprehension.
- Improved retention.
- Emotional impact.
- Creativity and innovation.
- Cross-platform reach.
- Immersion and interactivity. [30]

6. TRADITIONAL STORYTELLING TACTICS

Traditional storytelling tactics involve using effective narra-

tive techniques to convey marketing messages in a compelling way. By incorporating elements such as characters, conflict, resolution, setting, and structure, brands can create engaging stories that resonate with their audience and drive results. Storytelling is a powerful tool that helps make brands more recognizable, human-centered, and memorable. [11]

Traditional storytelling tactics can be used as part of a counter-narrative strategy to combat terrorism by creating alternative narratives and deconstructing foundational myths. These tactics involve competing myth creation, creating alternative exemplars, metaphor shifts, and identity gerrymandering.

Traditional storytelling tactics can influence thought processes through:

- Vivid imagery that captures the audience's attention.
- Sound effects that create atmosphere.
- Engaging storytelling structures such as plot, character development, and conflict resolution. [37]

7. USE OF ORAL STORYTELLING TECHNIQUES

Oral storytelling techniques can be used to increase oral language proficiency among second language learners. Students can read, listen to, and tell stories from various cultures to improve their language skills. Storytelling helps students understand story structure, express themselves clearly, and expand their vocabulary and sentence structure. [21]

8. ANALYSIS OF TRADITIONAL STORYTELLING TECHNIQUES IN CLASSIC LITERATURE

Traditional storytelling techniques in classic literature often involve archetypal storylines like the Man in a Hole, Cinderella, and Boy Meets Girl, which mirror narratives of struggle, transformation, and connection found in data storytelling. Both mediums aim to engage audiences emotionally through tension, resolution, and relatable insights. Effective storytelling in classic literature and data stories relies on structure, pacing, and emotional engagement to captivate readers and convey information effectively. The central plot, key characters, and climactic moments are crucial elements in designing a compelling narrative that resonates with the audience. Integrating intricate layers of sub-stories and utilizing storytelling devices can add depth and complexity to the overall narrative. Storytelling techniques can be applied in various real-world scenarios like presentations, interactions, blogs, and learning launches to enhance communication and connect with audiences. [12]

AI-Powered Storytelling Tactics

AI-powered storytelling tactics involve using advanced algorithms to assist in generating ideas, creating content, personalizing narratives, and enhancing user engagement. AI in storytelling operates through algorithms analyzing historical data and learning styles to create engaging narratives. AI can be used to generate personalized content, create interactive experiences, and make stories more accessible. To start creating AI-powered storytelling content, one should learn about different types of AI and explore AI tools available. [22]

AI-Powered storytelling tactics can influence thought processes by:

Utilization of data-driven insights to create personalized narratives.

Integration of chatbots and virtual assistants to enhance user engagement.

Implementation of machine learning algorithms to generate dynamic and interactive stories. [16]

Multimedia Elements in Storytelling

Multimedia elements in storytelling can be:

Visual storytelling through images and videos.

Audio elements such as music and sound effects enhance storytelling.

Text in conveying narrative and enhancing the user experience. [36]

Role of images in enhancing visual storytelling

Images play a crucial role in enhancing visual storytelling by conveying messages, conveying movement and action, and offering clues on how pictures convey a time shift. Visual storytelling can disrupt narrative sequences; adopt circular plots, and present multi-stranded plots, all of which contribute to the overall storytelling experience. [19] Additionally, visuals in news coverage can influence readers' attitudes and perceptions of issues by capturing attention and influencing perceptions. [15] Visual storytelling can also positively influence consumer responses and aesthetic judgments towards product designs, particularly aiding products with high design novelty. [35]

Impact of sounds in creating immersive storytelling experiences

The impact of sounds in creating immersive storytelling experiences is significant, as research shows that binaural audio can evoke empathy within the listener and enhance emotional engagement with the narration. Foley, soundscapes, and music play crucial roles in deepening the listener's experience, especially when used in binaural environments. The use of movement and diversity in sound placement, along with carefully selected music and sound design, can further enhance the immersive quality of storytelling experiences. [27], [7]

Importance of text in conveying narrative and dialogue

Text plays a critical role in conveying narratives and dialogue in storytelling. It helps reduce topic noise, increase information density, and retain natural elements like disfluencies and spontaneity. [24]

