

# Illustrations and Interdisciplinary Pedagogical Implications in Brian Jacques' Selected Work Using Midjourney, ChatGPT and DALL-E

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## Abstract

Illustrations are widely acclaimed form of communication particularly in children's literature. The ability of illustrators is exemplified through the creative and innovative picturization of a story. In the world where Machine Learning has a prominent role and position in every field, the boundary of literature has expanded through the employment of Artificial Intelligence (AI) tools. Therefore, taking this into account, this paper uses quantitative approach to examine efficiency of illustration production by three main AI tools like Midjourney, ChatGPT, and DALL-E through prompts taken from *Mariel of Redwall*, a novel for children. The study reveals creative, modern, and novel illustrations for the selected prompts by showcasing the significance of application of AI tools in education which can be used as a pedagogical method in classroom. Though the prompts are the same for all the three AI tools, the resultant illustrations differ from each other. Further, from each prompt interdisciplinary aspects are identified by descriptive and textual analysis. The study has invented new modern illustrations for the novel, *Mariel of Redwall* and has identified the interdisciplinary pedagogical implications implied by the author which can assist children in acquiring knowledge in various disciplines. The study supports the notion that AI tools can be utilised in the field of illustration, storytelling and as modern pedagogical tool by fostering creative skills and enhance pedagogical techniques.

**Keywords:** Artificial Intelligence, ChatGPT, Dall-E, Interdisciplinary Pedagogy, Midjourney, Modern Illustrations.

## Introduction

Artificial Intelligence (AI) technology has made an implausible development in all fields, and has the potential to move images in very prime quality as if they were recorded as a video and not as image. This creative technology can supplant faces, emulate sound, and is named deep fake, as all this is done with the press of a button on the computer, at an imaginary speed that did not exist before (1). Common users engross in AI, to learn the functions and experience the system behind the application. Humans use an intelligence program that uses human faces with each uploaded images and AI learn from it. It is visible as a tool for transformation and revolution, pushing human potential beyond boundaries. In the realm of digital art, AI tools have gained increasing attention for their potential to augment and challenge traditional artistic practices. By leveraging the power of machine learning algorithms, AI can generate novel and unexpected

artistic outputs, prompting artists to explore new creative frontiers (2). Generative Artificial Intelligence denotes a trailblazing evolution in AI technologies, accomplishing original digital content spawning from user-submitted prompts or text (3). This is now being slowly taking its place in education wherein children are encouraged to foster knowledge through the application of AI. Using illustrations and prompts from the novel, *Mariel of Redwall*, this paper tries to find the potential of AI tools in generating innovative illustrations and how the obtained results can be used as interdisciplinary pedagogical tool for learners. Illustration is a kind of picture used to encapsulate words and the principal function is to establish the ideas of words lucid to understand, and it is also known as "living words". It is an art form, which has the characteristics of intuition and visualization (4). This article also attempts to suggest that AI tools can also be utilised in the field

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of illustration. The paper pays attention to the generation of illustrations from the selected prompts of the novel, *Mariel of Redwall* through neural network like Midjourney, ChatGPT (Chat Generative Pre-trained Transformer) and DALL-E (Dali and WALL.E) which are also regarded as innovative AI technologies that can enhance education. A neural network in AI technology helps process the input data which inspires human brain. Midjourney is a new art-making tool in closed beta and a most complete technology for many similar previous experiences. It gives an interesting opportunity for artists, designers, illustrators, and many others to increase the art sophistication and flight of fantasy with a distinct style in the production. As an advantage, Midjourney generates base images up to 1,792 x 1,024 pixels, with quite larger images by establishing significant enhancement in education (1).

ChatGPT introduced in November 2022, is also an AI Chabot that concocts impressive and comprehensive human-like conversational dialogue (5). The main impetuses for this fervour are the broad-ranging readiness of these avenues, user-oriented application links, and nimble reactions by the tools and users' discerned quality of the yield (6). Dall-E is a technology that is currently under development as well, and it can be tried for free which is the beginning of the Midjourney appearance (1). It is proficient to produce with such accuracy as it has assimilated from the infinite art boards that have been launched into its software and understood the codes of depiction. It is a hub of 12 – billion rendition of GPT- 3 equipped to produce paintings from text narratives, using an archive of text-based images. It has a divergent assemblage of proficiency, including executing anthromorphized versions of faunas and objects, coalescing discrete notions in credible ways, evincing text, and implementing modifications to extant depictions. Emerged by OpenAI, DALL-E operates on an avant-garde profound learning paradigm to conceive exceptional, intricate representations that can be leveraged in panoptic utilisations, from product formulating to publicizing from texts (7). The prospects of DALL-E are exhilarating, as it unfolds

novel probabilities for inventiveness and perceptive assertion. These applications have multifaceted roles like educators, designers, and clerks, and as they have been reorganizing the study pattern of students, how educators teach and evaluate learning outcomes, and how institutions have revamped their stratagems (8).

