Shiraz University
Journal of Children's Literature Studies
Semiannual, ISSN: 2783-0616
Spring - Summer 2025

OPEN ACCESS

Extended Abstract
Vol 16, Issue 1, Spring - Summer 2025, Ser 31

Features of Interactive Intelligent Storytelling Art of "StoryTick" from Aidan Chambers' Perspective

Maryam Sheikhzadeh
Zahra Rahbarnia*

Introduction

Storytelling has always been a joint activity between parents and children. It provides many educational benefits such as improving children's language fluency, communication skills, cultural and emotional awareness and other aspects of cognitive development. As a result, many parents, due to their busy schedules, express their desire to use an automatic storytelling system that can help their children to engage in a beneficial way without any intervention when they need to focus on other tasks such as attending a work meeting or household chores. The present study, by focusing on the interactive storytelling toy "StoryTick", analyzed the structure of this game and the extent of the child's involvement in creating the story, with a look at the theory of the reader within the text by Aidan Chambers, a theorist in the field of children's literature studies.

Research Method, Review of Literature and Purpose

The purpose of this article is to analyze the process of an interactive storytelling based on artificial intelligence in order to nurture a creative child who can discover hidden patterns and generate new ideas while minimizing parental involvement. Introducing the possibilities of interactive smart toys to cultural-artistic trustees, artists and researchers in the media field has also been considered. Also, this research, which is in the field of children and adolescents and the capabilities of artificial intelligence, is qualitative in nature and was carried out in a descriptive-analytical method with a developmental-applied nature. In other words, the findings have the ability to grow and flourish community-oriented art technologies. For this reason, the authors have studied the content analysis of an interactive intelligent storytelling based on the theory of Aidan Chambers; therefore, the data used in the current research has been collected using library and documentary sources. StoryTick, an interactive intelligent storytelling toy, is an artificial intelligence-based designed space that not only encourages story-telling activities, but also provides a playing space for children to record and create their own stories. This child-oriented interactive game was designed in 2013 by Kara and his colleagues in Japan for children aged four to six.

* Associate Prof in Art Research of Faculty of Art, Alzahra University, Tehran, iran
Z.rahbarnia@alzahra.ac.ir
DOI: 10.22099/JCLS.2024.50140.2038

Discussion

In "StoryTick" interactive storytelling, according to Chambers' point of view, the child, as the audience of the story, witnesses the change of the narrative and descriptive style towards a demonstrative and objective style. In other words, the stuffed animals that are the main and simple characters of the stories (instead of showing them on the computer) are present next to the child, in order to make the child feel natural about providing a real environment by the creators of this smart toy, and provide reassurance to the child. Also, the storyteller in StoryTick deals with the narratives with a childlike attitude. In other words, he/she looks at the events from inside the story and provides the necessary grounds for the child's participation in creating the story. For example, when the narrator asks the child to place the desired doll on the interface, in the space of the Adobe Flash software, the story is told in the form of an animation according to the selected doll. But it is not necessary that all the events in a story are explained by the narrator, but in the course of the story, the child is asked to continue the story according to the options that have been defined for him/her in advance. On the other hand, the child can create his/her own stories without any supervision. This means that his/her parents and even the game's author and designers have confidence in the child's abilities.

Additionally, one of the challenging gaps in StoryTick's smart game is the final stage of the story. At this stage, the child can place the desired doll as well as the background cards of his/her choice on the interface and create his/her own story according to the available objects. In fact, the story begins with a short key sentence and then the story designer draws the child's attention to the topic and encourages him/her to create his/her favorite story. Therefore, the superficial and formal gaps in StoryTick are actually the stories that have been consciously defined in advance. But in the meaning-making stage, the child tries to create his/her desired stories freely and with maximum interaction. In this way, the field of thinking and dynamism is provided for the child and it gives him/her the possibility to freely create his/her favorite story behind each story, relying on personal and internal analysis.

Conclusion

Despite the many advantages of interactive platforms for children, especially smart computer toys, as well as the widespread interest in these new media, due to their emerging nature in Iran, only a few researchers have studied the important capabilities and benefits of using these media in order to teach the cultural values of the society. Therefore, considering the importance of this issue and based on the impact that interactive platforms have on factors such as creativity development and education of children, the need to study more is felt. In this regard, the current research shows the role of storytelling in cultural formation and orientation of children towards the development of creativity and individual skills. The content analysis of interactive intelligent storytelling toy StoryTick was based on the perspective of Aidan Chambers, theoretician of children's and adolescents' literature and his four components. It includes style, perspective, favoritism and expressive gaps. The purpose of choosing this society-oriented technology is to introduce such toys in order to stimulate the child's imagination and creativity and his/her ability to face problems in life as well as to introducethe capabilities of these interactive smart toys to art curators, artists and media researchers.

Keywords: interactive storytelling, StoryTick, artificial intelligence technology, child's creativity development, Aidan Chambers

References:

Amiri Khorasani, A. & Sadrizadeh, N. (2017). Study on the evolution of the audience in the sustainability literature of children and adolescents based on Aidan Chambers' latent reader theory. *Journal of Sustainability Literature*, *10*(18), 25-52. [in Persian]

Broström, S. (2002). Children tell stories. *European Early Childhood Education Research Journal, 10*(1), 85–97.