AI-powered storytelling platforms and their effectiveness

Digital storytelling platforms are effective tools for teaching and learning, combining various digital media elements to create engaging stories on specific themes or topics. They are typically short in length, between 2 and 10 minutes, and can be shared online for wider reach. [29]

To effectively choose the right storytelling platforms, it is important to analyze competitor presence and consider your resources and capabilities. Nike's Dream Crazy" campaign is a successful example of utilizing multiple platforms for storytelling. Evaluating your needs, understanding your target audience, and assessing platform features are key considerations. By leveraging influencer-marketing platforms, integrating storytelling into the online shopping experience

is crucial for building brand loyalty and driving sales. Podcasting platforms like Spotify, Apple Podcasts, and Google Podcasts can help expand to reach and engage with a wider audience through compelling content and storytelling. [31]

Data-Driven Storytelling (DDS) has emerged with the rapid proliferation of Open Data in the last 10 years. In principle, DDS can be explained as a process of translating data analysis into simple, logical stories that can be understood by a non-technical audience. Open Data platforms like CKAN, Publish my Data, Information Workbench, Junar, Open Data Soft, or Semantic Media Wiki provide some support for storytelling, but there is a clear deficit in relation to storytelling capacity across all platforms studied. There is a need for strong innovation and improvement of Open Data platforms to provide sufficient support for Data-Driven Storytelling. [23]

AI and human fantasy

Artificial intelligence and human intelligence have fundamental differences in their operating systems and cognitive abilities. While AI systems may become more advanced, they will remain unconscious machines with different cognitive qualities than humans. Understanding the cognitive characteristics and limitations of AI is crucial for human professionals working with AI systems. [14] AI differs from human intelligence in several crucial ways, including the inability to create truly novel content. For example, while AI systems may be able to generate new ideas based on existing data, they lack the ability to dream up entirely original concepts like humans can. This limitation can be seen in AI-generated art or music, which often lacks the emotional depth and creativity found in human creations. [18]

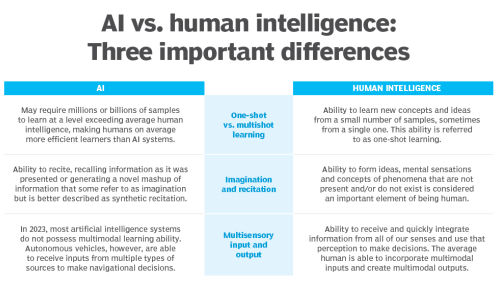


Figure 1. Figure 1. AI vs. human intelligence [18]

AI can be considered creative by human standards, but it entails a new mode of imagination that is co-shaped and shared by humans and algorithms. [25]

Comparison of multimedia elements in storytelling across different mediums

Digital storytelling is a powerful pedagogical approach that combines traditional storytelling with multimedia technology, allowing for the creation of engaging and educative digital stories. Different aspects of storytelling, such as graphics, audio, video, and animation, are used to tell a story in a short multimedia format. The e-Learning Digital Storytelling (eLDiSt) framework provides a structured approach to using digital storytelling at various levels of education, catering to learners from primary school to university level. Teachers and students can collaborate to create digital stories using tools like Moviemaker software, enhancing student engagement and learning outcomes. Digital storytelling is seen as an effective tool for developing students' creativity and problem-solving skills, and it is increasingly being integrated into educational settings. [8]

Methodology

This research addressed the effects of AI-Powered Storytelling Tactics with Multimedia Elements (Images, Sounds, and Texts) to Promote Teacher's Skills in Creating Storytelling Content the research was guided by the following research questions:

To what extent can promote teachers' skills in creating storytelling content?

To what extent can the teachers combine human fantasy with AI fantasy?

Does AI-Powered Storytelling Tactics affect the competency level of teachers' ability to create learning experiences for students compared to Traditional Storytelling Tactics?

Research Design

The research used a quantitative method design that experimental design systematically manipulates one or more variables in order to evaluate how this manipulation influences outcomes. As described by Creswell and Creswell [5]. The researcher can determine if the treatment, rather than other factors, influences the outcomes when two groups receive a manipulated variable and the other group does not. [32]. The researcher gathered quantitative data during the same research phase for an overall interpretation.

