Case Study LIFT Music: Engagement Patterns in Classroom settings

Exploring how interactive music making through movement could support engagement and focus, autonomy, emotional regulation and social connection through shared activity.

Date Range: 10th June - 22nd July 2025
Organisation: Woodside Academy, Bexley, Kent
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Summary

LIFT Music is a gesture controlled music creation app, this pilot ran at Woodside Academy, who offer provision for autistic 4-19 year olds with a wide range of learning needs. The pilot spanned seven weeks, across multiple classrooms and age groups. A total of 265 sessions were recorded, with the majority including the measured duration and observations. The pilot explored how interactive music making through movement could support: engagement and focus, autonomy, emotional regulation and social connection through shared activity. This report summarises the quantitative findings and qualitative insights from teachers, teaching assistants and student experiences.

Context & Setting

The pilot group ran every Tuesday from 9.30 to 1.30pm, with an average time allocated to each participant of 5 minutes. The sessions were conducted in a room with Stuart Grimshaw (Session Lead Facilitator) and Syd Ellerby (Data Researcher). The average number of students per session was 8, who were always accompanied by at least one teacher and one teaching assistant. Participants' age range was 5 to 18 years old, grouped by class. The setup involved simple room arrangement to minimise distractions, iPad mounted on a stand with a bluetooth speaker.

Intervention overview

Participants were given cues to raise their arms to ‘set the frame’, which allows the software to calibrate to each participant’s movement. Each participant was also asked to select the style of music and given both verbal and physical cues of how to start engaging with the music. After each session, participants were shown a smiley range, colour coded to record mood. Observations from sessions were recorded by Syd Ellerby (Data Researcher).

Ethical Note

All participants in this study have been anonymised for the purposes of this research. Headsoup worked closely with Woodside Academy to ensure all privacy concerns were addressed before commencing the project.

Qualitative Insights & Observed Impact

Overall Themes

Positive emotional responses: Participants displayed positive emotional reactions and high levels of engagement throughout the sessions. These occurred frequently and consistently. It was common to observe the participants smiling, laughing, dancing or visibly excited. For example, participant S1 gave a big smile and was happy throughout; participant D1 also responded positively by dancing, singing, laughing and enjoying himself.

Teachers noted improvements: Teachers made frequent comments on the app's value in terms of supporting focus, calmness, engagement, and participation. One teacher exclaimed, 'That was amazing - kids that never normally engage, engaged!'. Another teacher remarked they were 'really pleased, this is just gold'.

Autonomy and requests: These occurred frequently throughout the sessions, with participants customising and personalising the app experience for themselves.
These ranged from changes in the genre, visuals, and tempo to requests to use the added features (such as drums) and either increase or decrease the volume. Participants often asked for specific genres, for example jazz, and used their own labels to describe options such as 'WW2 music', 'Doctor Who' and 'funky music'. On occasion, changes were even made mid-session.

Illustrative quotes and anecdotes

Enjoyment: Students often linked their enjoyment of the app directly to the mood scale they were presented with. They said, 'making music made me feel green zone; happy'. One of the students stated, ‘I think I can do this for the rest of my life’, and ‘I can do this forever’. These comments weren't directed to anyone in particular; he was simply expressing how he felt at the time while fully immersed in the app. This illustrates the sustained joy he was experiencing.

Teachers noted atypical engagements: Students who rarely participated in classroom activities became actively involved when using the app, with teachers remarking that 'kids that never normally engage, engaged'.

Peer collaboration: Multiple occasions with classmates clapping in unison, dancing, and even imitating each other's moves. Many students requested the app after saying their classmates enjoyed it. Disputes occurred between students, who were both so enthusiastic to go first that they couldn't decide who would do it. The collaborative atmosphere illustrated the app's role as an individual activity and a shared social experience students and teachers could enjoy.

Patterns related to quantitative data

These qualitative insights align fully with the quantitative insights gathered on high session frequency and extended durations. The July peak in session length corresponded with enthusiastic verbal affirmation, extended dancing and curiosity about the new visual update implemented in the app, with one participant asking, 'Can I try it out?'.