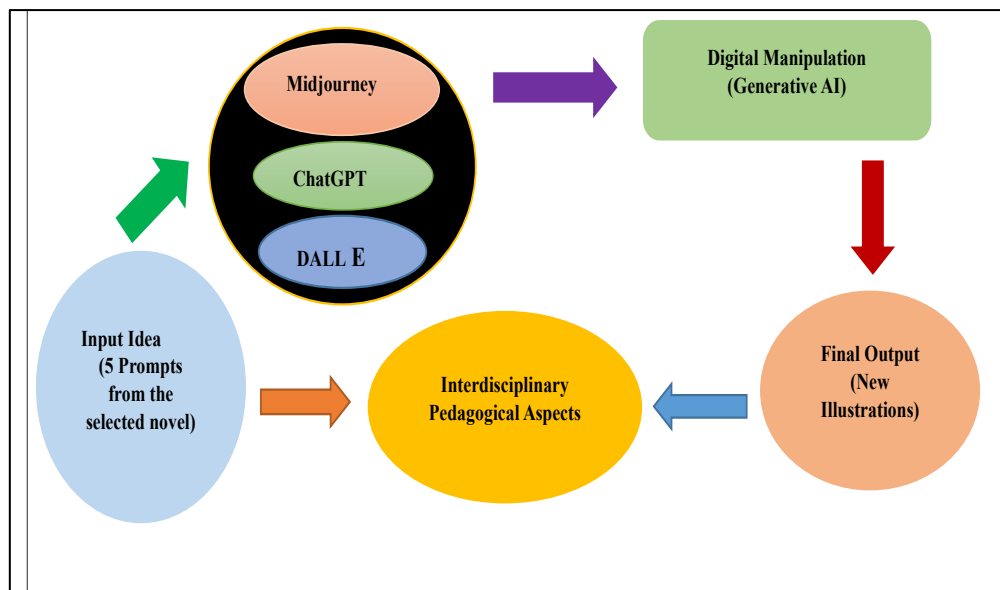
### Research Statement

To explore differences and efficiency in terms of the clarity, authenticity, relevance, and accuracy in the novel illustrations generated by the three selected AI tools with that of the textual illustrations from the children's novel, *Mariel of Redwall* and to prove that the prompts contain interdisciplinary pedagogical implications in modern education. The research objectives include designing new illustrations for the selected five prompts from the novel, *Mariel of Redwall* therein to compare the AI generated illustrations with that of the textual illustrations to prove the capacity of AI tools in generating illustrations and to substantiate that the illustrations created through AI tools can assist in interdisciplinary pedagogical implications in the novel.

Therefore, the study mainly tries to answer questions like: How can AI tools be used as an innovative method in enriching creative modern illustrations? And how can the obtained results be assistive for interdisciplinary pedagogy and increase the standard of teaching and learning?

### Methodology

The primary material includes the illustrations from children's novel, *Mariel of Redwall* by Brian Jacques. The research adopts mixed methods like descriptive, textual analysis and quantitative approach to prove the potentiality of the AI tools in establishing illustrations for the children's novel. Figure: 1 depicts the materials used and the methodology applied for this study which explains that five situational contexts are selected and uploaded in AI tools like Midjourney, ChatGPT, and DALL E to check the accuracy of the resultant AI illustrations with that of the textual illustrations by Gary Chalk. The results of the structurally adopted methods give creative modern illustrations and evidence for interdisciplinary learning from the prompts.