9. PARTICIPANTS AND SAMPLE SIZE

The researcher recruited individuals to participate in the research. The researcher-recruited participants from the sample population of 90 teachers enrolled in vocational diplomas in educational technology. Teachers enrolled in vocational diploma programs are typically teachers. All teachers enrolled in the diploma program had the opportunity to volunteer for participation in the research. The researcher randomly assigned all participants to either the experimental group 1 AI tools (video, sound, photos, and text) or the experimental group 2 AI tools (video, sound, and photos) or the experimental group3 (Traditional Storytelling Tactics).

Resources for the Learning Experience

The researcher created the learning experience based on AI tools and learning modules in Moodle LMS.

Learning modules

The author used the Moodle LMS to teach storytelling modules for learners because it is easy to put learning resources on it and can do the post-assignment and pre- and post-test easily for learners, and the researcher collected scores easily for analysis. In addition, the author integrated AI tools into it for the AI-Powered Storytelling Tactics groups.

AI-TOOLS

The author used Chat GBT 3 to create an interactive experience for learners. Additionally, the author utilized Chat GBT 3 to personalize the learning journey and provide real-time feedback. The author used Chat GBT 3 to create an AI photo tool that generated photos for users based on their descriptions. In addition, the same thing in AI sound tool, AI text tool, AI video tool.

Setting

The researcher conducted all sessions on the Moodle LMS in three courses, for three experimental groups.

The first course (AI-Powered Storytelling Tactics) consists of four modules about storytelling tactics (the concept of storytelling, elements of digital storytelling, elements of digital and interactive storytelling, and critical analysis of different types of digital storytelling) and AI tools (AI text , AI photos , AI sound, and AI videos) to help teachers create storytelling with AI tools after studying modules.

The second course (AI-Powered Storytelling Tactics) consists of four modules about storytelling tactics (the concept of storytelling, elements of digital storytelling, elements of digital and interactive storytelling, and critical analysis of different types of digital storytelling) and AI tools (AI photos , AI sound, and AI videos) to help teachers create storytelling with AI tools after studying modules.

The third course (Traditional Storytelling Tactics) consists of four modules about storytelling tactics (the concept of storytelling, elements of digital storytelling, elements of digital and interactive storytelling, and critical analysis of different types of digital storytelling).

10. DATA COLLECTION INSTRUMENTS

10.1 Content Test

In the present research, the author aimed to test the effects of Storytelling Tactics modules on creating Storytelling by comparing participant learning when engaging in Moodle LMS. The author used a pre- and post-test model to measure participant learning. The pre- and post-tests consisted of 30 questions each, drawn from existing assessments of teachers understanding of storytelling tactics.

10.2 Post-assignment

The author aimed to test the effects of AI-Powered Storytelling Tactics on creating storytelling content by comparing participant learning experiences in creating storytelling content after engaging in Moodle LMS with and without AI tools (video, sound, photos, and text). The author used a post-assignment to measure participants' abilities in creating storytelling content. The researcher evaluated the post-assignments for the three groups according to the storytelling content quality scale created by the author. Appendix A contains the storytelling content quality scale.

10.3 Survey of AI-Powered Storytelling Tactics

The author used a survey based directly on the UTAUT2 instrument [34], with some adjustments to wording to account for the specific technology (AI-Powered Storytelling Tactics) and context (education) being investigated. The survey is a 5-point Likert-type scale (1 = strongly agree to 5 = strongly disagree) that measures the eight dimensions of the UTAUT2 model: Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Price Value, Habit, and Behavioral Intention. Overall, higher scores represented a greater response and a greater likelihood of using AI-Powered Storytelling Tactics.

11. DATA ANALYSIS

The particular data collection process used by the researcher qualifies as convergent parallel strategy, collecting quantitative data simultaneously during the research phase.

11.1 Research Question 1

Research Question 1 was the following:

To what extent can promote teachers' skills in creating storytelling content?

The independent variable was the storytelling tactics modules that the three groups learned by LMS Moodle. The dependent variable for Research Question 1 was promoting teachers' skills in creating storytelling content, which was expressed by the scores of participants in the three groups at the pre- and post-test from the three courses.

The researcher collected pre- and post-test scores from the three courses. Those scores were analyzed using a Paired Samples T Test to determine any statistically significant differences in scores, particularly the change in score from pre- to post-test.

11.2 Research Question 2

Research Question 2 was the following:

To what extent can the teachers combine human fantasy with AI fantasy?

The researcher focused on one dependent variable for Research Question 2: The researcher used a survey administered to the AI-Powered Storytelling Tactics groups. To analyze the survey, the researcher utilized One-Way ANOVA.