Engagement was constant every week, with many students using their full available allocated time. Some students even resist when asked to stop. One student who already had a long session replied, 'Never!' when asked if he wanted a rest. The general pattern of the long intentional sessions is displayed in frequent teacher notes, where participants used the full available time. This shows the strong retention and engagement levels observed across all weeks at Woodside.

Quantitative Summary & Statistics

for LIFT Music App Pilot

The session length was always stopped due to time restraints, the time allocated per participant was approximately 5 mins, this includes time to allow the participant to begin engagement, ‘set the frame’ (to calibrate the software), and time taken to select music style. The average session length is still a valid indicator of engagement, as within these parameters, the engagement level was still consistently high.

Mood Tracking Results

Before and after each session, pupils rated their mood using a set of coloured smileys:

Dark Green 😃

Light Green 🙂

Orange 😑

Yellow 😕

Red 😠

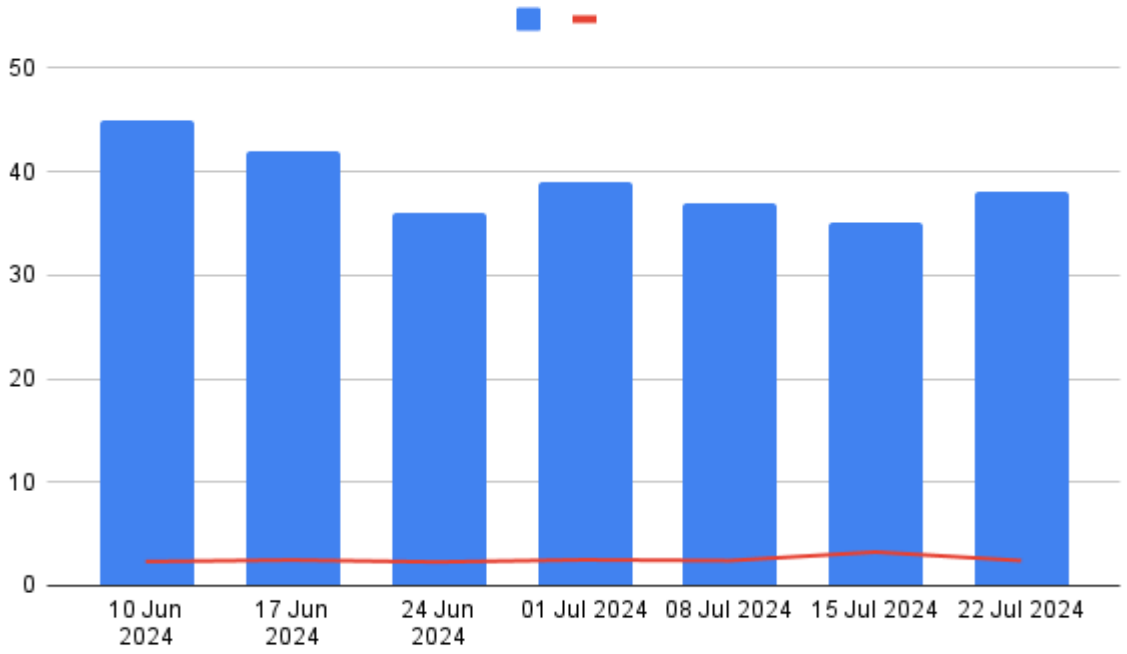
This simple visual scale provided an accessible and engaging way for children to communicate how they felt before and after using the LIFT Music app. The selections were varied, with some children choosing only one smiley or not responding at all. This chart includes only the responses where both a before and after mood rating were recorded.

