



Adapting a Panchatantra Story through Gamification Preserving Panchatantra for Children's Moral Development

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Abstract. The Panchatantra is a collection of Indian animal fables that dates to 200 BCE. It has served as a cultural foundation for teaching children moral reasoning, empathy, and decision-making. However, oral storytelling traditions are declining because of increased screen time and the popularity of violent games. This disconnects children from these important stories. This research examines how interactive storytelling through gamification can reinterpret Panchatantra stories for today's digital-native audiences. It aims to provide a meaningful link between traditional moral learning and modern engagement. Taking 'The Lion Makers' story, the study examines how choice-driven narratives affect the moral understanding of children between the age of 6 to 12 years.

A human centric, iterative methodology is used with user research to understand children's engagement patterns, which is followed by the pre-production process. The production phase includes integration of animation and interactive prototyping, thus enabling a seamless blend of storytelling and gameplay. The post-production involved playtesting, evaluation, and refinement.

Findings show that interactive storytelling improves comprehension, emotional involvement, and moral recall more effectively than passive formats. Children reflected more deeply on morals when they could make choices and experience the consequences. The study concludes with an Interactive Moral Storytelling Framework, which offers a scalable model for adapting other tales and cultural narratives. This research shows that blending traditional wisdom with modern digital design can create engaging, valuable learning experiences that connect with today's children.

Keywords: Gamification, Panchatantra, Interactive Storytelling, Moral learning, Narrative

1 INTRODUCTION

One of the earliest known collections of Indian tales is the Panchatantra, which was first written in Sanskrit in 200 B.C.E. by the scholar Pandit Vishnu Sharma. The Panchatantra, derived from the Sanskrit term meaning "Five Treatises" (Pancha: five, Tan-

tra: principles), stands as a foundational pillar of Indian literature. This was originally conceived as a pedagogical tool to instruct three princes in the intricate arts of governance and ethical conduct.

Structured into five distinct books: *Mitra-bheda* (Loss of Friends), *Mitra-labha* (Winning of Friends), *Kakolukiyam* (Crows and Owls), *Labdhapranasam* (Loss of Gains), and *Apariksitakarakam* (ill-considered actions).[1]

Many of its stories like ‘The Monkey and the Crocodile’ are far older, having their origins in the *Rig-Veda* and *Upanishads*, even if the recorded text is from the late Vedic era. These stories were translated into over fifty languages as they passed through Persia, Arabic, Greece, and eventually Europe over the course of centuries. They were intended to be a guidebook of practical wisdom that taught human behaviour, friendship, problem-solving, and wise conduct. It has been a significant work for more than 2,000 years due to its exquisite fusion of prose and verse, philosophical profundity, and eternal moral lessons.[2]

It has been known that storytelling is an effective tool for influencing children's social, emotional, and moral growth [3]. In the past, traditional stories, particularly fables and folklore, were used as a means of passing down values like empathy, cooperation, caution, and social responsibility to future generations. Narrative-based techniques have been demonstrated to support children's sociomoral development, allowing them to carefully immerse themselves in fictional worlds, internalize moral teachings, and engage imaginatively with characters. [4]. Storytelling improves moral and emotional development as well as cognitive and communicative skills. Imagination, language skills, focus, and memory can all be improved by listening to stories or interacting with narrative content.

Because of these benefits, storytelling is a versatile teaching tool that combines enjoyment, introspection, and learning in a manner that few other methods can. However, traditional storytelling where parents, grandparents, or community members narrate stories orally is under threat in today's rapidly changing world. Due to nuclear family structures, fast-paced metropolitan lifestyles, and the growing dominance of digital media, children now engage far less with these intimate, oral storytelling practices at home.[5]

As electronic gadgets like mobile, laptop, tablet take over as the main forms of entertainment, children spend more time playing games, thus leading to an increase in chance of disengagement from morally grounded stories that are meant to convey life-long lessons.

Yet research on children's digital media shows that, when used properly, interactive and game-based experiences can promote cognitive development.[6]

This research investigates how to preserve the cultural richness of *Panchatantra* fables while transforming them into interactive, gamified storytelling experiences that appeal to today's children. Selecting ‘The Lion Makers’ story as a case study, this paper investigates how interactive narrative design, along with moral decision-making and reflection, can facilitate children's internalization of moral values more effectively than passive formats.