11.3 Research Question 3

Research Question 3 was the following:

Does AI-Powered Storytelling Tactics affect the competency level of teachers' skills to create Storytelling Content compared to Traditional Storytelling Tactics?

The data for Research Question 3 were collected via the scores on the post-assignment. The independent variables were the AI-Powered Storytelling Tactics group's experimental group 1, experimental group 2 and the experimental group 3 learned Traditional Storytelling Tactics. The dependent variable for Research Question 3 was the score received by the teachers on the post-assignments.

The researcher gave three groups the post-assignment, which includes creating storytelling for one lesson from the lessons that they are teaching, the post-assignment was rated by the researcher according to storytelling standards and recorded on spreadsheets.

The researcher collected scores on the post-assignments. Groups analyzed those scores using a Multivariate Tests and Scheffe Test to determine any statistically significant differences in scores.

12. RESULTS

The research was designed to determine the effects of AI tools with human fantasy on improving instructional storytelling strategies. The specific focus was on comparing results between three groups of teachers.

The first group (experimental group 1) of teachers created storytelling content via AI tools (video, sound, photos, and text), whereas the second group (experimental group 2) of teachers created storytelling content via human fantasy and AI tools without an AI text tool, whereas the third group (experimental group 3) of teachers created storytelling content via human fantasy without any AI tools.

12.1 Research Question 1

To what extent can promote teachers' skills in creating storytelling content?

The independent variable was the storytelling tactics modules that the three groups learned by LMS Moodle. The dependent variable for Research Question 1 was promoting teachers' skills in creating storytelling content. The researcher collected pre- and post-test scores from the three courses. Those scores were analyzed using Paired Samples T Test to analyze scores, focusing on changes from pre- to post-test. The post-test was the same as the pretest, but with questions in a different order, as shown in Table 1.

It is clear from Table 1 there are statistically significant differences between the pre- and post-tests, where Sig is equal to .000 and this value is < .05. Those statistically differences caused by effects of storytelling tactics modules that promoted teachers' skills in creating storytelling content.

12.2 Research Question 2

To what extent can the teachers combine human fantasy with AI fantasy?

The independent variable was the combining of human fantasy with AI fantasy, and the dependent variables for Research Question 2 were the total scores on the UTAUT2 survey. Those scores were analyzed using a One-Way ANOVA design to analyze scores, focusing on differences between groups in the survey, as shown in Table 2 and Table 3.

It is clear from Table 4 that there is a statistically significant difference between the research groups in applying the UTAUT2 survey at the level of 0.05 in the survey as a whole, as the "F" value in the survey as a whole is 8.071 with sig equal to .001, which is it < .05.

It is clear from Table 3 that there is a statistically significant difference between the research groups in applying the UTAUT2 survey at the level of 0.05, where groups can be ordered as follows: experimental group 1 (more AI fantasy and less human fantasy). Experimental group 2 (less AI fantasy and more human fantasy) and the experimental group 3 (no AI fantasy and all human fantasy). The results of the survey indicated that participants in experimental group 1 and experimental group 2 showed the highest level of acceptance and intention to use AI technology compared to the other experimental group 3. That depended on human fantasy and their own storytelling tactics that accrued from learning storytelling tactics modules.

12.3 Research Question 3

Does AI-Powered Storytelling Tactics affect the competency level of teachers' skills to create Storytelling Content compared to Traditional Storytelling Tactics?

The data for Research Question 3 were collected via the scores on the post-assignment. The independent variables were the AI-Powered Storytelling Tactics group's experimental group 1, experimental group 2 and the experimental group 3 learned Traditional Storytelling Tactics. The dependent variable for Research Question 3 was the score received by the teachers on the post-assignments. The researcher collected scores on the post-assignments. Groups analyzed those scores using a Multivariate Tests and Scheffe Test to determine any statistically significant differences in scores. as shown in Table 4 and Table 5.

It is clear from Table 4 the Multivariate Tests that research used to analyze the scores of teachers in post-assignments, there are not statistically significant differences between the research groups in applying the post-assignment at the level of 0.05 in the post-assignment as a whole.