Mood Selections

Before	After		Count
Dark Green 😀	Dark Green	0	60
Dark Green	Light Green	-1	3
Light Green 🙂	Dark Green	+1	10
Light Green	Light Green	0	5
Orange 😑	Dark green	+2	1
Orange	Light Green	+1	1
Yellow ☹️	Dark green	+2	3
Yellow	Yellow	0	5
Red ☹️	Dark green	+4	2

Out of 265 total responses, 83 entries had no answer recorded, and 214 children selected the happiest smiley (dark green) at least once.
Among those who changed their response, the majority shifted from lower moods such as red to the green emojis, suggesting that LIFT Music sessions supported a positive change in mood. Only a very small number of children moved from dark green to a lower mood, reinforcing the overall trend toward improved emotional wellbeing during the study.

Number of Participants per Week

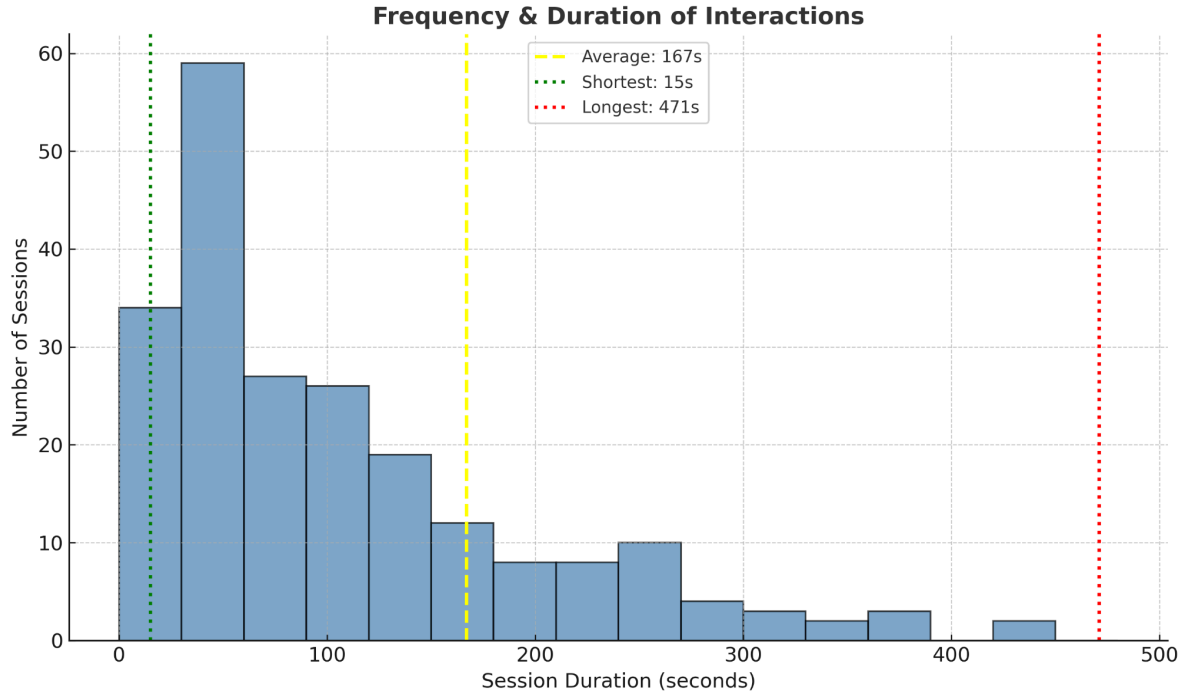


Number of Participants per week with average session length in minutes.

Week Commencing	Total Sessions	Average Session Length
10 Jun 2024	45	2:33
17 Jun 2024	42	2:48
24 Jun 2024	36	2:29
01 Jul 2024	39	2:50
08 Jul 2024	37	2:42
15 Jul 2024	35	3:25
22 Jul 2024	38	2:42

Participation trend: The average participation was consistently high, averaging 38 students per week. The number of students peaked at 45 on 10 Jun.

