The purpose of this study was to examine the digital divide by determining the main effects and interaction effects between Missouri school district technology variables and student End-of-Course exam performance. A secondary purpose was to attempt to construct a predictive model for Missouri End-of-Course exam performance at or above the state average based on school district technology variables. The measurements used in the study included school district responses to the Missouri Census of Technology and district level Missouri Algebra I and Communications Arts I End-of-Course exam assessment data. A research methodology employing statistical analysis, correlation analysis, and Multivariate Analysis of Covariance (MANCOVA) was used to investigate the impact of Missouri school district technology variables on End-of-Course exam performance.