

## **Resources for SLD/PMLD pupils using iPads**

*Developed with the staff and pupils of Netherhall School, Leicester*

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## 1. Checklist

### **a) Make it as easy as possible for pupils to use their own movement to play the iPad.**

*You can do this by:*

- Supporting the pupils' wrist so that they only have to move a tiny amount to trigger a sound.
- Using alternative parts of their body, e.g. nose, chin, back of the hand, to trigger a sound.
- Changing the set-up of the app to allow pupils more options with the same amount of movement (see below).

### **b) Make it easy for the pupil to understand that it is them that is making the sound.**

*You can do this by:*

- Making sure the volume is appropriate
- Putting a speaker close to their ear or using vibrating speakers on the skin
- Cutting out other noises in the room.
- Choosing apps that are very visual to reinforce the sound, and moving the iPad to where the pupil can easily see it.
- **Make sure that 'Multi-tasking gestures' is turned off, and Guided access is turned on if necessary (see below)**
- **Give pupils plenty of time to respond.** Don't feel pressured to get the 'right' sound straight away.

## 2. Set up the iPad

### a) Turn off 'Multitasking Gestures'

Multitasking gestures allow users to do things like 'swipe with four fingers to switch between apps' and 'pinch the screen to return to the home menu'. SEN users often trigger them by accident, interrupting the music, and it is usually best to switch them off.

1. Open the 'settings' app.
2. Press 'General', then 'Multitasking'
3. Swipe the 'gestures' setting too off (from green to white)

### b) Turn on 'Guided Access'

Guided access allows the iPad to be fixed in a single app, and can deactivate any part of the screen. It works on all apps. This has two main uses: Firstly, it enables pupils with limited fine motor control to only trigger the parts of the screen that are appropriate. Secondly, it prevents pupils leaving the app to play on games, surf the internet etc.

*To turn on Guided access (you only need to do this once),*

1. Open the Settings app
2. Press 'General > Accessibility > Guided Access.
3. Switch on Guided Access, tap Passcode Settings then 'set your four-digit passcode.'
4. Choose a password. We use '0000'

*To use Guided Access:*

1. Open the app you want to use (e.g. Thumbjam)
2. Triple-click the 'home' button (the physical button on the front of the iPad). This will open up the guided access menu
3. Draw around the areas you want to disable - they will turn grey - then press 'start'.
4. When you want to exit Guided Access mode, triple-click the home button again and enter your passcode.

*Tip: If you forget your passcode, do a 'hard reset' by pressing the power button*

*and the home button at the same time for 5 seconds. This switches the iPad off, allowing you to restart it with Guided Access turned off.*

### **c) Lock Rotation**

The 'lock rotation' feature stops the iPad from changing orientation (i.e. from portrait to landscape) when moved. It is useful when the iPad is on a flat surface or moving around a lot, but not often not needed.

*To start 'Lock Rotation'*

1. Swipe up from the bottom of the screen (can be fiddly!) to open the 'control centre'
2. Tap the 'lock rotation' icon- a picture of a padlock with a circular arrow around it.

*Tip: You can also use the switch on the side of the iPad (above the volume control) to toggle lock rotation, though you may have to turn this feature on in the 'Settings' app: General > Lock Rotation*

### **3. PMLD 20 minute Music activities** **(suitable for non-musicians)**

#### **1. RELAX: BLOOM**

**Aim:** Create one or more 'soundscapes'. Develop focus and understanding of cause and effect.

**Good for:** Pupils with very limited movement. Pupils who respond well to colour.

*Bloom is a peaceful, atmospheric app. The whole iPad becomes a colourful playing surface that plays repeating notes when touched by a pupil.*

1. Open 'Bloom' and press 'create'. (if the app is already open, skip to step 5)
2. Find the best place for the pupil to play the iPad. This will depend on pupil's movement and eyesight.
3. Encourage pupil to make first contact with the app on their own (even if you have to support their arm).
4. Allow pupil to create a repeating soundscape.
5. After a while, reset the app by tapping in the bottom right hand corner to open the menu, then press 'clear', followed by the button with the four arrows.
6. Repeat the playing process, reinforcing the idea of cause and effect.