Frequency & Duration of Interactions



Total sessions recorded: 265
Total number of individual students that participated across all sessions: 88
Sessions with measured duration: 217 (82%)
Average session length: 2 mins 47 secs (167 seconds)
Shortest session: 15 seconds
Most extended session: 7 mins 51 secs (471 seconds)

Duration trend: Overall, sessions were of a high frequency and a sustained period of time. Most sessions lasted several minutes and occasionally extended for much longer, with some sessions even going over the seven-minute mark.

Engagement Patterns Over Time

High engagement: Most participants maintained high engagement throughout all seven weeks of the pilot. Most of them engaged in a very enthusiastic manner during the sessions. Moreover, the majority maintained attention for the full duration they used the app, interacting with the music and movement prompts. Minor week-to-week changes were observed, but overall levels showed strong form from the start to the end with mid-July peaks.

Peak concentration sessions: The sessions on 17 Jun and 24 Jun displayed the highest sustained level of focus. Over 60 percent of the participants demonstrated uninterrupted engagement when using the app.

Retention: Engagement levels were consistently strong across the 7 weeks. Over half of the participants maintained an active focus in most sessions.

Autonomy: A growing proportion of participants started taking initiative. They selected the type of music they wanted, started and stopped the music and experimented with features completely independently.

Significant, Unusual, or Noteworthy Observations

Wide Range of Movement: Many participants demonstrated a wide range of motion. Arms are outstretched to the side, arms entirely above their head, arms down to the ground, with some students using their whole body, arms, legs, and head movements.

Variety of Movement: Participants acted out a wide range of movements. This ranged from dancing to running to boxing to mimicking video game actions. Many of these participants adjusted their pace to the rhythm and tempo of the music.

Extended Session Lengths: In mid-July, several sessions exceeded four minutes. This was far above the average duration, which showed the participants' deeper engagement during this time.

Positive Emotional Indicators: Many participants displayed visible enjoyment, including laughter, smiling, and verbal affirmations. An affirmation exclaimed on multiple occasions was "I'm in the green zone." (When participants mentioned "green zone", they were referring to a 1-5 mood scale, where green represented feeling happy and red represented feeling sad).

New Features: New visual updates demonstrated in July ignited participants' curiosity and prompted re-engagement, with teachers noting increased student willingness to participate.

Individual Variability: While most participants engaged willingly and enthusiastically from the start, a small subset required frequent prompts to sustain involvement, highlighting potential areas for targeted support.

Teacher and teacher assistant observations

Teachers and Teaching Assistants viewed the app very positively. Teachers frequently highlighted the positive impact on their students. Teachers described sessions as 'exciting' for students. In July, when new features emerged, such as the visual update, the students' curiosity peaked and encouraged further engagement. However, Teaching Assistants noted that some students required frequent prompts from the teachers, highlighting that a small number of students may need targeted support.

Report from Theresa Corcoran - Deputy Head of Woodside Academy

LIFT Music App

Stuart has been attending our school on a weekly basis to work with our young people, both as a class group and more recently on a 1:1 basis. During this time, over 75 children have interacted with the App. All learners have a diagnosis of Autistic Spectrum Disorder and are supported within our specialist setting to engage with their learning through a highly personalised curriculum.

The benefits of LIFT have been many and reached children aged 5 up to 18 years of age.

Here, a Music Specialist from Bexley Music outlines how she has been able to use the App:

- Engagement with the App has evolved week by week - students have realised links beyond lifting and lowering arms makes a difference to what they hear, and can now identify exactly what is different. I like how the timbre changed - not just the dynamics of the music - when the students lifted their arms. It was clearer that there were more instruments playing at this point, therefore thickening the texture of the music being performed.
- it is extremely inclusive and would work for any age and any level of need.
- LIFT has opened up musical conversation with our students more - we have really worked on how music makes us feel (linking constantly to the Zones of Regulation) this year and having LIFT enhance this has been excellent - students can make instant links with different genres of music and how that music makes them feel, and then choosing their own music to work with in the App links all of that together.

