Test 3 - Number 5 (Response)

Observations based on examples alone has been done for hundreds of years. However, with the new development of technology every day, we can now generate multiple representations symbolically as well as graphically. These representations go beyond the generic observations from a few examples, rather they give a depth to the side of rules and how things truly work. A topic in which this can be applied is TEKS for Mathematics, 7A- Algebra 1. This topic is *Quadratic functions and equations*, "The student is expected to graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum values, minimum values, vertex, and the equation of the axis of symmetry." This is a TEK in which technology has the possibility to truly enhance the way and depth in which these things can be understood and examined. Technology such as GeoGebra can show the relationship from one thing to the next, through applets created. These applets give students a true visual of how graphs, intercepts, and axis change when functions and equations are manipulated. These relationships once truly shown, have the possibility of sticking with the student's long-term memory. Thus, creating a schema for the students to connect new ideas to in the future. Therefore, technology has created an environment in which representations can now go beyond the mere observations from a few examples. These representations are now symbolic as well as graphically.