

ZMATH 2014d.00992

Garrett, Laretta

Building understanding and fostering empowerment through technological interactions.

Adults Learn. Math. 7, No. 2, 7-22 (2012).

Summary: This case is part of a teaching experiment that sought to provide insight into how the use of mathematics technology affects the internal mathematical representations possessed by adult developmental mathematics students. Sequences of dot patterns were examined and analyzed by the participant. He then used the algebraic features of a dynamic, interactive geometry software program to graph data describing the functional relationships present in those patterns. Insights about the effect of technological representations on adult students' thinking can be gained from observations of the subject's investigations of that data. Results show that appropriate use of technology can aid adult students in building an understanding of standard representations that is based upon their own thinking and their own choices.

Classification: U78 D48 D78 C38 B60

Keywords: adult education; research; computer as educational medium; geometry software; information and communication technology; mathematics technology; internal representations; empowerment; case studies; experimental teaching; experience reports; dot patterns; coordinates; misconceptions; student errors; remedial teaching; standard representations; exploratory learning; linear functions
<http://www.alm-online.net/images/ALM/journals/almij-volume7-2-dec-2012.pdf>