2 LITERATURE REVIEW

2.1 Storytelling and Moral Development

Storytelling is an effective and enjoyable method for developing moral values in early childhood. Children learn to understand, remember, and internalize moral lessons through stories that emotionally interest them. The initial study adopts literature review to examine how children's moral reasoning improves along with their cognitive, emotional, and social skills when teachers utilize straightforward language, open-ended questions, conversations, and creative instruments like puppets. Studies suggest that storytelling fosters empathy, problem-solving skills, and responsible behaviour in addition to helping kids differentiate between right and wrong.[7]

2.2 The Role of Storytelling and Interactive Narratives in Modern Education

Based on the article "Turning stories into learning journeys: The principles and practices of immersive education", story frameworks have the power to change traditional instruction into deeply engaging and captivating learning opportunities. They argue that by putting students in relevant situations where they actively make decisions, story driven learning improves motivation, emotional engagement, and long-term memory. This research presents key principles that support educators in creating immersive learning pathways, including branching narratives, learner agency, and feedback-rich environments. Further, this study emphasizes how well-crafted narratives encourage reflection, problem-solving, and a sense of connect with the content. Overall, the study emphasizes narrative as an effective teaching strategy for creating deeper, more lasting learning experiences.[8]

2.3 Educational and Cultural Significance of the Panchatantra

The research provides a comprehensive examination of the Panchatantra that emphasizes its influence on world literature and its relevance across generations. It highlights how this ancient Sanskrit work, with over 200 versions in more than 50 languages has shaped global storytelling traditions and contributed significantly to moral and practical education. The research discusses how Panchatantra's fables offer creative, engaging, and accessible lessons in wisdom, human behaviour, and decision-making which makes it a valuable learning tool not only for children. The research highlights how reading and retelling tales help children emotionally and intellectually navigate complex situations. The research concludes that the Panchatantra is still highly relevant in modern education, as it helps to renew student's interest in learning through storytelling, creativity, and value-based lessons.[9]

2.4 Use of Games and Gamification in Learning

The research investigates how games and gamification can enhance English language learning for students enrolled in Open and Distance Learning (ODL) programs. The study emphasizes that ODL learners often face challenges such as reduced interaction, low motivation, and limited opportunities for active learning. To address these gaps, the research explores the use of digital games, gamified activities, and interactive exercises to make English learning more engaging and effective. The findings show that incorporating game elements such as rewards, competition, instant feedback, and problem-solving tasks significantly improves learner's interest, comprehension, and vocabulary acquisition. This highlights that gamification supports self-paced learning and creates a more enjoyable environment for distant learners.[10]

3 THE POTENTIAL OF PANCHATANTRA STORIES THROUGH GAMES

The background study began with the selection of Panchatantra stories in comparison to other folktales. It was chosen because it is uniquely designed as a teaching framework and is not just a collection of entertaining fables. Unlike many folk narratives that focus on heroism or fantasy, Panchatantra stories were intentionally created to develop practical wisdom, moral reasoning and social intelligence in young learners. Panchatantra stories offered the advantages of effective storytelling, animal characters and culturally rooted morals which made it highly relatable for children, especially in an interactive setting.

Among its tales, the 'Lion Makers' story was selected because the theme addresses that intelligence without wisdom can be dangerous, which aligns strongly with the research goal of supporting moral reflection through interactive choices. The story's simple structure and contrasting character personalities make it suitable for a game design intervention.

This leads to research questions, how to design an interactive storytelling framework using gamification principles to reimagine Panchatantra tales for moral and cognitive development in children?

To examine the impact of this game on children?

4 OBJECTIVE

The primary objective was to investigate how traditional narratives from Panchatantra can be effectively reinterpreted through interactive storytelling and gamification so that children can learn moral values through playing.

To achieve this, the study adopts the following methods:

To create an interactive, choice-based narrative game, based on the Panchatantra story ‘The Lion Makers’

This goal is to transform a traditional linear fable into a dynamic digital experience in which kids will actively take part in the narrative. The design seeks to reinforce the moral message of the story by allowing kids to play as well as understand the narrative of the story.