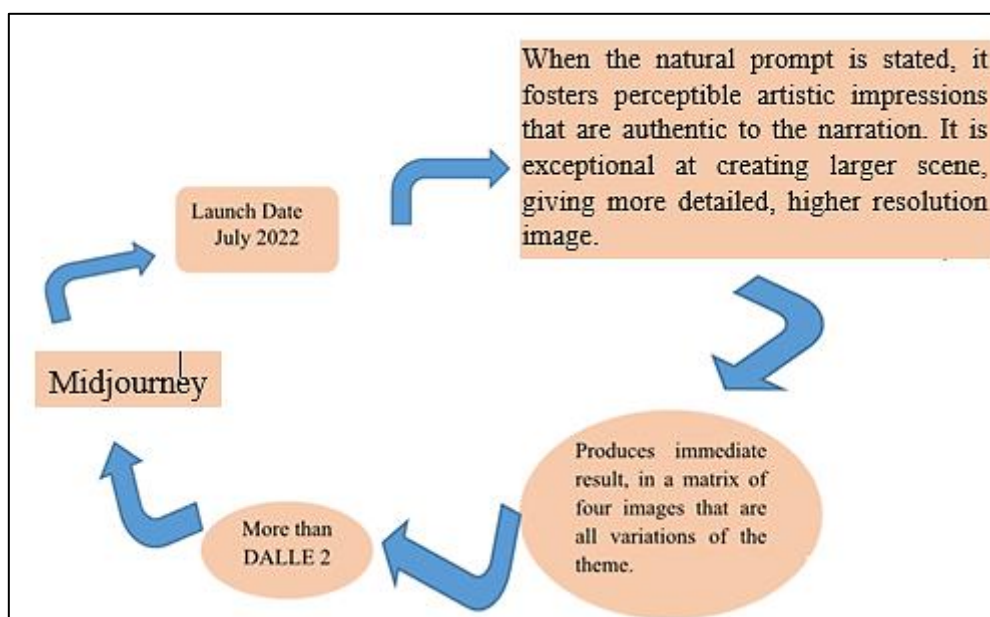


**Figure 1:** Pictorial Representation of Materials and Methodology

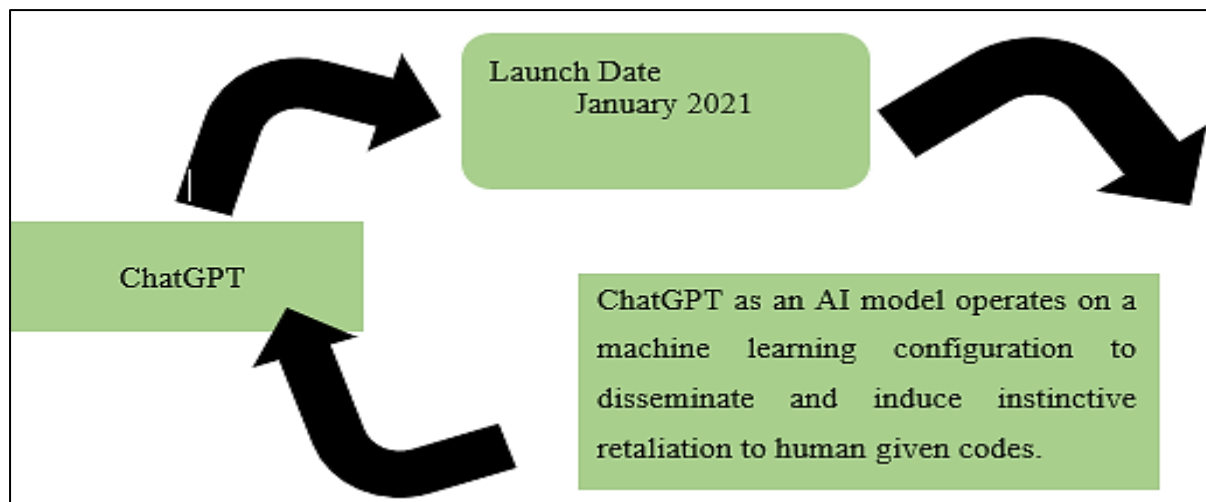
## Results

Salient features of Midjourney are represented in Figure 2, which describes that this tool was launched in July 2022 and states its efficiency to produce immediate responses upto four images

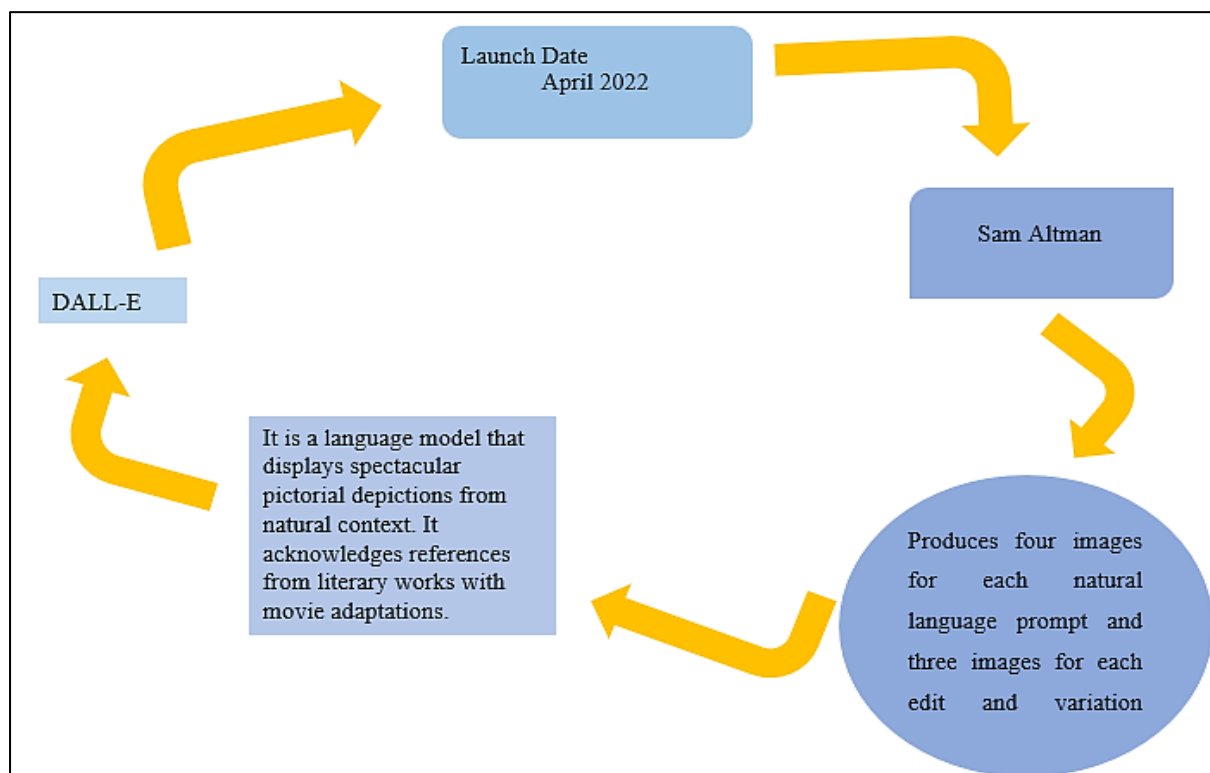
with high picture quality. Salient features of ChatGPT are represented in Figure 3, which includes the tool's launch year, January 2021, along with its potential to produce responses to human prompts.



