The Development of an eLearning Package for Teachers to Help Students Stay on Task and Transition between Tasks

Executive Summary

Dr. Satine Winter

Dr. Jill Ashburner

Stephanie Callaghan

Natasha Bobir

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Research team:

Dr. Satine Winter
Research Project Officer, Autism Queensland

Dr. Jill Ashburner
Manager Research and Business Development, Autism Queensland

Stephanie Callaghan
Research Officer, Autism Queensland

Natasha Bobir
Research Officer, Autism Queensland

Digital Creative Arts Team:

David McCartney
Manager Vocational Programs, Studio G

Anthony Stone
Filmmaker and Studio G Mentor, Studio G

Adam Shepherd
Filmmaker, Studio G

David Smith
Illustrator, Studio G

Jermu Hautsolo
Illustrator and Studio G Mentor

Elizabeth Scales
Actor

Declan Mount
Actor

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Acknowledgements

A Note on Terminology

The term autism spectrum disorder (ASD) is used only when discussing the diagnostic criteria described in The Diagnostic and Statistical Manual of Mental Disorders: DSM 5 (American Psychiatric Association, 2013). Student participants in this research have been referred to as students on the autism spectrum, or students on the spectrum, throughout. At the time of writing, this is the preferred terminology within the Cooperative Research Centre for Living with Autism (Autism CRC). However, it is acknowledged that the language with which the autism spectrum is described is rapidly evolving.

The Cooperative Research Centre for Living with Autism (Autism CRC)

The Cooperative Research Centre for Living with Autism (Autism CRC) is the world's first national, cooperative research effort focused on autism. Taking a whole-of-life approach to autism focusing on diagnosis, education and adult life, Autism CRC researchers are working with end-users to provide evidence-based outcomes which can be translated into practical solutions for governments, service providers, education and health professionals, families and people on the autism spectrum.

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Background

Students on the autism spectrum may demonstrate executive functioning weaknesses which present as difficulties in transitioning between tasks, commencing a new task, and completing complex tasks that need to be broken down into steps (Hill, 2004; Milley & Machalicek, 2012). Students on the spectrum also often lack the flexibility to cope with changes during the school day resulting in difficulties coping with transitions from one activity to another (Church, Alisanki, & Amunullah, 2000; Stoner, Angell, House & Bock, 2007). Structured Teaching strategies such as visual schedules and work systems have been found to enhance the capacity of these students to stay on task and transition between tasks (Mesibov, Shea, & Schopler, 2004). The majority of previous studies have, however, focused on the use of these strategies within special education or autism specific contexts. This project aimed to develop an eLearning package based on the results of Autism CRC Project 2.011RC: Helping students to stay on task and move between tasks. The aforementioned project demonstrated that the use of visual schedules and work systems in mainstream classrooms led to improvements in the on-task behaviours of students on the autism spectrum (Macdonald, Trembath, Ashburner, Costley, & Keen, 2018). It also resulted in the development of a paper-based resource called "Finished! On-task Toolkit: A teacher's guide to using visual schedules and work systems in mainstream classrooms."

Aims

The aims of this project were to:

- convert the existing paper-based resource into a more dynamic online eLearning package to make information on Structured Teaching strategies more accessible to time-poor mainstream classroom teachers and more motivating for students;

- gather feedback on the eLearning Package from teachers in mainstream schools, and to refine the package on the basis of this feedback. Feedback was gathered in regard to:

  a) the extent to which the resources in the eLearning package assist teachers to understand Structured Teaching;

  b) the extent to which the resources in the eLearning package assist teachers in implementing Structured Teaching approaches in mainstream classrooms;

  c) the feasibility of implementing Structured Teaching strategies illustrated in the eLearning package including visual schedules and work systems in mainstream classrooms.

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Method

The eLearning package that was developed included:

- two short animated videos (PowToon™)

- three PowerPoint™ presentations to provide the background and research about Structured Teaching, visual schedules and work systems

- five quick reference guides about Structured Teaching, visual schedules and work systems that include a checklist for implementation

- downloadable templates of visual schedules and work systems, available in a variety of colours and suitable for use with different year levels and subjects.

- video-models of a teacher and a student discussing their use of visual schedules and work systems and the way that these strategies help them in the classroom.

Participants

Teachers from two Brisbane co-educational Christian schools participated in the evaluation of the eLearning package. Twenty-nine teachers who attended professional development showcasing the eLearning package, and four teachers who trialed the resources in their classrooms provided feedback.

