

## **Various characteristics of educational technology make it an effective teaching and learning tool for students with multiple exceptionalities**

Both participants of this study spoke very highly of various characteristics of classroom technology that renders it effective for students with multiple exceptionalities. In particular, three characteristics that were emphasized include the interactivity of the touchscreen interface, predictability, and versatility of technological tools. Altogether, these features make certain classroom technologies effective tools to support students with multiple exceptionalities.

### **Interactivity of touch screen interface**

Touch screen devices that were used by both participants collectively included the iPad, Promethean Board, and ActivTable. All three devices are touch screen, which enables either a single user or multiple users to interact with the interface. As described by Campigotto, McEwen, and Demmans Epp (2013), the use of sight and sound reinforcement as well as haptic feedback provide a sensory aspect and dimension that pen and paper do not. As a result, students are naturally attracted and motivated to use the device. “Jill” echoed this in the following excerpt: The demands of touching the screen on the interactive white board seem to be easier to handle for some students than the demands of pulling Velcro and moving laminated things around. So I can do all the same things that I was doing with paper, but on the board. However, McEwen (2014) outlines that the touch screen interface can be a source of many difficulties for students with severe fine motor constraints. Therefore, educators should consider this design constraint when using commercially available technologies such as these for students with motor planning difficulties. With this constraint aside however, the interactivity of the touch screen interface of many classroom devices such as the iPad, Promethean Board, and ActivTable can be effective for certain students.

### **Predictability**

In addition to the interactivity afforded by touch screen devices, participants also favoured the predictability of most educational technologies. Although all students benefit from structure and predictability at school, students with exceptionalities may react more strongly than their peers when faced with an unexpected change (Volmer, 1995). “Jill” was particularly enthusiastic about

the predictability technology offers for her students: No one can eat it, I can't lose pieces. It's always in the same place, the reward sounds are always the same, the predictability is there. And that's one of the things that we think contributes to the success of technology in the classroom, is the predictability of the technology, of the responses, of the wait times, of all of it.

And it's the same with the iPad. It's always gonna look exactly the same, its never going to be in a bad mood. It's never gonna be rushed, it's predicable. Participants demonstrated the ability of educational technologies to offer predictability for students with multiple exceptionalities. As mentioned by Jill the predictability of technological features is a valuable characteristic for students of this population.

### **Versatility**

Another favourable characteristic of educational technology in the special education classroom was the ability of teachers to use these devices for multiple instructional purposes. Participants shared how the versatility of educational technology offers It gives you the balance to either have a passive class, where I am the teacher presenting a lesson using the board for visual reinforcement, or active participation, where the students are required to come up and interact either with each other on the board or just with the board, or with me and the board.

As shared by "Jill", the interactive whiteboard provides teachers with several options for use. It provides the flexibility to facilitate versatile, interactive activities by giving anyone in the classroom the ability to control. Educational technology tools such as the interactive whiteboard can be used to facilitate whole-group or small-group instruction, assessment, collaborative learning, or personalized instruction.