It is clear from Table 5 that there are statistically significant differences between the three research groups in applying the post-assignment at the level of 0.05 in the post-assignment, as shown in the total whole scores of the post-assignment, whereas there aren't any statistically significant differences between the groups in the educational design of the storytelling content elements and elements of interactive storytelling. While in the elements of storytelling content, there are statistically significant differences between experimental group 1, experimental group 2, and experimental group 3 for experimental group 1, whereas there are not statistically significant differences between experimental group 2 and experimental group 3. While in the elements of multimedia's storytelling content, there are statistically significant differences between experimental groups 1, experimental group 2, and experimental group 3 for experimental group 1 and experimental group 2, whereas there aren't statistically significant differences between experimental group 1 and experimental group 2. Finally, in the elements of human fantasy's storytelling content, there are statistically significant differences between experimental groups 1, experimental group 2, and experimental group 3 for experimental group 2 and experimental group 3, whereas there aren't statistically significant differences between experimental group 2 and experimental group 3.

13. DISCUSSION

13.1 Research Question 1

To what extent can promote teachers' skills in creating storytelling content?

All groups did show improvement from the pre- to post-test. The potential reasons behind that are the storytelling tactics modules that they learned via Moodle LMS, which gave them the right tactics and methods to create successful storytelling. These findings suggest that incorporating storytelling tactics into educational interventions can be an effective strategy for enhancing learning experiences and improving outcomes.

13.2 Research Question 2

To what extent can the teachers combine human fantasy with AI fantasy?

The experimental groups scores were statistically significantly greater in the experimental group 1 and experimental group 2 compared to the experimental group 3. Of these findings

Table 1: Paired Samples Test

Paired Differences									
sig	df	T	95% Confidence Interval of the Difference		Std. Error Mean	Std. Deviation	Mean	N	
			Upper	Lower					
.000	89	36.22	9.9977	8.9578	0.261670	2.482423	9.4777	90	Pretest & Posttest

Table 2: Analysis of variance and its statistical significance for the differences between the average scores in the UTAUT2 survey

sig	F	Mean squares	df	Sum of Squares	Variance source	variable
.001	8.071	320.633	2	641.267	Between groups	UTAUT2 survey
		39.728	87	3456.333	Within groups	
			89	4097.600	Total	

Table 3: Multiple comparisons via Turkey HSD

(I) groups	(J) groups	Mean Difference (I-J)	Std. Error	Sig.
group1	group2	.433333	1.627431	.962
	group3	5.866667*	1.627431	.001
group2	group1	-.433333	1.627431	.962
	group3	5.433333*	1.627431	.004
group3	group1	-5.866667*	1.627431	.001
	group2	-5.433333*	1.627431	.004

Table 4: Multivariate Tests

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	
Intercept	Pillai's Trace	1.000	166100.070b	5.000	83.000	1.000	1.000
	Wilks' Lambda	.000	166100.070b	5.000	83.000	1.000	1.000
	Hotelling's Trace	10006.028	166100.070b	5.000	83.000	1.000	1.000
	Roy's Largest Root	10006.028	166100.070b	5.000	83.000	1.000	1.000
groups	Pillai's Trace	1.685	89.955	10.000	168.000	.843	.843
	Wilks' Lambda	.012	136.501b	10.000	166.000	.892	.892
	Hotelling's Trace	24.773	203.135	10.000	164.000	.925	.925
	Roy's Largest Root	22.088	371.084c	5.000	84.000	.957	.957

suggests that the presence of human fantasy elements in the UTAUT2 survey may have influenced participants' perceptions and attitudes towards AI technology. It is possible that incorporating elements of human fantasy into the survey helped to humanize the technology and make it more relatable to participants, ultimately leading to higher acceptance levels.

13.3 Research Question 3

Does AI-Powered Storytelling Tactics affect the competency level of teachers' skills to create Storytelling Content compared to Traditional Storytelling Tactics?

There are statistically significant differences between the three research groups in applying the post-assignment, allowing the researcher to reject the null hypothesis. The interaction effect showed that the post assignment score was statistically significantly greater in the experimental group 1 and experimental group 2 compared to the experimental group 3. Although the experimental group 3 did improve in their overall mean score, they did not improve by a statistically significant amount. The potential reasons behind that are the AI tools that these experimental groups used when they were doing post-assignment work. The experimental group 1 made a greater overall improvement in scores, and that improvement was statistically significant. The potential reasons behind that are additional AI tools (video, sound, photos, and text) that enhance post assignment with more ideas, scenarios, and dialogues.

The experimental group2 made a greater improvement in scores than the experimental group 3. The potential reasons behind that are additional AI tools (video, sound, and photos) that enhance post assignment with more sounds, effects, videos, and 2D & 3D photos.

