

Influence of Prior ASD Knowledge on Teachers' Ability for Early Autism Spectrum Disorder (ASD) Diagnosis

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Abstract

Autism, or Autism Spectrum Disorder (ASD), is a genetic disability that causes communication, personality and/or social interaction deficiencies. The main focus of my research is on Visualization of Autism Spectrum Syndrome (ASD) research data.

Using over 6,600 Phenotype data variables and Genotype data compiled from about 2,600 families provided by the Simons Foundation Autism Research Initiative (SFARI) database conclusions will be drawn and made based on the data and further research.

Research shows that prior knowledge plays an important role in usability and effectiveness. Not only does prior knowledge affect the usability of different types of technology it can affect a teacher's ability effectively teach and treat students with autism. Understanding how prior ASD knowledge affects a teacher's ability to use a dashboard will improve upon the overall understanding of prior knowledge on usability. Future research will tell whether or not prior knowledge affects a teacher's ability to more effectively use dashboard tools.

Research Reflection

Research in my discipline is conducted similar to that of other social Science disciplines. By that I mean there is the initial research and definition phase of the project. In this phase of the project, I began to find areas of research related to autism that had gaps in available research. I also looked for gaps in available research in dashboard design. After an idea of what research was to be conducted further literature review was necessary to refine the research topic. Once that process was done the full literature review is conducted to find out what research is currently out there. Finally, understanding how my developed hypothesis could be tested affected how the final pieces of the research were to be conducted. So as stated previously like any other social science a topic was researched, an idea was formed and further refined, the bulk of the research was conducted and then hypothesis testing was put into development. With more time the hypothesis could be tested and further reviewed.

One of the main ways I increased my awareness of informational resources was by meeting with the librarians. They showed me the available resources and gave me a tutorial on how to utilize them. I have

learned how to use them more effectively as my research went on. These resources have been invaluable in my research and would have been possible without them.

The fundamentals of experiment design are one of the most important parts of my project. About half way through I needed to understand how I would develop an experiment in order to more accurately answer my research questions. I now understand that knowing what I'm trying to learn is the most fundamental part of the experimental design. If I don't know what I'm trying to find out the design process is impossible. I also needed to understand how to effectively get answers to my questions without creating bias.

With the help from other researchers and my advisor I have gained knowledge on how to interpret the results of my research. As I have yet to implement an experiment, I had to learn how to interpret my results from my review and initial designs. This was difficult as there was a defined answer rather there were conclusions and final designs to interpret.