



Adinkra Mathematics: A study of Ethnocomputing in Ghana [

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text (article)

Analítica

This paper details the development and evaluation of software that allows middle school students to explore the mathematical aspects of Ghanaian Adinkra symbols. We tested the effectiveness of this simulation in a Ghanaian junior high school by conducting a randomized quasi-experiment. We begin this paper by framing culturally responsive math education within the interventionist tradition of ethnomathematics. We draw this tradition together with an empirical exploration of the mathematics embedded in Adinkra symbols. We follow this with a methodological explanation for how we translated the mathematical significance of Adinkra into the design of our software, "Culturally Situated Design Tools." Finally, we describe the quasi-experimental evaluation of the software using a randomized assignment of students in control and intervention groups in Ghana. We found statistically significant improvement for students using the culture-based software in comparison to similar software with no cultural content

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Baratz Innovación Documental

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es