



LIFT Music and Pupil A: A Case Study in Engagement and Musical Expression through Movement.

Overview

Over an 11-week period, Pupil A showed a remarkable progression from passive observation to active, expressive participation. Initially disengaged and unaware of the activity, he gradually began to respond to both the music and the facilitators, developing purposeful movements. This awareness built confidence, independence, and sustained engagement.

By the end of the study, Pupil A maintained eye contact, responded to prompts, and used LIFT Music as a means of communication and self-expression. The app provided him with agency and choice, enabling him to convey emotion and participate socially through music.

Introduction

Evidence of the benefits of music for autistic children is widespread, particularly within music therapy (De Vries et al., 2015; Geretsegger et al., 2014; James et al., 2015; Mayer-Benarous et al., 2021; Reschke-Hernández, 2011; Simpson & Keen, 2011).

The **LIFT Music App** is a gesture-controlled music creation platform developed to enable access to music improvisation and creation for individuals with physical and cognitive impairments. Through hands-free interaction, LIFT Music removes common barriers to musical engagement and delivers therapeutic benefits including enhanced emotional regulation, focus, and confidence.

This case study examines Pupil A and the benefits of using LIFT Music over a period of 11 weeks for Pupil A. The study was based at **Woodside Academy**, a SEND school in Bexley, London, supporting autistic students aged 4–19 with a wide range of complex learning needs.

Pupil A is a 14 year old autistic male, minimally verbal.

Background: Why Lift Music?

Music is widely recognised as a therapeutic tool, particularly within SEND environments. However, access to music-making tools remains limited for students with physical disabilities or severe cognitive challenges.

LIFT Music was developed to address this gap by offering:

- **Gesture-based control** for inclusive access
- **Simple, low-cost setup**
- **No reliance on fine motor skills to play instruments or operate technology**
- **High adaptability** for one-on-one and group sessions

Its benefits include encouraging movement, calming agitation, stimulating creativity, and providing a sense of agency with an accessible route to self-expression.

LIFT Music was developed to remove common barriers to musical participation by providing gesture-based control that allows individuals to create and explore music. Its simple setup and adaptability make it suitable for both one-to-one and group sessions within SEND environments. For Pupil A, a severely autistic, minimally verbal learner who initially required prompting and physical guidance to enter the room, sit, and move his arms, LIFT offered an accessible pathway to participation. The app encouraged movement, supported emotional regulation, and gradually transformed passive presence into active engagement. Through intuitive, hands-free interaction, Pupil A began to experience creativity, communication, and a growing sense of agency, expressing himself in ways that were previously inaccessible through traditional instruments or verbal communication.

Case Study Context: Pupil A

Structure of Sessions

- **When:** Tuesdays during term time
- **Where:** Woodside Academy, Bexley
- **Who:** Students aged 4–16 with varying SEND profiles
- **Format:** Group Sessions: 6 classes (8–12 students each), 20–30 minutes per session

Staffing

- School staffing ratio 4:1
- LIFT Music Operator (Stuart Grimshaw)
- Data Collector (for the case study)

Setup

- iPad mounted on a stand
- Bluetooth speaker
- Simple room arrangement to minimize distractions

Duration of Case Study and Data Collected

The sessions at Woodside started on 29th May. It proved difficult to engage with the sessions and collect data, so initially the data was only anecdotal and collected after each session. From 10th June, we employed a dedicated Data Collector, who recorded the following data: Duration; Music Style; Engagement; Movement; Prompting; Verbal or non-verbal; quotes and notes recorded. The school facilitated the trial which ran for 11 weeks. Each pupil was shown a smiley 1-5 and asked how they felt before and after each session with LIFT Music. Apart from prompting and encouragement, no other questions were asked.

Week 1-4 29th May to 10th June

(Pre Data Collection)

During the initial four weeks of sessions, Pupil A showed very limited awareness of the activity taking place. Although the LIFT Music app was introduced and demonstrated, he did not appear to recognise the iPad, or the sounds being produced, as a source of interaction.

In early sessions, members of staff gently moved his arms to guide gesture movements, but there was no observable response or indication that he was intentionally engaging with the activity. Head movements were noted, but appeared to be separate from the music. Pupil A required full physical guidance to and from his chair and did not demonstrate spontaneous participation or interaction with peers or staff during the sessions.

Over the course of this period, he appeared to become gradually more accustomed to the environment and routine of the sessions, recognising that an activity was taking place, yet he continued to remain largely passive and non-engaged. This stage provided a baseline for later comparison once structured data collection began in Week 5.

Weeks 5–11 (10 June – 22 July)

(Data Collection Period)

Week 5

- No Duration Recorded.

Pupil A continued to show minimal engagement. He was easily distracted, with head movements from side to side observed, although these did not correspond to the music. No intentional arm or hand movement was observed, and he required prompts to remain seated.

Mood rating: no smiley selected

Week 6

- No Duration Recorded.

Engagement improved slightly, with periods of focus, although attention to the iPad remained limited. Pupil A appeared tired at times, occasionally yawning. He began making some arm movements, raising and lowering his arms with support and prompting, and showed emerging awareness of his actions. Head movements from side to side observed. This session marked the first time he appeared able to sustain focus for a short period.