**Figure 2:** Salient Features of Midjourney



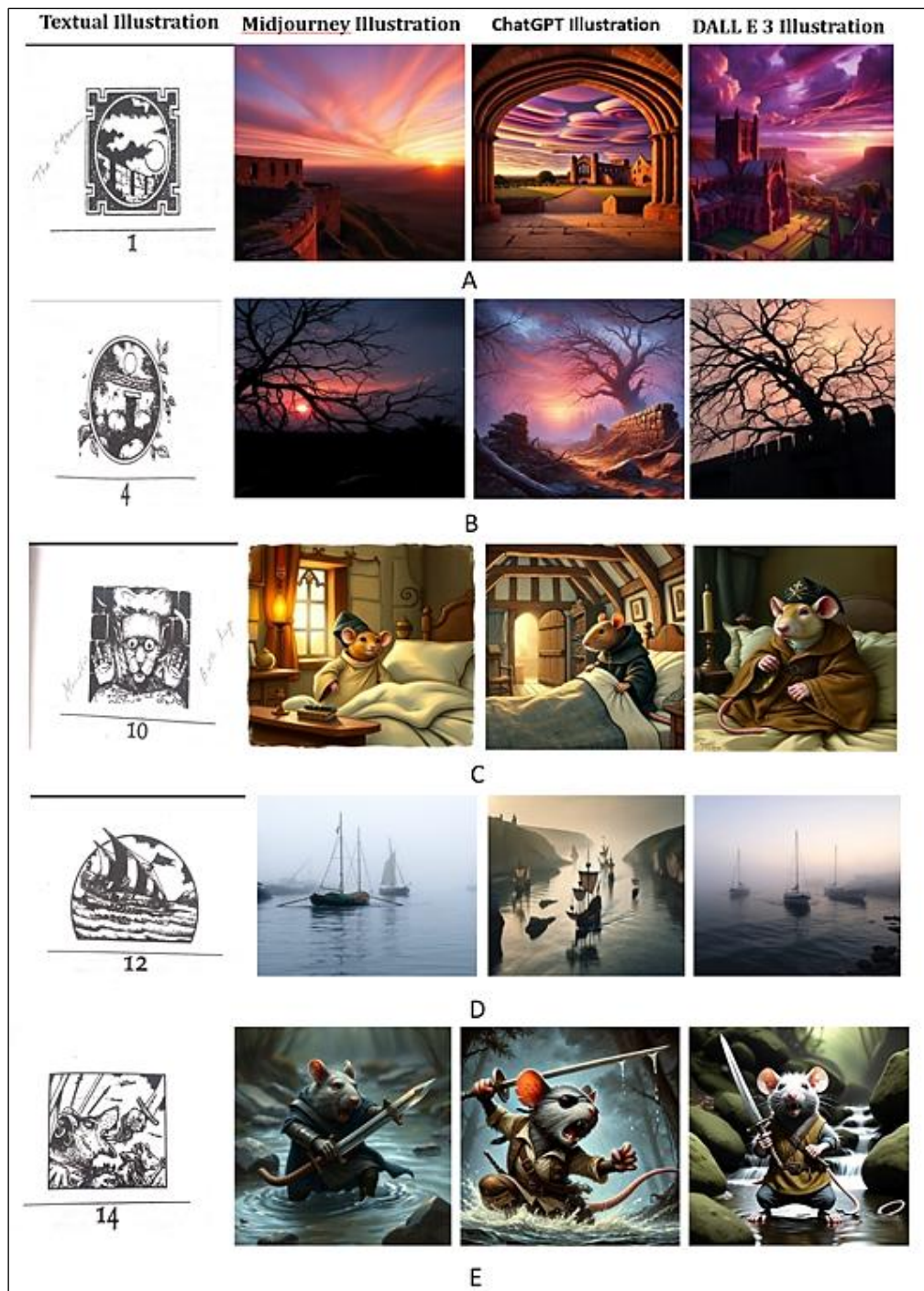
**Figure 3:** Salient Features of ChatGPT



**Figure 4:** Salient Features of DALL-E

The peculiar traits of the AI tool, DALL E are represented in Figure 4, which details its launching in April 2022, by the founder Sam Altman and its efficiency to produces images after each edit and this tool even acknowledges references from literary works with movie adaptations. Therefore, in the study, the illustrations by Gary Chalk from the novel, *Mariel of Redwall* are selected for study and the differences are drawn between the textual illustrations and the illustrations made through the Artificial Intelligence tools like Midjourney, ChatGPT and DALL-E. Figures 2, 3 and 4 depict the salient features of each AI tool selected for this

study for easy comprehension of their efficiency and functions. Selected prompts are uploaded in the respective tools and the outputs are analysed based on clarity, accuracy and naturalness in connection with the prompts. Illustrations have versatile usages in a text, predominantly contributing to reading and comprehending the veiled content (9). Therefore, this study sheds light on the notion that the implementation of AI tools in the field of education enhances the creative potential and promotes critical thinking in learners instilling pleasure and delight in learning.



**Figure 5:** Selected 5 Prompts, Textual Illustrations, and AI-Generated Responses

The selected five prompts used in Figure 5 are (A) "From the viewpoint on the threshold of a Redwall abbey, the hot summer day drawing to a glorious close. Late evening light mellowed the red sandstone Abbey walls, cloud layers striped the horizon in long billows of purple, amber, rose and cerise" (10), (B) "Dawn arrived clad in hushed rosiness upon the wake of storm-torn night. There were broken branches and wrecked tree limbs over- hanging the ramparts" (10), (C) "Almost an

hour he was usually up and about, a rat abbot was wakened on his bedroom door. Hastily stowing his nightcap beneath the pillows, he rubbed sleep from his eyes and tried to look as dignified as a rat abbot should" (10), (D) "A light morning sea mist hung over the waters around Isle. The last four ships were returning. They silently nosed into the cove, sails hanging slack, oars shipped as the oily swell carried them noiselessly into harbour" (10), (E)



“Greypatch, a rat drew his sword, wavering it and roaring as he waded from the stream” (10).

## Discussion

Information technology is assiduously executed in the pedagogic expertise around the globe, and Artificial Intelligence is one of the primary reasons behind this mechanism (11). On analysing AI generated images with that of the textual images by the illustrator in the novel, we could trace so many differences and the resultant images give children, realistic effects for easy comprehension and automation. This innovative method help us achieve high creative and realistic images and illustrates without words spreading readiness in each child reading a text. The extensive mention of AI-generated essence, revitalized by the inception of digital applications like ChatGPT, Midjourney, and DALL-E has accumulated remarkable recognition (12).

The gravity of an illustration book is appreciated through the purposes of illustrations and these functions rely on the contribution of each picture to the book. Visual illustrations and tactile illustrations are two different kinds of illustrations which are frequently employed in children’s books. Visual pictures are proposed for viewing and assist in deciphering both the incidences and the meaning of the text while tactile illustrations centres on interpretation through touch. These illustrations are exceptional as they encourage the children to learn easily before they can read (13). The creative imagination of the children is highly enhanced due to the application of these tools in children’s literature. The utilisation of artificial intelligence in education proposes new opportunities and recommendations for strategic pedagogy (14). It is very evident that these images vary greatly from that of the traditional illustration by Gary Chalk in the novel. From the results it is evident to note that the use of AI in illustrations has made significant enhancement in creativity, interest and imagination of children. Figure 5 draws attention of five selected texts, the original illustration, and responses of each AI tool on prompting.