To investigate how children's engagement, focus, and moral reasoning are influenced by interactivity

This involves observing how kids react to interactive features. Compared to passive storytelling, the goal is to determine whether participation improves understanding, moral reflection, and emotional engagement.

5 DATA COLLECTION

Various methods were employed to comprehensively understand children's preferences and opinions. One-on-one interviews with the kids and parents were done to understand the user's insights. Along with that, a Google form was created and distributed among the parents and students who have younger siblings to gather contextual data about children's media habits and exposure to cultural storytelling. The response from google form is an essential part of the design process. The questionnaires included various questions to collect information on children's preferred decisions and how they preferred to pick between storybook, game learning, and YouTube videos. Additionally, people were asked to provide suggestions and feedback on our ideas and concepts. This allowed us to identify the areas that can be improved while working on the project. Overall, the responses collected from interviews provided valuable insights. About 30 people participated in the survey of having younger siblings and some are parents.

5.1 Key Observation:

Books remain the main way children experience Panchatantra stories

Most respondents (67.9%) reported engaging with Panchatantra through books or comics, while oral storytelling and animated content were less common.

Storytelling is viewed as essential for moral development

A strong majority (82.1%) rated storytelling as very important for shaping children's moral understanding, confirming its perceived role in value education.

Gamification is widely supported as a tool for moral learning

Three-fourths of respondents (75%) believe gamification can enhance moral learning.

Children prefer interactive moral-choice games

A large majority (71.4%) reported children would mostly enjoy interactive games involving decision-making as compared to books or passive videos.

5.2 Audience Insights and Suggestions:

Panchatantra stories could feel much more relatable to today's children if they were brought closer to the current scenario. Many felt that placing these stories in everyday settings would help children to connect ancient lessons to the situations they face regularly. Respondents mentioned that kids might respond even better to characters or scenarios that reflect modern challenges such as friendships, mistakes, or digital-age issues. A common suggestion is to make the stories visually appealing through animations, strong graphics, and more engaging scenes to match children's attention spans. One of the important insights is the desire for interactive storytelling. People suggested children learn better when they can make choices, see consequences, and actively participate in the story rather than just read or listen. Gamification like mini-games, decision-making moments, and playful rewards were seen as a powerful way to deepen moral understanding and keep children excited. Overall, the audience suggests that by mixing modern life, interactivity, and richer visuals, Panchatantra stories can remain meaningful and inspiration for the next generation.

6 METHODOLOGY

The research approaches a qualitative, human centric, and iterative design methodology to understand how storytelling and gamification can be used to interpret the 'Lion Makers' story for moral development. The methodology integrates user experience research, narrative design, animation, prototyping, and playtesting.

The research begins with a qualitative exploratory design that focuses on understanding children's decision making, engagement, and emotional responses rather than measuring statistical outcomes. Qualitative design method is appropriate for this because moral learning, narrative engagement and reflection are subjective, and experimental phenomena are best captured through observation, dialogue and interpretation.[11]

This consists of three major phases:

1. Pre-Production
2. Production
3. Post-Production

6.1 Pre-Production

The project's conceptual and developmental framework was established during the pre-production stage.

Understanding users, evaluating the chosen Panchatantra story, and determining the interactive prototype's visual, narrative, and interaction direction were the main objectives of this phase. A human-centric design approach was used during pre-production to make sure that all design choices were based on the needs of users, the cultural context, and the learning objectives.

Wireframe

Wireframing is a crucial step in the pre-production phase that serves as the structural blueprint that shapes how 'The Lion Makers' story would translate into an interactive digital experience. At this stage, the emphasis is on logic, flow, and user interaction, rather than visual detail.

The wireframe sequence starts with a game title, followed by a story selection interface where the user can choose between multiple stories. Selected story opens with a story title screen followed by introduction to narration screens that establishes context and guides the user through the plot. The wireframe also includes level 1 and level 2 interaction screens that show how the user engages with the story through mini games.

