

**Independent Evaluation**  
**Inclusive Access to Music-Making (IAMM) Project**

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## **Executive summary**

The OHMI Trust (OHMI) is a charity that breaks down barriers to full participation in music-making for children and adults with physical disabilities. Through training programmes, music delivery, and collaborations with pioneering adapted instrument developers, OHMI 'enable children and adults with physical impairments to play the instruments they want to play, when they want to play them and where they want to play them' (OHMI, online).

In partnership with Creative United (CU) and Nottingham Music Service (NMS), OHMI piloted the Inclusive Access to Music-Making (IAMM) project during 2019/20. Further Arts Council England funding enabled IAMM to expand to Northamptonshire Music and Performing Arts Trust (NMPAT) between 2020 and 2022 (over an extended timeline due to the COVID-19 pandemic) and to Services for Education Birmingham Music Service (SfE) during 2022/23.

IAMM aims to offer parity of access to whole class ensemble tuition (WCET) for pupils with additional needs in mainstream primary schools. Through partnership with Music Education Hub (MEH) organisations such as NMS, NMPAT and SfE, the needs of children who are taking part in WCET in the following academic year are assessed. Where necessary, OHMI and CU then provide accessible instruments, enabling equipment, staff training, and other interventions in time for WCET classes to begin.

IAMM was evaluated by researchers from Birmingham City University, who employed a qualitative methodology involving a survey, interviews, and WCET observations.

Building on a previous evaluation of IAMM 2020–22 (Nenadic & Booth, 2022), the evaluation aimed to explore the lived experiences of IAMM participants, as well as the effectiveness of IAMM's overall programme of support with regards to improving parity of access to music-making in WCET classes. The report outlines the findings from this research, including recommendations for future iterations of IAMM.

**Key Finding A: 75% of participating schools identified young people who may experience barriers to learning a musical instrument in WCET classes.**

A key phase of IAMM project involved surveying primary schools to identify young people who may experience barriers to learning a musical instrument. 123 out of 163 schools identified students who would benefit from additional support from WCET. This highlights the prevalence of potential barriers to music making in schools and the important work of IAMM in establishing comprehensive needs analyses.

**Key Finding B: IAMM shifted perceptions on barriers to learning a musical instrument in WCET.**

The IAMM project shifted the perceptions of MEH Leads, music teachers, and classroom teachers on what can be achieved with adapted instruments. This 'mental shift' (MEH Lead) meant that IAMM partners were becoming increasingly confident that workable and normalised musical solutions exist for young people with additional needs.

**Key Finding C: IAMM enabled parity of access within WCET and positively impacted children's musical participation.**

The programme of support provided through the IAMM project enabled parity of access within WCET. There were cases of adapted instrument learners progressing at the same pace as their peers, engaging in the same musical tasks as their peers, and playing their instruments independently. As a Special Education Needs Teacher (SENT) shared, 'it's made [the pupil] part of the class'. Adapted instrument learners believed that they could keep playing their instruments in the future; found their adapted instruments 'easier' to play compared to conventional instruments; and enjoyed the 'good noise' made by the Artiphon. However, there was still potential for more student choice regarding which instrument was learnt, in cases where they were supported by music teachers' resourcefulness and flexibility.

**Key Finding D: IAMM formed a growing community of practice focused on musical inclusion between schools, music teachers, OHMI, and MEH Leads.**

Since IAMM launched in 2019, a community of practice focused on musical inclusion has been emerging between IAMM partners. For instance, music teachers saw OHMI as the 'go to' for support with technical and pedagogical aspects related to adapted instruments; MEHs contacted OHMI promptly and on an ad hoc basis when barriers requiring an adapted instrument were identified; music teachers shared good practice with colleagues and hoped to do more of this within and beyond their own MEHs; and teachers were proactively considering how to cater for the needs of future cohorts of WCET learners.