“From the viewpoint on the threshold of a Redwall abbey, the hot summer day drawing to a glorious close. Late evening light mellowed the red sandstone Abbey walls, cloud layers striped the

horizon in long billows of purple, amber, rose and cerise” (10).

From the first illustration in Figure 5A, the author’s original imagery depicts a more classic and plain description of the atmosphere and the situation with sun, a wall and clods. The reader’s interpretation on the illustration is the closing of the day with a sun set and a wall surrounded by clouds. This description seems to nullify the beauty of the abbey and the presence of purple, amber, rose and cerise is unavailable. Whereas in the first illustration extracted from Midjourney, a red wall with clouds waving in different colours as mentioned in the prompt with a sun set is illustrated in a subtle and simple way. The image generated using Midjourney depicts the viewpoint on the threshold of a Redwall abbey building which is evident in the image generated by Midjourney. The red colour of Redwall abbey and the sun attaining its closing close which is the arrival of dusk. The verbal descriptions of cloud layers, purple, amber, rose and cerise are deeply portrayed through the illustration in Figure 5A. Selecting this specific text from *Mariel of Redwall* for illustration is pivotal both methodologically and pedagogically since, it carries high scale of story depiction, figurative and symbolic, or visual standard. It is rich with descriptive imagery and emotional tone and is a top choice for AI illustration for their interdisciplinary implications. Illustrations can help save culture and identity, impact children’s feelings and mood, by nourishing sophistication through realism and colours of pictures (15). In the same way the illustration obtained through the application of ChatGPT, demonstrates a fort with a view of sunset with a mixture of all colours as mentioned in the prompt. The next image from the AI tool, DALL E serves as a best illustration for the children since it has incorporated all the necessary details from the prompt like the redwall, sunset, cloud layers, colours of purple, amber, rose and cerise. The last textual image is from the novel and the illustration seems to be classic in its form and nature with minute details inculcated into the illustration.

From the first prompt and illustration in Figure 5A, the pedagogical implications from this prompts has interdisciplinary approaches. Firstly, from the perspective of literature, the imagery and symbolism are wisely hidden which represent descriptions about the setting of nature, the

atmosphere and the time of the event. The prompt is rich in sensory details, producing realistic depiction of the scene. The author in his own style of writing projects the tone and setting through descriptions like “hot summer day,” “glorious close,” “mellowed the red sandstone Abbey walls,” and “cloud layers stripped the horizon” (10). Use of these descriptive language increases the learners’ ability to understand and imagine the setting that the author intends. The use of apt words fosters a strong vocabulary construction in learners. The description of the Abbey and its surrounding tells about the mood created by the author which is utterly peaceful and tranquil. Secondly, from the aesthetic view, the descriptions like “hues of purple, amber, rose, and cerise” (10) add extra beauty to the illustration and brings in a scenic atmosphere. Though the illustration from the book is colourless, this paper using AI tools has brought three different images colourfully according to the prompt from the text. Also the narration of the evening light and its result on the Abbey walls signifies the contribution of light and shadow towards aesthetic appeal. Thirdly, the architectural study from the illustration describes the construction of the Abbey emphasising on the Redstone and the penetration of light upon the walls. Therefore, this analysis could foster knowledge from the perspective of materials and substance that were employed to construct the Abbey. This finding can also be traced from historical perspective through the materials, methods, techniques, substances, and style utilised during the writer’s period for the Abbey’s construction. Fourthly, from the stance of seasons and environmental studies, description of the cloud layers and sunset explains the mechanism behind the scientific and environmental phenomena. The inclusion of hot summer day and the late evening night depicts the seasonal occurrences and their impacts on earth and all its components both living and non-living. Therefore, this interdisciplinary approach in this literary text can be employed as pedagogical method.

The visual imagery of the second illustration by the author describes the arrival of the sun and broken branches with a wrecked tree limb. The reader’s idea on this illustration is the time of arrival of dawn and just a natural scenery with branches and a broken tree in a plain and simple picturization. Therefore, the results from the second prompt in

Figure 5B, “Dawn arrived clad in hushed rosiness upon the wake of storm-torn night. There were broken branches and wrecked tree limbs overhanging the ramparts” (10) describes dawn coming on the dark storm-torn night with broken branches and wrecked tree limbs. The illustration from Midjourney details about the dawn and the trees. Dawn is depicted through the appearance of sun and the night is dark as the visual description details it as “storm-torn night” (10). The rampart is slightly visible in the image and broken branches along with wrecked tree limbs are clearly visible. Through the application of ChatGPT, the dawn, trees and the ramparts are illustrated creating the mood and tone of the scene. ChatGPT generated image is more lucid and legible with each minute details in the visual description of the author. The sunrise, the evidence of stormy night, broken branches and a wrecked tree overhanging the ramparts is clearly depicted in this image. The last application, DALL E gives the images of a rampart and broken branches in a stormy atmosphere. While comparing all three images, the image generated by ChatGPT gives an accurate image of the description with minute details into it. The implementation of AI in the field of arts has heightened the form and amplified the sphere of art (16). From the next prompt and illustration, fore mostly, from the description like “broken branches and wrecked tree limbs over hanging the ramparts” (10) the damage in the ecology is emphasised. Though the damage is caused by nature, the ecological significance of trees is considerable as they add beauty and safety to the Abbey and its surrounding. Amidst ecological destruction, the capacity of environmental components to recover from damages is highly noteworthy to be noticed. Secondly, from the light of literature, the imagery and symbolism employed depict the author’s style of narration and induce imagination in learners. The inclusion of adjectives to describe the situation is exceptional in lexical construction. Finally, from the psychological perspective, the human behavioural pattern is highly compared after the trauma or turmoil a person undergoes. Though human tend to be broken, he has the innate capacity to come back with fullest vigour and life. This can also be traced as moral and philosophical implication to the learners about life.