The moral of the story and the final ends screen are shown on special displays near the end of the flow, ensuring that the educational goal stays at the forefront. Wireframe functions as a blueprint that describes the story's progression, the locations of interactions, and the user's transition from introduction to moral reflection (see Fig. 1).



Fig. 1. Wireframe showing the interactive storytelling game flow. including the title screen, story selection, narration panels, gameplay levels, and closing moral screen. (Personal Documentation)

User Flow

The User Flow outlines the complete journey that a user follows while interacting with the game. It maps the progression from the moment the application is opened to the final moral takeaway, ensuring a seamless, intuitive, and child-friendly experience.

Mood board and Exploration

The mood board is used as the visual foundation of this project as it establishes the art direction, emotional tone, and cultural identity of the story. The stage involves collecting and analyzing visual references to ensure the final design remains child friendly, culturally authentic, and visually engaging. The exploration includes:

- Indian art influences
- Stylized 2D illustration references
- Game UI inspirations
- Colour palette studies
- Character style exploration

This exploration phase ensures that visual identity is consistent and immersive.

Storyboard

The storyboard translates The Lion Makers into a clear sequence of visual and interactive events that describes how each scene, character action, and narrative beat unfold on screen. It provides a template for timing, transitions, and emotional flow before entering production.

Each frame captures the key elements of the story, character positions, environment layout, narration cues, and where interactive choices would appear. This helps in establishing when to build tension and when to slow down for clarity.

The storyboard also guides the animation process by defining scene transitions, character expressions, and timing for visual feedback. By visualizing the entire story early, it ensures that the final experience would be coherent, engaging, and easy for children to follow.[12]

6.2 Production

The pre-production work such as storyboards, character explorations, wireframes, and visual direction were transformed into a fully functional interactive prototype throughout the production period. This stage includes animation, creation of assets, illustration, sound, and game development. Each element is intended to maintain cultural authenticity while offering an engaging experience.

Icons and Buttons

A comprehensive set of icons and buttons are designed that forms the core of the game's interactive interface. The components are given a stylized look keeping in mind the target audience along with wooden, hand carved visual style that reflects the natural, rustic environment associated with the story. It is to ensure that every user interface element felt cohesive with the story world.

The icons include essential navigation and gameplay indicators along with rewards and click icons. Buttons like start, exit and play tabs were crafted with soft edges with engraved contrasting text to maintain clarity and readability. Each element features consistent shading, texture, and proportions, ensuring a uniform visual language across the entire interface.

Sprite Sheets and Assets

Sprite sheets are created to animate the characters efficiently. Each sheet contains multiple directional poses— front, back, left, and right along with walking cycle and idle frames which enable smooth and natural movement when played in sequence. The simplified proportions, rounded shapes, and bright colours were intentionally chosen to match the child-friendly visual style. Overall, the sprite sheets played a crucial role in bringing the characters to life and maintaining visual coherence throughout the game.

A diverse library of environmental assets was created to construct the visual world of the interactive story. These assets include trees, bushes, grass, rocks, flowers, bones, and decorative plants, each illustrated in a soft, approachable style that complements the child-friendly aesthetic of the game. Variations in shape, colour, and texture were added to create depth and prevent visual repetition across scenes. Because of this modular design, the assets can be reused and rearranged to create rich, multi-layered environments that are immersive and feel natural. This collection not only supports storytelling by reinforcing the forest setting of 'The Lion Makers' but also enhances gameplay by providing visual cues, guiding pathways, and anchoring narrative moments. Overall, environmental assets serve as the foundation for creating cohesive and engaging backgrounds.

Rendered Environments

The final rendered environments were created using adobe photoshop. Layered foliage, textured greenery, and dynamic lighting were used in each scene to depict the character's natural surroundings. The compositions feature a balance of foreground mid-ground and background, giving a strong sense of depth and immersion.