The experimental group 3 made a lower overall improvement in creating storytelling content, but the amazing thing about the three groups is the plot of storytelling that depends on fantasy, whether human fantasy or AI fantasy. In experimental group 1, which depends on AI fantasy, the plots of storytelling are repeated between teachers; there are not new ideas that talk about good and evil, hopes, challenges, betrayal, dreams, conflicts, and so much more. Nevertheless, dialogue is different, while in experimental group 2 and experimental group 3 the researcher found new ideas such as time, math, and much more.

14. CONCLUSION

Considering psychological factors, such as the humanization of AI through fantasy elements, is crucial when designing surveys or interventions to enhance technological acceptance. By tapping into users' emotions and preferences, designers can create a more engaging and user-friendly experience that fosters trust and acceptance of AI technology. This approach not only improves user satisfaction but also increases the likelihood of successful adoption and long-term use of AI solutions in various industries.

Table 5: Multiple Comparisons via Scheffe

Dependent Variable	(I) groups	(J) groups	Mean Difference (I-J)	Std. Error	Sig.
Educational design of the storytelling content	group1	group2	.133	.1131	.502
		group3	.300*	.1131	.034
	group2	group1	-.133	.1131	.502
		group3	.167	.1131	.342
	group3	group1	-.300*	.1131	.034
		group2	-.167	.1131	.342
Elements of storytelling content	group1	group2	24.200*	1.0541	.000
		group3	21.800*	1.0541	.000
	group2	group1	-24.200*	1.0541	.000
		group3	-2.400	1.0541	.081
	group3	group1	-21.800*	1.0541	.000
		group2	2.400	1.0541	.081
Elements of multimedia's storytelling content	group1	group2	-.13	.721	.983
		group3	11.23*	.721	.000
	group2	group1	.13	.721	.983
		group3	11.37*	.721	.000
	group3	group1	-11.23*	.721	.000
		group2	-11.37*	.721	.000
Elements of interactive storytelling	group1	group2	.17	.366	.902
		group3	-.27	.366	.768
	group2	group1	-.17	.366	.902
		group3	-.43	.366	.500
	group3	group1	.27	.366	.768
		group2	.43	.366	.500
Elements of human fantasy's storytelling content	group1	group2	-11.50*	.545	.000
		group3	-11.67*	.545	.000
	group2	group1	11.50*	.545	.000
		group3	-.17	.545	.954
	group3	group1	11.67*	.545	.000
		group2	.17	.545	.954
Total whole scores of post-assignments	group1	group2	12.87*	1.363	.000
		group3	21.40*	1.363	.000
	group2	group1	-12.87*	1.363	.000
		group3	8.53*	1.363	.000
	group3	group1	-21.40*	1.363	.000
		group2	-8.53*	1.363	.000

Also, by studying participants' perceptions of AI technology, researchers can gain a better understanding of how users interact with and respond to humanized AI systems. This knowledge can be used to tailor strategies for improving the user experience and maximizing the benefits of AI technology in various contexts. By incorporating user feedback and preferences into the development process, AI technology can be optimized to meet the specific needs and expectations of different user groups, ultimately leading to more successful outcomes and widespread acceptance of humanized AI.

By tapping into human emotions and imagination through fantasy elements, technology can become more relatable and engaging for users. By humanizing AI, it can feel less intimidating and more like a helpful companion, making it easier for people to accept and embrace its capabilities. This approach can also enhance learning experiences by making complex concepts more accessible and enjoyable, ultimately leading to greater acceptance and adoption of AI technology in various fields.

Human fantasy elements have many potential impacts when incorporated into technology, most effective in increasing acceptance levels of AI technology. Additionally, conducting research with larger and more diverse samples will help to determine if the findings of this research are consistent. Further research is needed to explore the impact of different survey designs on attitudes towards AI technology and to determine the most effective way to increase acceptance and intention to use AI in various contexts. Overall, understanding how human fantasy can influence attitudes towards technology is crucial in developing strategies to promote the acceptance and adoption of AI in various contexts. Ultimately, understanding and integrating psychological factors can lead to more effective strategies for optimizing the user experience and maximizing the benefits of AI technology.

REFERENCES

[1] C. Charalampos, "Education sciences," Educ. Sci., vol. 12, 2022.

[2] C. Chira, "About SF and fantasy through artificial intelligence," 2014.