Mood rating: no smiley selected

Week 7

Duration: 4 minutes 25 seconds.

Music style: *Soft*.

Pupil A displayed stronger engagement, focusing intensely on the screen. With prompting from teachers he lifted one arm, then both. He responded positively to teacher guidance, moving his arms when prompted.

Mood rating: *Dark green (positive)*

Week 8

Duration: 2 minutes 57 seconds.

Music style: *No drums*.

Focus fluctuated throughout the session, attention was lost and regained with teacher prompts. Pupil A moved one arm up and the other down, with head movements side to side, following prompts from staff effectively. Engagement remained good overall.

Mood rating: *Yellow (neutral)*

Week 9

Duration: 5 minutes 03 seconds

Music style: started with *Soft, no drums. Changed to Drums/Loud*.

Engagement was minimal initially, with little focus on the tablet, and arm movement only. However, when the music changed, Pupil A began to move his head from side to side, laughing and smiling. He responded to prompts and, notably, verbalised for the first time saying quietly, "That's lovely." Although focus was inconsistent at first after the music style change, this represented a significant communication breakthrough. His interactions showed a clear shift from non-verbal to emerging verbal expression, in addition to his emotional response laughing and smiling. He showed clear engagement with the music, moving his head and appears to understand that his movements are making a difference to the music.

Mood rating: No response to smileys

Week 10

Duration: 4 minutes 08 seconds

Music style: *Drums, loud.*

Pupil A marched in and sat right in front of the iPad, the teacher stepped in to help which was not needed. He selected a smiley before starting which was the first time he had done this. He responded immediately to the music, lifting his arms and smiling broadly when the music reacted to his movement. Head shaking from side to side was observed. The teacher said, 'well done'.

Mood rating: *Yellow (neutral), before and after the session.*

Week 11

Duration: 3 minutes 05 seconds

Music style: Drums, loud.

High level engagement, very good at some points. Pupil A showed clear enjoyment, shaking his head from side to side and lifting his arms in response to prompts. His focus and responsiveness were sustained throughout the session. Mood ratings before and after the session were both *Dark green (positive)*. Most notably, another pupil began dancing during Pupil A's turn, suggesting that his active participation may have encouraged peer engagement, communication and social interaction.

Mood rating: Dark green (before and after the session)

Summary of Progress (Weeks 5–11)

Over the six-week data collection period, Pupil A progressed from minimal awareness and limited independent movement to active, self-initiated participation and enjoyment. Improvements were observed in sustained attention, physical engagement, and emotional expression. The emergence of verbalisation ("That's lovely") and independent selection of a smiley rating indicate increasing confidence, readiness to engage, communication, and agency through musical interaction.

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Outcomes and Conclusions

Across the 11-week period, Pupil A demonstrated a clear journey from passive observation to active, expressive engagement. Initially showing no awareness of the activity or connection with those around him, he gradually began to respond to the music and to the people facilitating the sessions. His earliest movements were disconnected from the music, and were facilitated or prompted. This slowly evolved into deliberate actions that aligned with the rhythm, becoming clear signs of focus and self-expression.

A significant turning point came when the session introduced drum-and-bass and electronic music. This style elicited his strongest reaction, smiling, laughing, and, most memorably, verbalising for the first time. The teacher's suggestion to move away from softer, acoustic music proved pivotal, unlocking a new level of emotional and physical engagement.

The other outstanding moment was when he spoke, having been non-verbal in all sessions until then, to hear him say 'lovely' was a palpable moment for everyone involved in pupil A's care.

Over time, the success of prompting grew steadily. What began as guided movement became intentional participation as Pupil A realised that his actions directly influenced the sounds being created. This realisation appeared to empower him with his gestures, became purposeful, and his confidence and independence increased. By the end of the study, he was able to maintain eye contact with both Stuart and the iPad, followed gestures, and responded to prompting from the teachers.

Perhaps most profoundly, LIFT Music offered Pupil A a sense of agency. Through his movements and musical choices, he could control the experience, express emotion, and communicate without relying on words. Even his selection of smileys reflected this growing autonomy, some days choosing to engage, other days deciding not to, both equally valid expressions of self.

The final sessions were characterised by joy and connection, culminating in another pupil spontaneously dancing to Pupil A's music, with a shared experience of creativity, communication, and social connection.

	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
Duration	Not recorded	Not recorded	4 mins 25 secs	2 mins 57 secs	5 mins 03 secs	4 mins 08 secs	3 mins 05 secs
Head movement	Some	Some	None noted	Yes	Yes	Intense	Intense
Arm movement	None noted	Some prompt	Yes	Yes	Yes	Yes	Yes
Prompting	Yes	Yes	Yes	Yes	Yes	No	Yes
Smileys	None selected	None selected	Dark green	Yellow	None selected	Yellow*	Dark green
Verbal	Non	Non	Non	Non	Yes	Non	Non
Style of Music	Not recorded	Not recorded	Soft	Soft	Soft then Drums	Drums/ loud	Drums/ loud
Engagement	Low	Varied	Medium	Varied	Low / Good**	Good	High

*chosen independently (initiated the choice, rather than being asked).

**Engagement changed after music style changed.

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