Final User Interface

The final UI screens were developed to create a consistent, intuitive, and visually engaging experience for young users. Every interface screen, including the landing page, story choices, level introductions, gameplay views, and completion screens, was designed with the wooden-themed design language that reflects the forest setting of the Panchatantra world. The UI elements combine warm textures, carved panel motifs, and vibrant character illustrations to maintain thematic consistency across the entire game. Interactive features such as buttons, progress panels, and level indicators were displayed with clear visual hierarchy and large tap areas to enable accessibility for children. Puzzle levels, scoreboards, and the story selection menu are examples of screens that were designed to give instant clarity on user actions while maintaining a playful and friendly aesthetic. Additionally, background environments were integrated into each UI layout to reinforce immersion, guiding players smoothly between narrative and gameplay segments. Overall, the final UI screens offer a balanced blend of functionality, cultural aesthetics, and child-friendly design, supporting both usability and storytelling.

Integration

The integration phase brought together all visual, animated, and interactive components into a functional digital experience. This approach required combining the rendered animatic sequences developed in Adobe After Effects with the interactive game worlds assembled in Unity.

The main platform for putting together environmental elements, positioning characters, creating sprite animations, and specifying user interactions like movement, choices, and level progression was done in Unity. To guarantee seamless operation and narrative coherence, UI components, background layers, audio cues, and gameplay mechanics were integrated and tested. The integration stage created a seamless, interactive storytelling experience by refining static designs and animations iteratively (see Fig. 2).

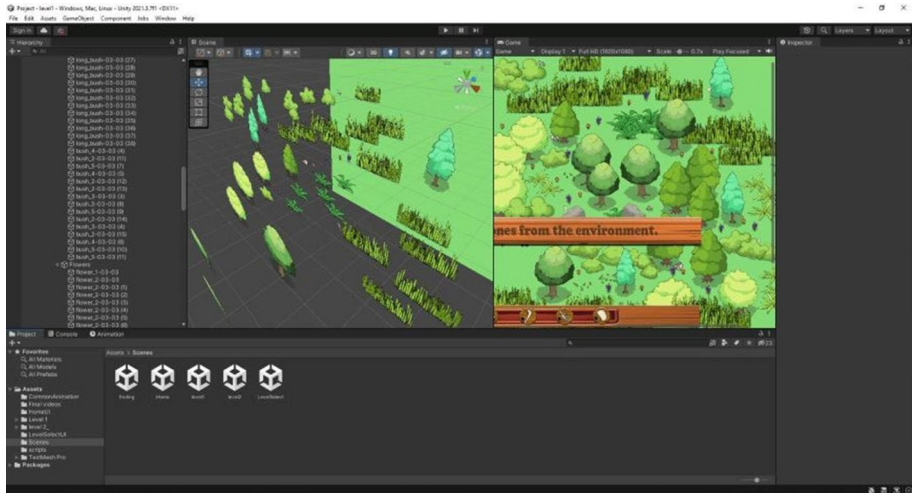


Fig. 2. Unity workspace showing the development of the game environment, including asset placement, level layout, and the in-game visual preview. (Personal Documentation)

6.3 Post-Production

The post-production phase focused on refining the game to ensure a smooth experience. Visual elements were refined along with audio narration, and ambient effects were added to enhance immersion. Technical adjustments such as debugging, optimizing interactions, and ensuring device compatibility are completed to produce a stable prototype which is ready for testing.

Play-Testing

Play-Testing stage was essential to assess how effectively the designed system translated narrative content into an interactive learning experience. Play-testing was conducted with a total of 30 participants that included children aged 6–12, along with parents, professors and observers who provided additional behavioral insights (see Fig. 3). Participants were instructed to engage with the prototype, make narrative choices, and investigate various story outcomes. Observations were made based on engagement levels, interaction patterns, decision-making, and how well they understood the moral of the story. Based on the observations and feedback, certain refinements were made to improve the overall user experience. This included enhancing the clarity of decision prompts, adjusting the pacing of the narrative, and improving the flow of interactions.

Overall, the post-production phase demonstrated that playtesting is a crucial step in validating and improving gamified storytelling systems.



Fig. 3. Play testing session where a participant interacts with the prototype game (Personal Documentation)

7 REPORT AND FINDING

The findings of this study were based on play-testing observations and participant responses that offered a clear picture of how children engage with and learn from gamified storytelling. Overall, the results indicate that the interactive format was both engaging and effective in comprehension.

