

Using the Development of a Mobile Application to Teach Health Behaviors to Individuals with Autism Spectrum Disorder with Social Stories



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Introduction

- Individuals with autism spectrum disorder (ASD) frequently experience challenges that impact their ability to understand and navigate a world designed for people without disabilities (CDC, 2020).
- Individuals with ASD often require different methods of learning, which are different from typical academic methods.
- Mobile apps are creating more interactive and dynamic experiences for students. Educational institutions should recognize the value of mobile apps to diversify learning and create an accessible teaching environment.
- Social stories can be used as a method of teaching and can facilitate understanding of social contexts that a child with ASD may find difficult to interpret.

Purpose

The purpose of this research was to evaluate training materials to help teachers in the creation of a mobile application that allows for addressing specific health behaviors of children with autism spectrum disorder.

Methods

Sample

Participants were recruited based on attending and participating in a poster presentation at the 2021 Michigan Association for Computer Users in Learning (MACUL) Conference.

Recruitment and Instrumentation

A Qualtrics survey was developed with 15 questions. The questions were adapted from the App Checklist for Educators (ACE) by Lubniewski, McArthur & Harriott (2017) and Ventimiglia (2007). Multiple choice questions regarding place of work, typical population the respondents work with, and usefulness of social stories were also added.

Data Analysis

Survey responses were collected and through Qualtrics. Data were analyzed using descriptive statistics Statistical Software for the Social Sciences (SPSS) Version 26.

Glide

- Glide turns Google spreadsheets into easy-to-use apps, without code and can be customized, then share it instantly.
- Can be used in multiple different settings as long as it is downloaded on a mobile device.
- Allows for any user, given permission, to edit templates.
- Glide has the ability to increase access to social stories, allows for personalization depending on needs, and increase agency in individuals with ASD's health and wellness.

Figure 1

Glide Hand Washing Template

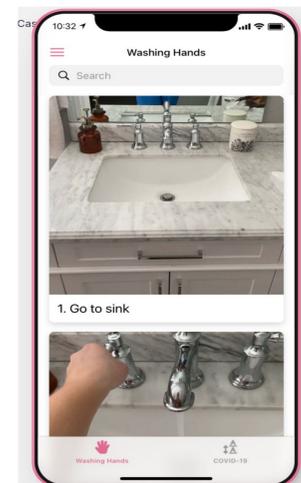


Figure 2

Glide Hand Washing Spreadsheet

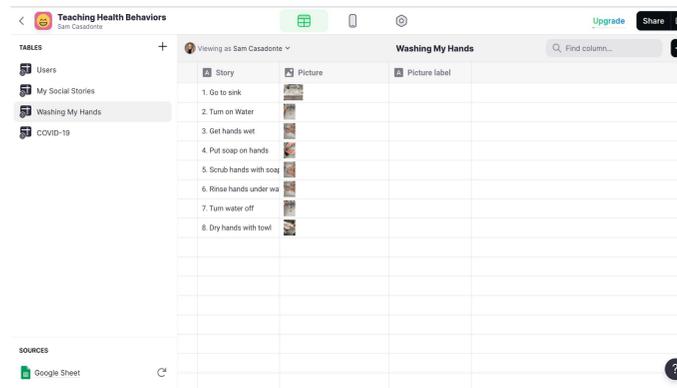
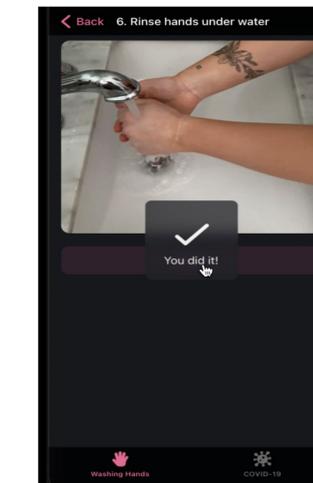


Figure 3

Glide Hand Washing Template



Results

- The target number of respondents of survey was ten individuals. Seven ($n = 7$) participants completed the survey in its entirety. Of the seven respondents, six ($n = 6$) identified themselves as special education teachers and one ($n = 1$) identified themselves as a severe multiple impairments professional.
- Of the six respondents three ($n=3$) indicated that they work in elementary schools, one ($n = 1$) indicated that they work in high schools, two ($n = 2$) indicated that they worked in another setting not listed.
- Results of the App Checklist for Educators (ACE) indicate that 100% of the respondents responded that the application can align with IEP goals, will engage student interest, has a clear and consistent layout, can match students with different levels of skill, and can be applied to real world situations ($n = 7$; 100%).
- 100% of the respondents also indicated that they would suggest the mobile application to other professionals and parents.
- Six of the participants responded that the mobile application is prepared in a culturally inclusive manner while one marked that the question was not applicable ($n = 6$; 100%).
- 71.4% ($n = 5$) respondents indicated that the mobile application is easy to use while 26.6% ($n = 2$) of respondents indicated that the application is somewhat easy to use.
- 54.4% ($n = 6$) of the respondents found social stories to be useful for Autism Spectrum Disorder.
- 36.4% ($n = 4$) indicated they use social stories to teach health and wellness.
- 54.5% ($n = 6$) indicated they use social stories to teach personal hygiene or personal care.

Discussion and Conclusions

- This study drew upon the perception from educators and their knowledge of using mobile applications to develop social stories for individuals with ASD.
- The results of the survey indicate that the Glide App may be effective in teaching health behaviors to individuals with Autism Spectrum Disorder as well as many other diagnoses that require special education services
- Social stories are oftentimes used in learning places.
- Strengths of this research is the extensive amount of research being done on autism spectrum disorder that is readily available as well as researcher devoted to health equity for individuals with disabilities.
- Limitations of this study include a lower number of survey respondents ($n = 7$) than the initial target sample size ($n = 10$). Another limitation is the lack of diversity in profession in the sample size as most of the respondents indicated that they are special education teachers.
- Further research should investigate the mobile application's effectiveness in the acquisition of health behaviors with individuals with ASD.

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Acknowledgments

Special thank you to the Michigan Association of Computer Users in Learning, Dr. Terri Gustafson, and Dr. Julia VanderMolen for their guidance and support.

