



CALL RESEARCH BRIEF

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Title: Summary of using digital story writing as a pedagogy to develop AI literacy among primary students

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Original Text

Ng, D. T. K., Luo, W., Chan, H. M. Y., & Chu, S. K. W. (2022). Using digital story writing as a pedagogy to develop AI literacy among primary students. *Computers and Education: Artificial Intelligence*, 3, 100054. <https://doi.org/10.1016/j.caeai.2022.100054>

Rationale / Overview of the study

This study investigates the use of digital story writing (DSW) to describe how it fostered AI literacy. Eighty-two primary students in Hong Kong were invited to attend a 7-day workshop over a three-month DSW learning program under the theme of AI. For the first two months students learned how to create digital stories and were taught basic knowledge of AI. In the third month, students created their stories and were encouraged to use search engines to enrich their understanding of AI to polish their stories. At the end they completed a test and teachers evaluated their work. Based on this data, 16 of the highest-achieving students were selected with their parents to participate in follow-up interviews to explore their learning perceptions. The purpose of this study was to determine whether students had positive perceptions about understanding and using AI. What's more, the author illustrated students' DSW process based on the inquiry-based pedagogical cycle. Overall, using DSW could enhance students' understanding of AI and the ability to apply AI knowledge to resolve real world problems. The results of this study can help instructors use DSW as a pedagogical tool to build understanding and comprehension of AI for young students.

Research Methods

Participants: Over 82 primary school students in Hong Kong were recruited to participate and the 16 students (13 girls, 3 boys) with the best performances were selected as participants for follow-up interviews. Among the 16 students, over half of them were senior form students (primary 4-6).

Context: The authors note that AI literacy skills have become part of 21st century skills. Therefore, students need to master AI-related skills that require them to be able to access and use new information through AI and digital technologies. While there is a lot of research about integrating DSW to motivate students across disciplines, there are almost no studies about using DSW to develop AI literacy skills in K-12 education.

Data Collection Tools: The researcher collected data from a post-test, student documents, and semi-structured interviews.

Data Analysis Approach: A post-test was used to assess students and follow-up interviews were conducted to evaluate their learning processes throughout the DSW experience. Students ultimately came up with their stories and the authors used Pedaste, et al. (2015)'s inquiry-based learning cycle to analyze students' DSW learning processes to develop their AI literacy via five phases (orientation, conceptualization, investigation, conclusion and discussion).

Results

DSW can be a powerful inquiry-based tool to enhance students' AI literacy via five phases including orientation, conceptualization, investigation, conclusion, and discussion. DSW may develop four aspects of AI literacy among upper primary students: 1) know and understand, 2) use and apply, 3) create and evaluate, and 4) notice ethical issues. DSW could help students to evaluate and create AI artefacts. Students who perform well may have a better understanding of AI literacy than those who are low-achieving students.

Practical Implications

- DSW is a teaching tool providing various advantages for learners across disciplines.
- DSW could effectively foster students' AI literacy in using and applying AI knowledge to solve real-life problems.

Pedagogical Implications

- Teachers could use DSW to develop students' AI literacy by reading some AI-themed fictions.
- Teachers could use DSW to develop students' AI literacy during the writing process.

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