

1145-J5-1514 **Razieh Shahriari*** (rshahria@uark.edu), 850 Dickson st. room 341, Fayetteville, AR 72701,
and **Bernard Madison**. *The effect of technology on students understanding of college algebra.*

This mixed-methods study reports on the effectiveness of using technology such as hand-held and online graphing calculators on the college algebra students' understanding. This study was aimed to investigate i) what areas of college algebra are affected more by technology ii) how technology affects the organization of written work and, iii) the effect of technology on the attitude of the students toward mathematics. The study was conducted on 315 students of college algebra in 2016 at the University of Arkansas. Data were collected from different sources such as pre and post surveys, scores of three written tests, and student' interviews. The results of the study revealed that college algebra students who used technology had a better understanding of x and y-intercept, domain of a function, end behavior, vertical and horizontal asymptote. However, the performance of students in composite function and world problems was similar. In addition, college algebra students who used smartphone application in their class activities were able to make a better connection between logarithms and exponential functions. The results of the qualitative analysis show that students written work is more organized when they use technology in their tests. (Received September 22, 2018)