Extension: This app is great to use in pairs. One person uses this app, and another uses a complimentary app, like Bebot or Thumbjam. Or you could add atmosphere yourself by playing a xylophone or chime bar (easier than it sounds!)

#### **VOCALISE: Microphone with EZVoice/Singaling app**

*You will need either a microphone or speaker to use this app.*

**Aim:** Encouraging pupils to vocalise, understanding cause and effect.

1. Open the app and adjust the settings.

2. Demonstrate (and experiment with!) the microphone using the delay, reverb and choir settings.
3. Bring the microphone to the pupil's mouth and encourage and reinforce vocalisation. Adjust the volume if necessary.
4. Alternatively, pupils can tap on the microphone (good with the delay effect)

**Extension:** Try and develop a 'call and response' pattern, whereby you copy the pupil's vocalisations, then they copy yours.

## **7. SOLO AND IMPROVISE: BEBOT**

**Aim:** Create exciting melodies.

**Good for:** Pupils who like big sounds, pupils who have small, repeating gestures (e.g. tapping). The best thing about bebot is that the whole iPad is a playing surface, with no unnecessary buttons. Good for thinking about pitch and sliding between notes.

1. Open the app
2. Explore the sounds. This is a good app to plug a speaker into and put near the pupil's ear or against their skin.
3. Change the sound by double clicking in the bottom right hand corner and moving through the preset sounds.
4. Find a sound that the pupil enjoys.
5. Consider adding a backing track or soundscape to the solo.

**Extension:** You can change the type of scale and amount of notes available to play in the 'scale settings' menu. Pupils with small movements should have a large amount of notes available to them, and vice versa.

## **PLAY (ALMOST) ANY INSTRUMENT!: THUMBJAM**

**Aim:** Explore the sounds of high quality instruments. Play along to the backing track.

**Good for:** Pupils who are good listeners. Pupils with limited motor

control, pupils with very limited movement.

*Thumbjam has a library of instruments: saxophones, cellos, pianos and many more. The whole playing surface is an instrument, making it easy to play.*

Solo playing:

1. Open thumbjam.
2. Explore the instrument.
3. Change the instrument. Go to 'Sound' in the top left corner, then 'Change Instrument'. Choose a new instrument by tapping on it, then press 'done'.
4. Change the amount of notes on the playing surface by pressing '+' and '-' on the 'span' setting on the left hand side. Pupils with small movements should have lots of notes and vice versa.
5. Experiment with instruments with sounds that do not keep playing when the finger stays on it (e.g. hammered dulcimer, acoustic guitar, bass plucked), and those that do (e.g. flute, trumpet, cello). Which gives the pupil more control and satisfaction?

### **Playing along to the 'Improvise Approach' backing tracks:**

1. Choose a instrument
2. Change the scale to 'Major Pentatonic' by pressing 'Sound' then 'Change Scale'.
3. Change the key to C by pressing the button next to 'Sound' that looks like a hashtag, then pressing 'C'.
4. Choose a backing track from the 'Improvise Approach'
5. Play along!

### **VIDEO SAMPLES: MADPAD**

**Aim:** Access a range of sounds by triggering video samples.

**Good for:** Allowing pupils without speech to trigger words, or play high quality instrument riffs.

*Part 1 – Create the samples*

- a) Open Madpad
- b) Press 'create your own set' then 'try this'

- c) Record one sound in each of the 12 squares. These could be
- Pupil vocalisations
  - The name of the pupil (how about in a funny voice?) or things they like.
  - Found sounds or familiar sounds (e.g. sounds from the dinner hall)
  - Body percussion/beatboxing.
  - Acoustic instruments
  - Sampled sounds of professional musicians.

Make the videos very visual (you can turn the camera around if you want).

d) Press 'save and play'

e) Find the best position for the iPad so that pupil to access as many of the sounds as possible.

f) experiment with the different sounds, possibly with a backing track!

### **Sample 30 Minute PMLD Session Outline**

As pupils enter- Ambient music(e.g. from 'Tanpura' app, or accordion drone, or Bloom app).

5 mins – Hello song – with space for each pupil to play an instrument or vocalise within the song. Don't worry about taking a long time for them to respond.

10-15 mins – individual work with apps. This could include multi-sensory aspects, using backing tracks, creating soundscapes.

