

Guide Me

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Introduction

Recent research has encouraged science teachers to incorporate an inquiry-based approach to teaching and learning in the classroom. Guided inquiry is most similar to inquiry in research. Previous research has shown that students lack the skills and knowledge to conduct full inquiry. Scaffolding the inquiry experience and offering structured or guided inquiry activities help build students' skills and knowledge base.

The purpose of this study was to investigate if guided inquiry increases science literacy in my freshman biology students at Salpointe Catholic High School. In both of the companies I worked for, I completed projects by independently working on tasks and was able to get guidance when needed. This is similar to the guided inquiry approach that I used with my students; it allowed my students to be responsible for their own learning while having support when necessary. Integrating this business practice into my teaching is a valuable way to prepare students for the STEM workforce.

Findings

1. Honors students' initial perception of guided inquiry learning was better than on-level students'.
2. Students reported that guided inquiry helped them learn.
3. Even students who think that guided inquiry did not help them improved in their science literacy.
4. Guided inquiry significantly ($p < .05$) changes students' science literacy for both honors and on-level students.
5. Most students that went through the process of guided inquiry were scientifically literate.

Action Plan

My industry work gave me the opportunity to experience how guided inquiry works in a project-based environment. My action research allowed me to investigate the effectiveness of guided inquiry approach to increasing students' literacy. Research and my data shows that guided inquiry increases science literacy of my freshman Biology students. As a result, I will continue using guided inquiry approach in my Biology classes. Additionally guided inquiry activities and labs will be incorporated into the curriculum. This will help prepare my students for their future careers.