- I like how the music isn't music the students would know. I also like how it is age appropriate for older students as more often than not, I have come across apps where nursery rhymes are used and this makes it not age appropriate for our older students, despite the fact that nursery rhymes have a great and catchy rhythm for example. This is something I'm very passionate about - ensuring that music and examples we give to all students, particularly SEND students, are age-appropriate, so I applaud Stuart on this as it was lovely to have so many options in this field. An idea may be to have some nursery rhyme style pieces for our younger ones, which link nicely to the early fundamentals of music, Phase 1 phonics etc.
- In terms of progression with the app, that's my next thoughts - how can music educators for example include this in their offerings to meet the needs not only of the students, but that of the school curriculum and the National Curriculum where appropriate. e.g. when we learn about the role of the conductor for example, and the ideas of texture and timbre in a piece.
- we have concentrated on music technology in the Summer 1 term so having this app to use has enhanced the experience for the students again, and all can access this with ease

Where some of the children have used the App repeatedly we have seen improvements in the length of time they engage with it, several having to be asked to stop in order to make time for others.

Class groups have been able to use the App with individuals taking turns to interact with the App whilst the rest of the class follow along and, in some cases, create their own rhythms to accompany this in the background.

Many of our children love music and have really enjoyed looking at the cause and effect of their own movements on the music, selecting the pace and volume of the music as they start and progress. The majority of the classes to have used the App have been keen to return with most wanting to have a turn to interact with the music in their own, unique way.

As the weeks have gone by, we are aware Stuart has taken time to tweak and improve the features of the App and there have been noticeable changes which have added to the experience, for example, more explicit changes to the music with different kinds of movements.

It has been hugely beneficial to have been given the opportunity to use the App and can see that it would be of use in other specialist settings for group or 1:1 sessions, in our opinion. The equipment is minimal and looks very easy to set up so in time would be something that staff could easily be trained to use and develop its use within a classroom environment.

Theresa Corcoran

Deputy Headteacher

Quote from Louise Matthews, Bexley Music Manager - Inclusion Lead

(Who attended many of the sessions at Woodside Academy.)

> *"I really understand the purpose of the app and can see many ways it can be incorporated into music education for all – it is extremely inclusive and would work for any age and any level of need."*
> **Louise Matthews**, Bexley Music Manager – Inclusion Lead

Conclusions

Conclusions Quantitative Findings

Participation averaged 38 students per week, which displays consistently high attendance. The busiest week peaked at 45 sessions on the 10th of June. Weekly total participation was very close to the average, showing stable engagement.

Session duration average length was 2 minutes 47 seconds. The shortest recorded session was 15 seconds, and the longest was 7 minutes and 51 seconds. By the middle of July, many sessions extended beyond 4 minutes, showing the students' deep engagement with the application.

Retention and focus levels were high with most students maintaining an active focus for the whole session across all weeks.

Conclusions Qualitative Insights

Engagement and enjoyment was consistently and frequently displayed with visible joy in many ways, such as smiling, laughing and clapping. One student spontaneously remarked ‘I am in the green zone’ (the student was using a 1-5 mood scale). Students were frequently observed to be very happy after sessions, and it became commonplace for this to occur. One teacher spontaneously remarked, 'This is just gold' when describing the impact the application was making on their students. Furthermore, teachers often noted the high enthusiasm and a strong willingness to participate, describing the pilot as 'really pleasing to see'.

Increased autonomy was recognised by the teachers with more participants beginning to take initiative without prompts. For example, by selecting which style of music they would like, often using their own playful labels such as ‘WW2 music’, ‘crazy frog’ or ‘big music’ to indicate their choice. Another example was starting and stopping the music of their own accord. Participants also experimented with the app features during the sessions, such as adding drums to a given piece of music. These are examples of increased autonomy with the students using the application independently. The teacher highlighted this as a clear sign of increased confidence.

A wide range of movements were observed: arms outstretched high and low, outstretched to the side, side-to-side sways and whole-body movement. Students acted out movements such as dancing, running, boxing, clapping, and even mimicking video game actions. Many students were observed adjusting their pace and rhythm to match the sound of the music.