10 mins – Bring ppls back together to play together e.g. with one pupil creating a soundscape or rhythm, and the other soloing. Music specialist can also play at this time.

5 mins – goodbye song, feedback.

## 4. List of apps

### PMLD + (listed in order of how much we use them)

**Bebot** Polyphonic synth with more depth than first appears.

**Bloom** – See above

**Thumbjam** Powerful instrument emulator.

**Aquasonic** – Similar to bloom, but with water background. Shake to make the water move.

**Madpad** Video sampler.

**Beatwave** – Create layers of melodies by using a grid system. Pupil needs to have good grasp of cause and effect for this one to be meaningful, but it sounds great.

**Thicket** – Moody and very visual soundscape creation that some pupils love.

**Soundprism** – Create organ- like sounds. Big playing surface. Good for using in duets with a melody app like Bebot.

**Airvox** Uses the iPad camera to generate pitches based on the distance between you and the iPad.

**EZ Voice/Singaling** – These two apps work with a microphone (this could be the iPad microphone) to add effects, including delay, reverb and harmonies, to the voice. EZ voice is more powerful but slightly more fiddly.

### SLD +

**Garageband** Songwriting app with virtual instruments, sequencer and easy to use sampler.

**Loopseque** Cyclical beat-maker with fantastic potential for exploring rhythm.

**Figure** Intuitive dance music creator.

**Loopseque Kids** - As above, but more child-friendly interface and sounds.

**Drumjam** – Cousin of Thumbjam, easily drag in instruments to create a groove then improvise on top with a range of great sounds.

## **5. SLD Lesson Plans**

*These lesson plans are designed to demonstrate app set ups to all staff on the project, and so each lesson has 'staff outcomes' as well as 'pupil outcomes'/'*

### **Session 1 (50 mins)**

**Equipment:** 1 iPad between 2 participants. Appropriate amplification.

**Apps used:** Thumbjam (TJ), Bloom, EZ Voice/Singaling with microphone.

**Prep:** All iPads to D minor.

#### **Pupil learning outcomes:**

- Say their name through a microphone.
- Listen to different instruments on Thumbjam in order to identify and choose a preferred type of sound.
- Learn how to change instruments on Thumbjam
- Identify low and high sounds aurally and play them in response to visual direction.

#### **Staff learning outcomes:**

- How to change instrument on TJ
- How to change key on TJ
- How to change 'span' on TJ

#### **Introduction/warm-up**

- (Live) music playing as pupils enter.
- Name game welcome with microphone. Pupils say their name through microphone with effects.

#### **Main task –**

- Ppls control pitch of live instrument (clarinet) using their arm to indicate high/low
- Introduce TJ in same way. Everyone has a go.
- Show how to change instrument and span.
- Move into SMALL GROUPS.
- Each participant listens to various instruments and chooses their favourite.

- Come back into a LARGE GROUP. With acoustic instruments, percussion etc, create a groove. Participants take turns to solo over the group, perhaps with one acting as conductor.
- Suggest dancing.

## **End**

- Relaxation session. Turn on wall projections to show snowy scene. Ppls use bloom to create snowy atmosphere. Lie down.
- Goodbye song.

## **Session 2**

**Apps used:** Loopseque, Thumbjam, (Bebot)

**Prep** Choose a Loopseque sound set that fits with intended scale.

### **Student outcomes**

- Perform a solo
- Move between cells on Loopseque
- Play in a small group in front of an audience
- Add lyrics to a song.

### **Staff outcomes**

- Learn basics of Loopseque
- Recap Thumbjam learning – changing instruments.

### **Warm up**

- Hello song. Pass around microphone with effects – participants say their name, say hello or vocalise.

### **Main Activity**

- Introduce Loopseque . Each pupil adds a few notes to the groove. Invite pupils to move.
- Improvise over the top using acoustic instrument or thumbjam/bebot.
- Split into two SMALL GROUPS. Pupils create Loopseque set and improvise over the top with Thumbjam. Choose an order of soloists and practise soloing by taking turns (5-10 mins).

- When both groups have a piece they are happy with, create a performance space and perform to each other.

### **Ending**

- Return to one big group. Play the Loopseque and dance along, perhaps with additional Thumbjam solos.
- Goodbye song.