[3] Chung, "The international journal of arts education," vol. 4, 2006._arts_education41_033050.pdf.

[4] J. W. Creswell, Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research, 6th ed. Pearson Education, 2018.

[5] J. W. Creswell and J. D. Creswell, Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 5th ed. SAGE, 2018.

[6] Der-Thanq, "A systematic review of educational digital storytelling," Comput. Educ., 2020.

[7] Eva and Dirk, "Towards an audiolocative mobile application for immersive storytelling," J. Locat. Based Serv., 2019.

[8] Eva and Nalin, "The effectiveness of digital storytelling in the classrooms: A comprehensive study," Smart Learn. Environ., vol. 1, 2014.

[9] Kelly, J., Calderwood, A., Wardrip-Fruin, N., & Mateas, M, There and Back Again: Extracting Formal Domains for Controllable Neurosymbolic Story Authoring. Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 19(1), 64–74, 2023

[10] Serbanescu, , Human-AI System Co-creativity to Build Interactive Digital Narratives. In Multidisciplinary Aspects of Design, pp. 388–398, 2023.

[11] J. Hall, "How the power of storytelling and authenticity is disrupting traditional marketing tactics," Forbes, Jun. 30, 2023.

[12] "Storytelling techniques," Maven, 2023.

[13] Jeong-Lae, "The journal of the convergence on culture technology," vol. 4, 2018.

[14] J. E. Gillian et al., "Human versus artificial intelligence," Front. Artif. Intell., 2021.

[15] Jiangxue and Fuyuan, "News storytelling through images: Examining the effects of narratives and visuals in news coverage of issues," Int. J. Commun., 2020.

[16] Jonathan, Andrea, and Carla, "Digital storytelling: Tools, techniques, and traditions," Loyola Univ. Chic., 2018.

[17] A. Kasunic and G. Kaufman, "Learning to listen: Critically considering the role of AI in human storytelling and character creation," Proc. ACL, 2018.

[18] W. Kelly, "Compare 3 AI writing tools for enterprise use cases," TechTarget, Aug. 18, 2023.

[19] Kovac, "The potential of visual storytelling for developing literary competence," Stud. Educ., 2017.

[20] Lisa, "Journal of cross-disciplinary perspectives in education," vol. 1, 2008.

[21] Massa, "Storytelling as a strategy to increase oral language proficiency of second language learners," Yale Teach. Inst., 2018.

[22] E. Ndua, "AI-powered storytelling," Medium, Oct. 27, 2023.

[23] Niall et al., "4853," Proc. ACM, 2017.

[24] Peter, "In proceedings of the 58th annual meeting of the association for computational linguistics," ACL, pp. 459–468, 2020.

[25] Predrag and Giacomo, "AI fantasy and anti co-creative machines: On singularity dadaism, syntropic counterpoints, and design," J. AI Arts, 2023.

[26] R. Karen and M. Maureen, "The pedagogical power of storytelling," Storytelling Learn., vol. 5, no. 3, pp. 247–256, 2019.

[27] Rance, "An exploratory study on how binaural sound can improve the immersive quality of audio storytelling," IADT, 2022.

[28] Richard and Jon, "Middle school journal," vol. 42, 2011.

[29] Robin, "The power of digital storytelling to support teaching and learning," Dialnet, 2016.

[30] N. Sakamat, S. N. Sabri, and N. Mat Diah, "Multimedia elements of digital storytelling for dyslexic children," Sci. Res. J., vol. 14, no. 2, pp. 35–48, 2017.

[31] Liguori, A., Sung, K. J., McLaughlin, L., & Stuttle, J, What Digital Storytelling Means to the New Generation of Researchers. Social Sciences, 12(9), 485, 2023.

[32] A. Tashakkori and J. Creswell, "Mixed methodology across disciplines," J. Mixed Methods Res., vol. 2, no. 1, pp. 1–5, 2008.

[33] Thomas et al., "Discover artificial intelligence," vol. 2, 2022.

[34] V. Venkatesh, J. Y. L. Thong, and X. Xu, "Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology," MIS Q., vol. 36, no. 1, pp. 157–178, 2012.

[35] Veena, "Journal of product & brand management," vol. 29, 2020.

[36] Wellner, "Digital imagination fantasy AI art," Found. Sci., 2022.

[37] William and James, "Storytelling and terrorism: Towards a comprehensive 'counter-narrative strategy'," Def. Tech. Inf. Cent., 2005.