Research Design

A mixed methods design including the use of short surveys and focus groups was used to conduct the evaluation of the eLearning package.

Procedure

Educational staff from the two participating schools were provided with professional development called 'Structured Teaching: Visual Schedules and Work Systems', which showcased the eLearning resources with the aim of gathering feedback on the package. The research project officer facilitated the professional development, which included showing, discussing, demonstrating and answering questions about the eLearning resources. Several weeks after the professional development, further feedback was gathered through focus groups of teachers who trialed the resources in their classroom.

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The teacher feedback gathered through the post-professional development surveys and the focus groups with the four teachers who trialed the resource in their classrooms was used by the researchers to revise the eLearning resources so that they were more relevant and practical for teachers.

Data Analysis

The quantitative data was analysed through descriptive statistics. The transcribed focus group data and the open-ended survey questions were analysed using content analysis, which is a method of eliciting contextual meaning from text through the development of emergent themes (Patton, 2015).

Results

Refinements of the resources were made on the basis of the teacher feedback. Overall, participants rated the professional development session as being helpful in enhancing teacher understanding of both visual schedules and work systems, with most participants rating the quality of the sessions as high or very high. The session on work systems received a higher number of very high ratings than the session on visual schedules. The feedback on the eLearning Package revealed four common themes:

a) issues with time (e.g., lack of time to adequately view the eLearning resources or to adequately implement the strategies in the classroom)

b) teacher engagement with the eLearning resources (e.g., a willingness to engage in learning new strategies to cater to their students on the spectrum)

c) issues with the social validity of strategies for individual students, (e.g., when strategies were implemented with student on the spectrum only, some students felt stigmatised)

d) outcomes for teachers and students (e.g., the effectiveness of work systems in helping students to stay on task, and reduction of the need for teacher prompting).

Refinement of the eLearning Package in Response to Teacher Feedback

- The downloadable templates were simplified with most colours removed to enable them to be edited according to the colour preferences of the student or school.

- In response to feedback suggesting that the PowerPoints™ were too long, too detailed or unclear, revisions to the PowerPoints™ presentations included reductions in length and improvements in clarity of expression.

- In response to the finding that teachers' knowledge about Universal Design for Learning after professional development was variable, the adapted PowToon™ videos also included a separate slide on Universal Design for Learning.

- In response to suggestions for more interactive sessions and discussion about Structured Teaching approaches, it is suggested that eLearning resources be discussed in face-to-face meetings and professional development activities, rather than just accessed online.

- As teachers appreciated the demonstration of resources when developing visual schedules and work systems, the video vignettes developed for the PowerPoint™ presentations and video-models of a teacher and student include demonstrations of the way that these different types of resources can be used. The quick reference guides also depict a variety of examples of visual schedules and work systems using a range of resources.

Conclusions

The feedback on the professional development sessions was very positive with almost all respondents finding the sessions helpful in improving teacher understanding of Structured Teaching. More positive responses were recorded for the professional development on work systems than on visual schedules, as many teachers reported that they were already familiar with visual schedules, whereas they were less knowledgeable about work systems.

All parts of the eLearning Package were well received, with preferences for a particular resource depending on the purpose (e.g. the downloadable templates were preferred for

use in the classroom, whereas the PowToon™ videos were a preferred means of learning about Structured Teaching). The professional development sessions were strongly favoured by all participants as they preferred engaging with a person to ask questions and to physically touch and view the resources. Recommendations were given for Webinars on the eLearning resources.

The most commonly reported issue reported by all participants was time, as time directly impacted the teachers' engagement and/or success in implementing visual schedules and work systems. It was noted that some teachers did not implement Structured Teaching strategies on a whole-of-class basis, which lead to negative responses on the part of a few students on the spectrum possibly due to the stigma associated with "feeling different". There were also instances of implementation of the strategies in ways that did not completely align with the principles of Structured Teaching (e.g. positioning visual schedules in visually cluttered environments). However, overall, the eLearning Package and professional development on autism and teaching strategies for the mainstream classroom were favourably received.

Limitations and Future Research

The evaluation of the eLearning Package was limited by a small sample size, which could impact the generalisability of the findings to other mainstream classroom settings. As the teachers who participated in the study did so on a voluntary basis, it is possible that these teachers tended to be more proactive than other teachers. The time of year (close to the end of the school year) was also a limitation as some teachers had limited time to fully implement the Structured Teaching Strategies. Future research may include research on the use of the principles of Structured Teaching with a larger sample, student motivation and the use of Structured Teaching in secondary schools.

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