In Figure 5, the third set of illustrations demonstrate a scenic image as (Figure 5C),

“Almost an hour he was usually up and about, a rat abbot was wakened on his bedroom door. Hastily stowing his nightcap beneath the pillows, he rubbed sleep from his eyes and tried to look as dignified as a rat abbot should” (10).

The expectation of the reader from the visual description is that a rat with a cap on its head is terrified on hearing or seeing something. As bed and bedspread are slightly visible, it is identified that, the rat is out from sleep and the cap signifies his authority. Pillows, and the rubbing sleep from his eyes are not depicted. Midjourney gives an output image for this prompt as a gentle rat raising from the bed with the nightcap on his head. A clearer images of the bed, pillow and the bedspread are visible which brings the minute details from the verbal description of the author. The next tool, ChatGPT gives an enhanced view of the prompt much interestingly as a gentle touch on the picture is generated as it depicts a rat with sweater and a cap on the bed is awoken. The room and the atmosphere describes the authority and sophistication that the rat is bestowed with. DALL E gives an accurate image as expected presenting a detailed view of the text incorporated and the image of the rat along with its outfit itself describe the authority of the rat and its dignity. The textual image has a rat but not with much details to comprehend. Thus, the difference between the traditional illustrations to that of the modern illustrations using AI tools can be easily comprehended.

From the third prompt in Figure 5C, the psychological aspect of the human behavioural sleep pattern can be analysed. The abbot's sleep pattern emphasises the human psychological routine and through this anthropomorphized animal characters, the author highlights the importance of similarities between animal and human natural behaviour. The emotional response on the awakening of the abbot explains the human reaction to an unexpected event which includes shock, annoyance and irritability. Secondly, from the literary view point, it is much evident that the characterization along with the dramatic language of the author display a high decree instrumental elements to decode the literary stigma. The character of the abbot is well exemplified through the words like, “hastily,” “rubbed his sleep,” and

“tired” (10) that he simply just wanted to be an easy go lucky kind of person rather than just projecting his authority in power handling. Also the elements like humour and satire is perfectly personified through the attire and imagination of the rat abbot as a king or a leader. Even the moral implications through these behavioural pattern of the animals are equipped with highly dignified words and content. For example, the qualities required for a leader is well amplified through the nature of the abbot in a way to avoid these traits so as to take the position of a leader. The sociological perspective is ingrained in this context as the hierarchy among the abbots or the rats are figured out and the rats are expected to maintain their own limitations and societal pressure on them to act as expected of. And so, for any system to run as such expected is necessary so as to be accepted in the society.

The fourth prompt is (Figure 5D),

“A light morning sea mist hung over the waters around Isle. The last four ships were returning. They silently nosed into the cove, sails hanging slack, oars shipped as the oily swell carried them noiselessly into harbour” (10).

From the fourth prompt and illustration in Figure 5D, the image in the novel depicts a ship sailing with no colours to give the mood or tone the atmosphere. The reader's expectation is that a ship is sailing silently with hanging slack. Contrary to this description, the image generated by Midjourney depicts more than one ship with hanging slacks around Isle as in the textual description. The picturization of mist over the waters is beautifully set in the image which gets the tone of the setting immediately. Also, this image portrays the returning of ships as described by the author. The depiction of the illustration through ChatGPT, brings in a clear picture with all descriptions by the author as it contains four ships returning with slacks hanging. The mist in the light morning set the tone of the situation and the ships are returning as it is viewed from a longer angle. Finally, from the image generated using DALL E, four ships returning in a misty morning depicts the mood of the narration and the isle is beautifully visible.

From the perspective of science, the properties like buoyancy and motion can be traced from these roots as evident. The ships being carried by oily spills and the motion of the water against the



waves are the uncontrollable agents in regards with the ability of human being. The descriptions of ships and their movements could be relatable to the physical properties of water like friction, up thrust and force being exerted. The next aspect from the environmental perspective, deals about the ecosystem and the marine ecosystem as a whole. The author has brought in the nature and its magnificent juncture with marine ecosystem as a central point to be analysed. The impacts of human activities on marine ecosystem and the changes in climate and seasons which affects nature directly or indirectly is relevant to the functioning of living beings around the settlement. From literary perspective, the imagery, symbolism, and descriptions enables the readers to imagine what the author actually intended to convey. "The lexical descriptions through visual representations foster the state of the atmosphere, nature, and the condition of the scenario." The words like "light morning," "oily swells," and "sea mist" (10) symbolize the tranquil atmosphere in the novel. Also, "the last four ships were returning" (10) represents the journey in progression and the calm events to take place.

The fifth prompt from Figure 5E, the "Greypatch, a rat drew his sword, wavering it and roaring as he waded from the stream" (10), the illustration from the novel describes a rat with a sword in a war in raging tone. The other rat beside and weapons around depict that the war is horrible and brutal. The reader's expectation is the setting of a war where this rat is the leader with his sword wavering to frighten the enemies. The image through Midjourney portrays a rat with a sword in his hand surrounded by water and stone. The waves in the water demonstrate that the rat is ferocious which set the tone of the atmosphere. Next image from ChatGPT elaborates the entire textual description visually where the rat is leading the war and the sword being wavered to frighten the enemies and the setting amidst water clearly supports the description by the author. The outfit of the rat itself hints that the rat is all set to fight. The last image from DALL E, depicts a rat with a sword amidst water and stones around. All these pictures ultimately satisfy the setting of the textual description.