[38] Y. Life and H. Healing, "Neohelicon," vol. 45, 2018.

APPENDIX A: THE STORYTELLING CONTENT QUALITY SCALE

The storytelling content quality scale rating scale quality: Poor – Fair – Good – Very Good – Excellent. 1 being poor, and 5 being excellent.

Element	Indicators	1	2	3	4	5
Educational design of the storytelling content	The storytelling content has clear learning objectives.					
	The storytelling content has a compelling plot and creates relatable characters.					
	The storytelling content has integrated real-world scenarios and used authentic situations.					
	The storytelling content has provided immediate feedback and encouraged reflection.					
	The storytelling content has gradual complexity and builds on prior knowledge.					
	The storytelling content has multiple viewpoints and inclusive content.					
	The storytelling content has assessed learning outcomes and evaluated effectiveness.					
	The storytelling content has language and cultural sensitivity.					
Elements of storytelling content	The storytelling content has a clear structure with a beginning, middle, and end.					
	The storytelling content has a plot, which is the sequence of events that make up the story.					
	The storytelling content has characters those individuals who drive the story.					
	The storytelling content has settings that determine the time and place where the story occurs.					
	The storytelling content has a conflict that is the central challenge or problem that drives the story.					
	The storytelling content has a theme that is the underlying message or central idea of the story.					
	The storytelling content has point of view, which is the perspective from which the story is told.					
	The storytelling content has tone and mood; tone refers to the author's attitude toward the subject matter, while mood is the emotional atmosphere of the story.					
	The storytelling content has dialogue, which describes the spoken exchanges between characters.					
	The storytelling content has style, which is the author's unique way of writing, including choices in diction, sentence structure, and narrative techniques.					
	The storytelling content has pace, which is he speed at which the story unfolds.					
	The storytelling content has Symbolism is the use of symbols to represent ideas or concepts beyond their literal meaning.					
	The storytelling content has imagery, which is descriptive language that appeals to the senses.					
Elements of multimedia's storytelling content	The storytelling content has script. It includes dialogue, narration, and descriptions, ensuring the story flow smoothly across various digital formats.					
	The storytelling content has multimedia. It uses various digital media elements, including:					

Element	Indicators	1	2	3	4	5
	The storytelling content has images, photos, illustrations, and graphics that visually support and enhance the story.					
	The storytelling content has video and moving images that can capture scenes, actions, and emotions to make the story more dynamic.					
	The storytelling content has audio, narration, sound effects, and music that add depth, atmosphere, and emotional impact to the story.					
	The storytelling content has text, on-screen text, captions, or subtitles that provide additional context, dialogue, or emphasis.					
	The storytelling content has Visual Design This includes layout, color schemes, fonts, and graphical elements that make the story visually appealing and engaging.					
	The storytelling content has narrative techniques: techniques specific to digital formats.					
	The storytelling content has animations. Bringing static images to life or creating visual metaphors.					
	The storytelling content has infographics. Using graphic representations of information to convey data or complex ideas.					
Elements of interactive storytelling	The storytelling content has technology. The digital tools and platforms used to create and share the story.					
	The storytelling content has Distribution The methods and platforms used to share the digital story, including social media, websites, apps, or multimedia presentations.					
	The storytelling content has Interactivity This involves interactive maps, elements, decision points, or branching storylines where choices affect the outcome.					
	The storytelling content has User Experience (UX) how users interact with and navigate through the digital story.					
	The storytelling content has engagement strategies to captivate and maintain the audience's interest, such as interactive elements, gamification, or user-generated content.					
Elements of human fantasy's storytelling content	The storytelling content has ideas about inventive worlds and detailed lore.					
	The storytelling content has ideas about Rules of Magic and magical creatures and artifacts.					
	The storytelling content has ideas about the hero's journey and challenges and trials.					
	The storytelling content has ideas about emotional journeys, creative freedom, and playfulness.					
	The storytelling content has non-linear storytelling, relatable themes, subplots, and layers.					
	The storytelling content has ideas about mythological references and invented cultures.					
	The storytelling content has ideas about central conflicts and interpersonal dynamics.					
	The storytelling content has ideas about descriptive language and imaginative constructs.					
	The storytelling content has ideas about symbolic elements and metaphorical landscapes.					
	The storytelling content has ideas about Good vs. Evil and Identity and Destiny.					
	The storytelling content has ideas about heroes, villains, complexity, and growth.					