## Introduction

Through collaboration between the OHMI Trust, Creative United, Music Education Hubs, and primary schools, the Inclusive Access for Music-Making (IAMM) project aims to offer parity of access to whole class ensemble teaching (WCET) for children with additional needs. IAMM's approach to improving accessibility to WCET starts by identifying pupils who may potentially benefit from IAMM and assessing their needs. This enables informed support (adapted instruments or equipment) to be put in place.

## Project partners

IAMM 2022–23 connected the following organisations:

- The OHMI Trust (OHMI)
- Creative United (CU)
- Nottingham Music Service (NMS)
- Northamptonshire Music and Performing Arts Trust (NMPAT)
- Services for Education Birmingham Music Service (SfE)
- Birmingham City University (BCU)

IAMM was delivered by OHMI in partnership with CU. OHMI, founded in 2011, describes its purpose as follows:

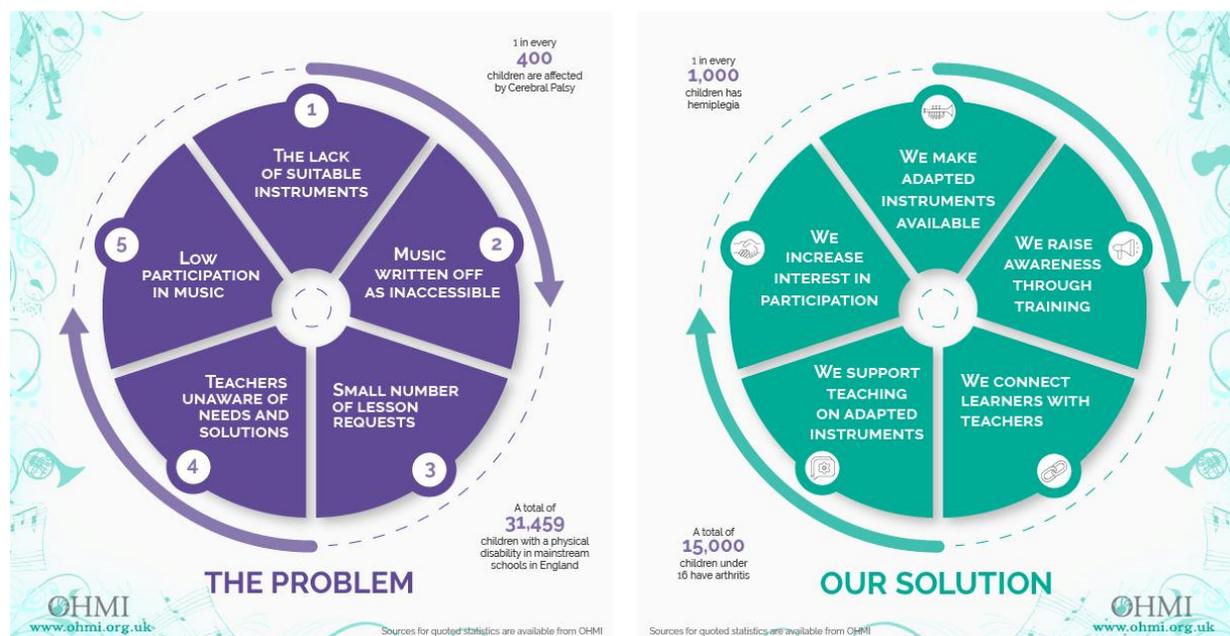
OHMI's objective is to remove the barriers to music-making so as to enable full and undifferentiated participation in musical life<sup>1</sup>.

OHMI have adopted a multi-pronged approach to addressing barriers, which includes their *Music-Makers* teaching programme for children with upper limb impairments, music teacher training, advocacy work, the OHMI Instrument Hire Scheme, the OHMI Research Partnership, and commissioning the development of new adapted instruments through, for example, The OHMI Competition. IAMM, launched in 2019, is

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<sup>1</sup> <https://www.ohmi.org.uk>

one of OHMI's more recent initiatives. **Figure 1** shows two infographics produced by OHMI which illustrate their ongoing approach to widening musical participation.