Midjourney provides an illustration of a rat who rises ferociously from water with a sword in his hand. From the last prompt, line describes the

psyche of Greypatch, which includes his aggressiveness on one hand and his determination as a sword holder on the other hand. The word "roaring" (10) describes his quality as an angry leader trying with determination to handle the stream which is exemplified through the word, "wavering" (10). From scientific perspective, the force on Greypatch and the behaviour of water towards Greypatch largely describes the phenomenon of fluid dynamics and the physical response behind it. This is traceable only from a deeper sense of observation and analysis which can be utilised to teach students about the innate and in-depth imagination of author which is indeed true in terms of science and its notion. From literary light, the character depiction of Greypatch can be studied which states that he is a ferocious leader and is quiet wavering at times. The sword symbolises the leader-figure as it is a mandate equipment needed for a leader. The word "waded" (10) signifies his determination to attain his goal and complete his mission with much difficulty amidst such strong and fierce stream. Therefore, it is evident from the literary sense that the author has used words to describe each aspect of the novel with pragmatic elements.

All illustrations from Midjourney, ChatGPT and DALL E have resemblances with each other and the textual image is subtle and simple for it matters classy and standard. The selected prompts of the novel when uploaded into the latest AI Tools produce different kinds of images with huge differences from that of the main textual illustration. The effective application of these AI tools have enormous advantages to illustrators of the modern time. These results create a sense of curiosity and creativeness which is all the expected outcome of new technology. In this way, innovation into the field of literature are encouraged which adds new spectrum to the development of technology in education. One significant advantage of AI-generated illustrations when compared with traditional illustrations is that, an AI-generated illustration is produced expeditiously than the traditional illustration permitting quicker and well-organized workflows (17).

AI-generated illustrations extends a high exceptional flexibility, permitting users to quickly execute and analyse different perceptible styles and features. On the other hand, traditional

illustrations are restricted in terms of their workability, as utilizers must manually regenerate or reform the artistic production and are imposed by the artist's dexterity and innovative perception. The expenditure for designing AI-generated illustrations is typically lower than traditional illustrations, as AI tools can promptly produce multiple images, minimizing the necessity for intensive manual illustration work. Traditional illustrations are expensive due to the time and labour required by the illustrator (18). When comparing the character generation facet of Midjourney with traditional illustration, the generation quality is prominent and noteworthy which proves its efficiency and accuracy.

Traditional role generation lacks diversity and innovation as it depends on manual workflow which is restricted to its boundary and limitations. On contrary, by giving a small descriptions, Midjourney creates strong and detailed outputs up to four images to an extent that the description provides an accurate description for identification of the illustration with in short duration. This supports readers in cross examining the illustrations for confirmation of authenticity of input text or for further details by studying the parallel between the visual and lexical content (19). The visual (illustrations) and verbal (words) are highly paramount as these are interdependent constituents of texts, contributing to the evolution of story (20). Sipe suggests that readers must associate the sign system of both the verbal and visual text. Identically, giving attention to children's readings should record their course of action between the visual and verbal texts (21). Illustrations have their own meaningful order like a "dynamic sequential existence" (22) or the "syntax of a story" (23). Prescribed this notion of illustrations, reforming or phasing out these illustrations would disrupt the "syntax of the story" creating complications in comprehending and interpreting the content.

The functions of illustrations in children's books include, organizing the setting, interpreting and developing the characters, extending or expanding the plot providing a different perspective, contributing to textual coherence and consistency, and finally enhancing the content and the subject matter (24). Thus, the application of AI tools have greatly created huge differences in the field of literature, paving a way for the inclusion of

innovative strategy and methodology in enhancing creativeness and qualities for educating them. These strategies can be used even for pedagogical implications by the teacher to bring in the ability to narrate stories and give descriptions for the illustrations. Creating a sense of curiosity in children is now an easy task through the application of AI tools.

In the same way, ChatGPT gives an image of a ferocious rat as if threatening with a sword. The way the rat holds the sword is of utmost important since it express the situation of a war or a battle to take place. The last image generated through DALL E provides the audience with the accurate depiction of a rat angrily arising from the water heading for a battle. Though the textual image seems to convey the same information as that of the previous images, the liveliness from the AI tools is more than the image in the novel. AI tools exhibit their expertise in individualized and collaborative learning, active and passive learning, as well as in generating substance and subject matters for formative assessments and evaluation to enrich teaching and learning experiences and pedagogical strategy. Chiefly, ChatGPT has the potential to remarkably contribute to academia and libraries, facilitating for innovative and exceptional approaches and methods (25). One significant finding from the study which prove the difference between author's original imagery and AI-generated images is the classic and conventional style used by the illustrator which is plain and the lively and realistic picturisation of AI tools.

Examples of the prompting of ChatGPT and the responses it provided are illustrated in Figure 5. Before giving the prompt, the user can add 'generate an image or illustration on' the selected prompt or text and give run. Here, the instructional application of those responses help both teachers and students in enriched and enhanced reading of the text. Also, an important aspect in prompting and getting desired output is that, choosing input prompt is highly significant for better and efficient output responses. This helps develop visual literacy where the user analyses how the description is visualised in image. This tool helps in enhancing critical thinking and writing which, assists in interdisciplinary learning incorporating literature, technology, and art which are bound together.

