

Assessing Middle School Student Motivation to Learn Geometry with the Finch Robot

What brought you to this work?

Kazi: The idea started after some literature review and personal experience that I had. During my graduate studies, I worked with Sphero Robot which is a spherical robot that can be programmed to roll around and move. Now I'm curious to use a different robot called Finch to teach geometry to my middle school students. I want to understand the best ways in which students can learn and be motivated during this process.

Aldrete: I love dedicating my work to education as I believe that it is a way to contribute to more equitable and inclusive society and I believe that supporting teachers is key to realizing these goals. This experience gives me the opportunity to do empirical research where the findings will help Malimi and potentially other educators in their daily teaching of geometry and math. I think that providing quality STEM courses is fundamental for developing the skills that children need for their future. I'm excited to collaborate with Malimi and find better ways to engage students and improve their math skills using these robots.

Research questions

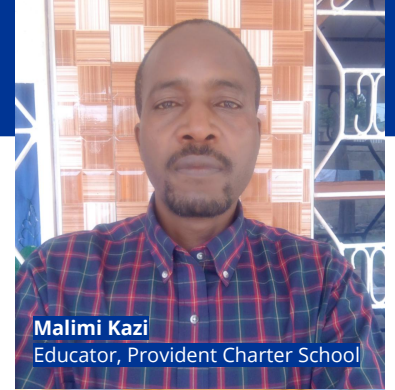
What is the impact of using robots to learn math relative to learning math traditionally for those students that joined the math-robot program? What is the size of the impact? What is the impact in motivation, engagement and learning achievement? Are there unintended consequences?

Research plan

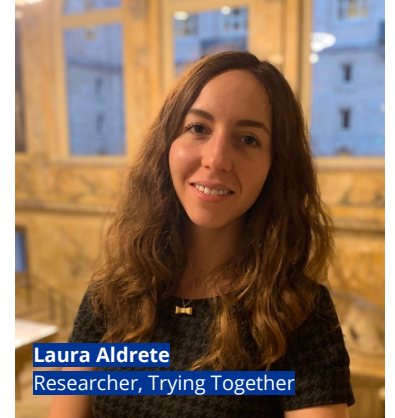
We will conduct observations to measure attitudes/opinions, and use pre- and post-implementation surveys to measure student motivation/interest/attitudes. We will also measure geometry achievement/performance/skills pre- and post-introduction of the robotics.

Working together

We are currently working remotely and having video-calls to share our ideas. We also like having meetings with other people, to learn about their other experiences in this field.



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