**Figure 1: Overcoming barriers to music-making for physically disabled people by OHMI<sup>2</sup>**

CU is a community interest company which supports arts and creative sector organisations and businesses to achieve economic growth and social impact. It provides interest-free loans for musical instruments, equipment, and tuition, and published Take It Away Consortium's (2020) *Guide to Buying Adaptive Instruments*. CU was a Sector Support Organisation within Arts Council England's National Portfolio between 2018 and 2022.

NMS, NMPAT, and SfE are MEH organisations<sup>3</sup> which deliver instrumental tuition to children and young people alongside running regional ensembles and events.

<sup>2</sup> <https://www.ohmi.org.uk/about.html>

<sup>3</sup> Music Education Hubs are defined by Arts Council England as 'groups of organisations such as local authorities, schools, other hubs, arts organisations, community or voluntary organisations, working together to create joined-up music education provision, respond to local need and fulfil the objectives of the Hub as set out in the national plan for music education'. (ACE, online) Available at: <https://www.artscouncil.org.uk/developing-creativity-and-culture/children-and-young-people/music-education-hubs> [Last accessed March 2023]

BCU were commissioned to independently evaluate the IAMM project from the period of September 2022 to March 2023. The evaluation was conducted by Birmingham Music Education Research Group<sup>4</sup> (BMERG) members Emma Nenadic, Nikki Booth, and Dr Elizabeth MacGregor. BMERG's research portfolio focuses on removing barriers and enabling access to music education.

## **The IAMM Project**

In partnership with CU and NMS, OHMI piloted the IAMM project during 2019/20. Further Arts Council England funding enabled IAMM to expand to NMPAT between 2020 and 2022 (over an extended timeline due to the pandemic) and to SfE during 2022/23.

IAMM aims to offer parity of access to WCET for pupils with additional needs in mainstream primary schools. Through partnership with MEHs such as NMS, NMPAT, and SfE, the needs of children who are taking part in WCET in the following academic year are assessed. Where necessary, OHMI and CU then provide accessible instruments, enabling equipment, staff training, and other interventions in time for when WCET classes begin. Information from the assessments on children's overall additional needs—which do not require accessible instruments but may require differentiation—are also communicated to schools and music teachers.

## **IAMM project phases**

IAMM 2022/23 was structured into four key phases:

- 1. IAMM school questionnaire:** NMS, NMPAT, and SfE partner primary schools were invited to complete a brief questionnaire produced by CU. The questionnaire, which was refined over successive IAMM iterations, gathered

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<sup>4</sup> <https://www.bcu.ac.uk/education-and-social-work/research/birmingham-music-education-bmerg>

information on potential barriers to music-making experienced by incoming WCET learners by establishing children's additional needs.

2. **School questionnaire follow-up:** OHMI reviewed questionnaire responses and contacted schools to arrange online assessment meetings with children who had been identified as having physically-oriented needs.
3. **Online IAMM assessment:** A meeting between individual IAMM assessors (trained by OHMI) and schools took place during school hours for young people who had physically-oriented additional needs. Assessments were supervised by a member of staff (often a Special Educational Needs Coordinator (SENCO)). The assessment involved young people engaging with various everyday objects, mirroring how musical instruments are played in order to gauge their physical needs and implications for learning particular instruments. Assessors produced individual reports for each young person which were then refined by OHMI, before being passed onto MEHs and music teachers.
4. **Bespoke musical support:** In cases where young people's video assessments identified the need for adapted musical instruments and equipment, instruments and equipment were sent to respective schools ready for the first WCET classes. WCET teachers and schools were also contacted about other additional needs identified in the questionnaire (beyond the scope of the IAMM assessments) to support their musical teaching and learning, enabling them to make more informed pedagogical decisions.

## **Musical instruments and equipment provided through IAMM**

Key statistics obtained from OHMI regarding this year's 2022/23 IAMM (see **Table 1**) show that a combined total of 269 children across the three MEH regions were identified as needing support. Of those 269 children, 66 children (25%) received adapted instruments.

It is significant that 123 out of 163 schools (75% of schools) identified students who would benefit from additional support for WCET. This highlights the prevalence of potential barriers to music-making in schools and the need for initiatives such as IAMM.