Whether AI outputs improve or skew conventional understanding solely rely on how they are used and by whom they are used. AI outputs can help improve comprehending the text, access information and save time spending to collect data by humans. On the other hand, these give new perspective for interdisciplinary connections and research more deeply on the subject matter. On the other hand, AI outputs may skew understanding by providing false information only if critically and contextually not checked. Sometime, humans may tend to rely on AI outputs which may reduce their critical thinking. Therefore, it can be suggested that, AI improves conventional understanding when utilised as a tool to complement human reasoning and understanding and not as a substitute or replacement for it. It skews understanding when utilised uncritically and illogically.

Therefore, through the results obtained it very evident that the illustrations from the AI tools are highly effective in terms of reality, clarity and accuracy depicting visual reinterpretation of Jacques' work. Thus an illustration whose intention is to provide or describe the situation without words is much important which can bring in a change in education and pedagogy. Therefore, the obtained outputs stand as a proof for the visual reinterpretation of Jacques' work and through findings and discussion on interdisciplinary pedagogical implications, the paper opines and recommends novel and new educational changes. These tools can be utilised in teaching as to help students focus on critical thinking, as interdisciplinary narrative tool by blending texts, images and narration out of it. Teachers can teach students how images convey meaning, tone, setting and symbolism. Illustrative thinking and visual storytelling can enhance the learning strategy in a pedagogical setup. They can write stories based on the images or generate their own images based on descriptions. Therefore, all these tools have the capacity to develop multimodal learning frame work.

By interacting with AI-generated illustrations, learners can explore how images convey meaning, mood or bias. Training to identify and recognise AI-generated and human-created illustrations strengthens capacity to evaluate the authenticity of the literary world and its competency. On the level of comprehension, this approach helps in

interactive learning where the students generate their own AI illustrations from the text which induces deep learning and reading of the subject matter. In regard with critical thinking, AI illustrations varies based on the text and style which can occur only on comparing multiple AI-generated versions for the same text. This can include a wise selection of prompts which encourages critical thinking, deeper interpretations and interdisciplinary aspects for which the paper itself is a good example.

While discussing about the appropriateness of this approach, it is evident through this study that, this method is pliable and measurable in all levels of education. At primary to middle level, this can be utilised for reading comprehension, creative writing and basic digital literacy. At high-school level, this can be vital for analytical, and interdisciplinary thinking and at University level, critical inquiry and research along with theory oriented context can be identified. And for teachers in all levels, creative content can be accumulated and learning can be made more active and real which include both active and passive participation.

Drawbacks of implementing cutting-edge AI in conventional courses include, high expense for a paid subscription and for effective accessibility a strong internet connection is required. Pupils from lower economic support face difficulty in using these tools and require pre-training for using these tools. Also, all AI tools do not support all languages hence a language barrier occurs naturally. Therefore, these have cost, accessibility and language barriers and set limitations for some pupils. Over reliance on AI tools leads to avoidance of original thoughts and ideas and can therefore prevent from relying on conventional and traditional skills like, drawing and creative designing. Spending too much time in promoting can divert from creative focus in all areas of study including engineering skills. A high risk of over-reliance on AI tools include shifting the focus of learning where independent creativity and deeper comprehension are nullified.

## Conclusion

This paper presents an innovative approach to enrich children's literature with AI- generated illustrations, leveraging the capabilities of Midjourney, ChatGPT and DALL-E for visual creation by bringing out modern illustrations for

the novel, *Mariel of Redwall*. Through the integration of advanced AI technologies, the article tried creating illustrations, offering a novel interactive experience for both teachers and students. Based on the obtained results through comparative analysis of illustrations generated by Midjourney, ChatGPT and DALL E with that of the textual illustrations by Gary Chalk, the illustrator of the novel, *Mariel of Redwall*, it has been proven that these AI tools can generate excellent illustrations with accurate descriptions and authenticate details. From a pragmatic stance, AI tools' streamlined-operations and comprehensible and feasible interface make it felicitous for learners, encouraging effortless smooth creation and designing of visually appealing and ravishing illustrations. From a pedagogical perspective and educational standpoint, the stylistic differences in character images produced by Midjourney, ChatGPT and DALL E contribute divergent opportunities for exploring distinct and diversified advancement of AI-generated content to both teachers and learners. Also, individual needs and preferences are crucial when choosing between Midjourney, ChatGPT and DALL E, which aligns with enhancing the desired results and outcomes. The study is an evidence to know the interdisciplinary pedagogical implications implied in the novel by the author whose target audience are children. In conclusion, this paper demonstrates the feasibility of using AI to automate the generation of illustrations. The results and findings of this study accentuates the importance and significance of continuous and unceasing refinement in AI models for illustrations and depictions and the potential for future research to further broaden the scope of the storytelling as an interactive art form. By pushing the boundaries of what is possible with AI, the study provide enriching and immersive literary experience that captivate the imagination of readers of all ages. Utilizing AI to produce illustrations from text is not just a newness, but also highly influential and innovative and inventive method that advocates scholarly learning, creative imagination, critical thinking, and digital skills. Thus, the study suggests that AI tools like Midjourney, ChatGPT and DALL E can be implemented as pedagogical tools in classroom and the paper brings out the interdisciplinary

pedagogical aspects and new modern illustrations for the novel, *Mariel of Redwall*.

## Abbreviations

AI: Artificial Intelligence, ChatGPT: Chat Generated Pre-Trained Transformer, DALL E: Dali and WALL E.

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## Author Contributions

Shiny Karunya T: Conceived the idea, analysed the material, prepared the original manuscript, Arnest Khamawlong: Conceived the idea, analysed the material, prepared the original manuscript, Abisha A P: Conceived the idea, analysed the material, prepared the original manuscript, Preha C: Conceived the idea, analysed the material, prepared the original manuscript, V M Berlin Grace: structured the manuscript, D David Wilson: Edited the manuscript, supervised the study.

## Conflict of Interest

No apparent or actual conflict of interest for each listed author.

## Ethics Approval

Not Applicable.

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