## **Session 3**

**Apps used:** Garageband

**Prep:** Edit the chords on Garageband (from the 'spanner' menu in the smart strings) so only one A minor and 1 C chord is visible. Create the 'I LIKE FISH AND CHIPS' rhythm on Loopseque.

### **Student outcomes**

- Play together in a large ensemble
- Play with contrasting dynamics using Garageband Smartstrings
- Play a simple rhythm on two chords with accuracy.
- Follow a conductor.

### **Staff outcomes**

- Use the SmartStrings in Garageband.
- Edit the chords of Smart Instruments in Garageband

### **Warm up**

- Hello song with microphone passed around with effects. Let each pupil have as much time as they want on the microphone, holding it themselves.
- Introduce the Smartstings. Ask ppls to close their eyes. Walk around the room, playing the strings. Ppls listen carefully and point to where the sound is coming from.

### **Main task**

- All pupils have a go at playing long, legato notes on the strings.
- Now pupils are focused, introduce the rhythm '1,2,3 and 4'.

Mnemonic 'I LIKE FISH AND CHIPS. Spend some time internalising it using body percussion – stamps and claps. Scaffold by beginning with stamps alone.

- In TWO GROUPS practise
  - a) playing quietly (move finger slowly) and loudly (move finger quickly)
  - b) moving between the two chords while watching a conductor
  - c) The 'I like Fish and Chips' rhythm over the two chords.
  - d) soloing over the chords.
  
- Bring the group together for a group performance. Add the various sections to create a structured piece.

## **End**

- Play various loops from the Live Loops. Have a dance.
- Sing goodbye song.

## **Session 4**

**Apps Used:** Garageband

**Prep:** Open the Garageband song from session 3, making sure the smart instruments still only show Am and C chords. Make sure the bpm of the smart drums fits with the hello song (we use 'Hello Everybody' at 100bpm)

### **Student outcomes:**

- Play a rhythm across two chords using SmartGuitar
- Create and perform a simple arrangement in a small ensemble.
- Create a layered drumbeat using SmartDrums
- Follow a conductor

### **Staff outcomes**

- practise using Smartdrums and Smartguitar using Garageband
- practise engaging and conducting small ensembles.
- Create simple harmonic progressions from rhythms.

## **Warm-up**

- Hello song
- Demonstrate creating smartdrum beat
- Sing the Hello song over the beat.

## **Main task**

- Recap the 'I LIKE FISH AND CHIPS' rhythm using body percussion.
- Introduce smartguitar. Show the four sounds of the guitar.
- Try and play the 'I LIKE FISH AND CHIPS', or at least the first bit, using the smart guitar. Assess levels of students.
- Split into SMALL GROUPS of equal numbers:
  - a) smartdrums (practise bringing in and taking drums out),
  - b) smartstrings (practise moving between chords and following conductor)
  - c) smartguitar (practise fish and chips rhythm over two chords).  
Option of also having vocal group.
- Swap the groups around, to create groups that each contain one of each instrument.
- Rehearse as a group, emphasising need to listen and connect with each other.
- Small group performances
- Extension: add solos.

## **End**

Goodbye song.

## 6. Loopseque & Bloom Soundset Keys

*This list of keys are useful when using the apps collaboratively with other apps or acoustic instruments.*

### **Loopseque**

*Kids - C maj penta*

Alien Party - A maj/min blues / Mixolydian

Dancing Chords - F# Harmonic Minor, Minor Blues / Dorian

Lazy Keys - G minor blues

Moon Safari - Eb major pentatonic

Neon Dreams - C harmonic minor

Pink Candy (slow) - Eb

Rain Drops - A min penta

Secret Place - F# maj penta

Simple Story - C min blues

Speed limit - C min blues

Spy Glasses - C min blues

Square Dots - D maj penta

Tribal Canvas - C maj penta

Underwater Train - D min blues

Urban Rock - C min blues

Zip Trip - D min blues

### **Bloom**

Tolu - Bb    Skatole - G    Civet - C

Cedar - F

Benzoin - C

Ambrette - G

Orris - F

Bergamot - D (minor tones - dim 3rd)

Labdanum - A

Ylang - D

Vetiver - C

Neroli - G