Engagement Model & Computing

Introduction

This resource has been created by the Sheffield eLearning Service to accompany the **Sheffield SEND Computing Scheme of Work** (https://sheffieldclc.net/). It has been designed for use with learners who are assessed using the Engagement Model and who aren't following a subject-specific curriculum.

It contains some examples of each area of engagement and a number of resources you can use with students, including hardware and software, websites and tablet apps. The resources are also excellent for students working on an informal curriculum to develop understanding of cause and effect and more purposeful exploration of technology.

Areas of Engagement

Exploration

Technology can be hugely motivating for learners and can stimulate a strong response. Do students reach out to touch a remote-controlled toy or pay attention to the animations on a screen in an app?

Realisation

Using a musical app on a tablet, do students try to maintain the sound or stop it by touching the screen? Do they show surprise when a remote-controlled toy or floor robot moves, and vocalise to encourage you to make it happen again?

Anticipation

When using a tablet or touchscreen with learners, do they automatically reach out to touch it to make something happen? Do they show or vocalise interest when a piece of technology is brought in, e.g. a bubble tube?

Persistence

To what extent do students persist with a particular app or website? Do they maintain their gaze on a device or screen?

Initiation

Can students repeat an action to trigger an outcome in a cause and effect app, e.g. touch the screen or press a switch to make a sound or animate an image?

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Hardware

Go and Glow Bot
This robust programmable toy has four large directional arrow buttons and has a setting to use it as a simple cause and effect device with movement, light and sounds. It can be purchased from the TTS website here.

Bee-Bot
This robust programmable toy from TTS can be used to demonstrate movement – program to move around a sensory grid or images based on a story being studied. Students can press the *Go* button to initiate a series of moves.

Sensory technology
Use a range of sensory devices to encourage exploration e.g. bubble tubes, light-up shapes, fibre optics.
See the range from TTS and Inclusive Technology.

Switches
Use switches with adapted toys or some of the websites and software listed below for learners to control what happens.

Remote control toys
Use simple remote control toys to capture attention. Some students may be able to use the controls to make something happen. The Clever Cats from TTS use just a single button.

Everyday technology
Use smart speakers to play music; explore technology around the school and local area – microwaves, washing machines, tills, CD players, traffic lights etc.

Eye gaze
An eye gaze can be an excellent tool for allowing students with complex physical needs to access content on a screen and help measure engagement. Inclusive Technology has a range including an iPad version.

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RESOURCES

Software

__Note__ that both of these are subscription products.

Busy Things
The music and art tools aimed at nursery aged children can be used as cause and effect activities on the board, and the rest of the resources are engaging for students working at higher levels. [https://www.busythings.co.uk/]

HelpKidzLearn
A large collection of activities created specifically for learners with SEND that can be used on iPads, PCs and Chromebooks. Includes a number of cause and effect activities with a progression framework, inclusive stories, and Choose It Maker that can be used to make bespoke activities. [https://www.helpkidzlearn.com]

Websites

All links working at time of publication (Sept 2024) – some may no longer be available in the future. The majority of resources are free.

- SENict Activities – A large number of Switch activated activities on a range of topics. Some subscription activities available too.

- Scratch Cause & Effect Activities - Collection of Scratch projects that can be used with simple keyboard controls. Click on a project to see the instructions, then on the 4-headed arrow to make it full screen.

- Shiny Learning switch games - Some free online switch and touch-based activities, subscribe for offline access and the full games.

- Switch Fireworks Activities - 4 different fireworks cause and effect activities.

- Sampulator - Create sounds and beats using the keyboard.

- Patatap - Create sounds and visuals using the keyboard.

- Chrome Music Lab - A number of fantastic music activities – some are suitable for cause and effect work or exploration of technology.

- Jackson Pollock - Jackson Pollack simulator – move the mouse to make patterns.

- Kaleidoscope Painter – Visit the website on a tablet and touch and drag to create patterns (or click and drag on a PC).

- Blob Opera – Use on a tablet - drag the blobs and make them sing (click and drag on a PC).

- Cbeebies Creative Lab – Create artwork on a theme of various Cbeebies shows. You can also pop the bubbles on the start page!

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RESOURCES

iPad Apps

Paid for apps marked with a * - it is often worth paying to remove ads.

Fireworks Arcade – tap the screen to explode a firework.

Pogg – choose an action for Pogg to do e.g. swim, play piano, run. Free version has limited number of actions.

Fun Bubbles Lite – create a bubble by holding your finger on the screen, tap to burst them.

Cause and Effect Sensory Lightbox* / Cause and Effect Sensory Soundbox* - each app contains 18 cause and effect activities with visuals and sound.

I Hear Ewe – touch the animals and transport to hear the noise they make.

Wa Kingyo LE – Goldfish Pond – simple pond, interact with the fish, water sounds (contains ads).

Pond Koi Lite – similar fish pond, add flowers and change background.

Sensory Electra – one, two or three finger touch to change the electric current.

Sensory Build It – simple cause and effect activities with underwater scenes, toys, aliens etc.

Heat Pad – create heat map type visuals using all fiver fingers.

Awesome Xylophone Lite – nice and simple xylophone!

Antistress – large number of games to explore – requires more control for some of them (targeting, dragging).

Sago Ocean Swimmer – move your finger to make the fish swim and explore the ocean. Sago do a range of similar apps, e.g. Forest Flyer.

Toca Boca apps* - e.g. Hair Salon, Train, Kitchen. A bit more explorative than cause and effect, but engaging and good for social stories too.