Care, E., Scoular, C. & Griffin, P. (2016). Assessment of collaborative problem-solving in education environments. *Applied Measurement in Education, 29*(4), 250-264.

Chambers, A (1985). The Reader in the book. In *Booktalk, Occasional writing on literature and children* (34–58) Bodley Head.

Chambers, A. (2009). The reader in the text. In Khosronejad, M. (Ed.). *Inevitable re-readings*. Tehran: Center for Intellectual Development of Children and Adolescents. [in Persian]

Chambers, A (2011). *Kissing Game*. New York: Random House.

Chambers. A (1977). The reader in the Text, in P. Hunt (Ed). *Children's literature: The development of criticism* (PP. 91-114). London: Routledge.

Holloway, D. &Green, L. (2016). The Internet of toys. *Commun. Res. Practice 2* (4), 506–519.

Hsieh, M., Lee, J. (2008). AR Marker Capacity Increasing for Kindergarten English Learning. *Lecture Notes Eng. Comput. Sci. 2168*, 663–666.

Hakimpanah, A., Staki, A. & Moghadam, K. (2017). Effectiveness of using computer games on creativity and spatial perception of preschool children. *New Educational Ideas Quarterly, 15*, No. 3, 229-256. [in Persian]

Johnson, J. E., Christie, J. F. (2009). Play and Digital Media, Computers in the Schools: Interdisciplinary Journal of Practice. *Theory Appl. Res. 26*, 284–289.

Kara, N., Aydin, C. C. & Cagiltay, K. (2013). Investigating the activities of children toward a smart storytelling toy. *Journal of Educational Technology & Society, 16*(1), 28-43.

Loizou, E., Kyriakides, E. & Hadjicharalambous, M. (2011). Constructing stories in kindergarten: Children's knowledge of genre. *European Early Childhood Education Research Journal, 19*(1), 63–77.

Mirzaei, J. & Gholami, F. (2015). The effect of theory in the theorist's works: examining the reader within the text in Eden Chambers' play of love. *Literary Review*, *9*(46), 166-186. [in Persian]

Moradi, A. & Ghobadi, K. (2019). Effectiveness of creativity training on problem solving skills and comparison with play method in preschool children. *Journal of Psychological Science, 19*(85), 57-69. [in Persian]

Manteghi, M. (2016). *Guide for parents in children's use of new communication technologies: video-computer games*. Tehran: Abed. [in Persian]

Manches, A. & Plowman, L. (2021). Smart toys and children's understanding of personal data. *International Journal of Child-Computer Interaction, 30*, 1003-33.

Richey, R. C. & Klein, J. D. (2008). Research on design and development. in Spector, J. M., Merrill, M. D., van Merrienboer, J. & Driscoll, M. P. (Eds.), *Handbook of Research on Educational Communications and Technology*, Routledge, New York, pp. 748–757. https://doi.org/10.4324/9780203880869.

Ryokai, K., Vaucelle, C. & Cassell, J. (2003). Virtual peers as partners in literacy learning. *Journal of Computer Learning 19*(2), 195–208.

Ryokai, K. & Cassell, J. (1999). Computer support for children's collaborative fantasy play and storytelling. In P*roceedings of Computer Support for Collaborative Learning*, 1999 (ed. C. Hoadley), 510–517. Lawrence Erlbaum, Hillsdale, NJ.

Reynaldo, C., Christian, R., Hosea, H., & Gunawan, A. A. (2021). Using video games to improve capabilities in decision making and cognitive skill: A literature review. *Procedia Computer Science, 179*, 211-221.

Salehi, P. & Bagheri, K. (2015). Investigation of the latent reader in Zachariah Tamer's children's stories based on the theory of Aidan Chambers. *Lasan Mobin Journal, 8*(26), 45-71. [in Persian]

Peterson, J. A. (2003). *The Birth of City Planning in the United States, 1840–1917*. Baltimore: Johns Hopkins University Press.

Sugimoto, M. (2011). A mobile mixed-reality environment for children's storytelling using a handheld projector and a robot. *IEEE Transactions on Learning Technologies, 4*(3), 249–260.

Tamura, Y., Shiomi, M., Kimoto, M., Iio, T., Shimohara, K., & Hagita, N. (2021). Robots as an interactive-social medium in storytelling to multiple children. *Interaction Studies, 22*(1), 110-140.

Vaucelle, C. & Jehan, T. (2002). Dolltalk: A computational toy to enhance children's creativity. *Proceedings of Conference on Human Factors in Computing Systems*, Minneapolis, Minnesota, USA, pp. 776–777

Yilmaz., E. & Griffiths, M. D. (2023). Children's social problem-solving skills in playing videogames and traditional games: A systematic review. *Education and Information Technologies*, *28*(9), 679-712.

Zhang, Z., Xu, Y., Wang, Y., Yao, B., Ritchie, D., Wu, T., ... & Li, T. J. J. (2022, April). Storybuddy: A human-ai collaborative chatbot for parent-child interactive storytelling with flexible parental involvement. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*, pp. 1-21.