During the sessions, the majority of children remained focused throughout the activity, with approximately 83.3% (25 out of 30) maintaining consistent engagement. About 90% (27 participants) actively interacted with decision-making elements, focused on hearing story narration, explored alternative paths, and revisited earlier choices. Notably, around 70% (21 participants) chose to replay certain parts of the story to observe different outcomes, reflecting a high level of curiosity and exploratory behaviour. Children often expressed this enthusiasm directly, with comments such as “I want to try the other option” and “let’s see what happens if I choose differently”.

Cognitive engagement was also strongly evident during gameplay. Approximately 76.6% (23 participants) paused before making key decisions, suggesting that they were thinking about possible consequences rather than making random choices. Additionally, about 70% (21 participants) verbalized their reasoning while interacting with the system. Statements such as “this might go wrong”, “I should think first”, and “this

doesn't feel right" demonstrate that children were actively engaging in anticipation, reasoning, and decision-making processes, which are essential for deeper learning.

In terms of comprehension, the results show a clear improvement. Around 83.3% (25 participants) were able to correctly explain the moral of the story after completing the experience. Many participants articulated the lesson in their own words, with responses like "they were smart but didn't think properly" and "you should think before doing something." Furthermore, approximately 63.3% (19 participants) were able to relate morals to real-life situations, indicating not only understanding but also application of the concept beyond the story.

Participant feedback further reinforces these findings. Many respondents highlighted that children learn more effectively when they are actively involved in the experience. Comments such as "they remember it because they experience it", "it feels like they are part of the story", and "they think more when they have to choose", reflect the strong impact of interactivity and immersion. Several participants also emphasized that seeing the consequences of decisions made learning more meaningful, as it helped children connect actions with outcomes in a more tangible way.

Participants also provided constructive suggestions for improvement. While the overall response was positive, some recommended adding more branching options, levels, or reward systems to further enhance engagement and replay ability. Suggestions like "more choices would make it even more interesting" and "adding levels will make it more fun" indicate opportunities for expanding the system's design.

Overall, the findings demonstrate that gamified storytelling not only increases engagement but also enhances cognitive involvement, comprehension, and retention of moral lessons. The combination of high interaction levels, thoughtful decision-making, and meaningful feedback suggests that this approach is more effective than traditional passive storytelling methods.

8 CONCLUSION

This research sets out to explore how Panchatantra stories, particularly 'The Lion Makers', can be reinterpreted for modern children through interactive gamification. The central research question was how a gamified, choice-based narrative can influence children's moral understanding, engagement, and decision-making as compared to traditional passive storytelling formats. To investigate this, the study adopted a qualitative, human-centric, iterative methodology that involved user research, wireframing, narrative design, animation, prototyping, and playtesting with children, parents, and educators. Findings showed that interactive storytelling significantly enhances com-

prehension, emotional involvement, and moral recall. Children demonstrate deeper reflection when they could actively participate, make choices, and observe consequences rather than simply listening to or reading the story. These results suggest that gamification can serve as an effective bridge between cultural storytelling traditions and contemporary digital learning environments. However, the study has limitations. The sample size for play testing was relatively small, and the prototype focused on only one Panchatantra story, which limits generalizability. Despite these constraints, this research contributes meaningfully to the growing field of interactive learning and cultural preservation. It proposes an Interactive Moral Storytelling Framework that can be replicated or expanded for other folktales, languages, or educational contexts. Ultimately, the study demonstrates that blending traditional wisdom with modern digital design not only strengthens engagement but also offers a promising pathway for nurturing moral reasoning in today's digital-native children.

9 FUTURE SCOPE

While the result of this study demonstrates the effectiveness of gamified storytelling in improving engagement and moral understanding, there are several opportunities for further development and research. One of the primary areas for future work is the expansion of study with a larger and more diverse group of participants. Including children from different age groups, educational backgrounds, and regions would help validate the findings and make them more generalizable. Future versions of the game can include multiple Panchatantra stories, allowing children to explore a broader set of moral themes. Integrating adaptive difficulty or personalized choice paths could further enhance cognitive development across diverse age groups. Implementing technologies like AR or VR may also deepen immersion and spark greater empathy. Finally, largescale testing across schools could provide stronger empirical evidence on learning outcomes, while collaborations with educators could help align the game more closely with curriculum needs.

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