**Table 1. Key 2022/23 IAMM statistics.**

	<i>n</i>	%
Completion of questionnaire by engaged schools (T=448)	163	36%
Students identified as benefiting from additional support with WCET	269	
Schools who identified students who would benefit from additional support with WCET	123	27%
Students who would benefit from enabling apparatus/adapted instruments	66	25%
Students who would benefit from adaptation of teaching practice/repertoire/adapted resources etc.	203	75%

It is important to note that some schools did not complete the IAMM questionnaire or take part in video assessments, but still received adapted instruments. This relied on communication between IAMM partners. For example, in one school, a class teacher who attended WCET informed the music teacher about a child's needs once WCET was underway. This information was then passed on from the music teacher to the respective MEH organisation leads, and then on to OHMI who arranged for a one-handed flute to be delivered.

### **Adapted instruments and equipment**

Adapted instruments and equipment provided through IAMM during 2022-23 are shown in **Table 2**.

**Table 2. Adapted instruments and equipment in use in 2022-23**

Item	In Use 2022-23	% of instruments supplied
Ear defenders	24	35%
Trumpet stands	16	23%
Artiphon	11	16%
Bow holders	8	12%
Ukulele with strap	3	4%
Guitars with straps	2	3%
iPad +Pocket Pet trumpet app	1	1%
One-handed clarinet + stand	1	1%
One-handed flute + stand	1	1%
Trombone stand	1	1%
One-handed recorder	1	1%
Total children	69*	

Source: *The OHMI Trust*

\*NB this figure is higher than No. of students who would benefit from enabling apparatus/adapted instruments (66) (see Table 1) as further children have been supported since the IAMM questionnaire was completed.

## **Methodology**

BCU's IAMM evaluation took place from September 2022 to March 2023 and aimed to explore two key interrelated aspects:

- the lived experiences of IAMM participants; and
- the effectiveness of IAMM's overall programme of support with regards to improving parity of access to music-making in WCET classes.

In order to evaluate the IAMM project, a qualitative methodology was adopted.

Qualitative research is interested in 'learning how individuals experience and interact with their social world, the meaning it has for them' (Merriam, 2002: 4); in other words, how participants 'make sense' (Maxwell, 2013: 41) of the phenomena under study. This lens was important, enabling the researchers to critically explore participants' lived experiences through obtaining 'rich data' (Braun and Clark, 2013: 14).

## Methods

To support the qualitative approach, the choices of methods to evaluate the IAMM project were as follows:

- Music teacher qualitative survey responses (8)
- Observations of five WCET sessions with the following adapted instruments: cornet with stand, Artiphon<sup>5</sup> (one violin and two ukuleles), and a right-handed flute.
- Individual interviews with MEH leads (2), music teachers (4), pupils (4), class teachers (3), a Special Educational Needs teacher (1), and a parent (1).

The decision to interview children built on the recommendation from a previous IAMM evaluation to 'evaluate the impact of IAMM from the perspective of children who have used, or continue to use, adapted instruments and/or equipment, as well as their parents/carers' (Nenadic & Booth, 2022: 58).

## Data analysis

Data were analysed using thematic analysis to identify pertinent patterns and themes in each data set (Braun & Clarke, 2006). Researchers searched for themes which described participants' experiences of IAMM's programme of support, and its perceived efficacy.

## Ethics

The IAMM evaluation was approved by BCU's Health, Education and Life Sciences Ethics Committee, and was conducted in accordance with the British Education Research Association guidelines on ethical practice in educational research (BERA, 2018).

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<sup>5</sup> The Artiphon's full product name is 'Artiphon Instrument 1'. Further information about the Artiphon is available here: <https://artiphon.com/pages/instrument1> This is the same instrument model that all of the IAMM Artiphon players used.

## Report structure

The findings from this evaluation are structured into three key sections:

- Part A: Music Teacher Survey
- Part B: WCET Observations
- Part C: Interviews

This is followed by recommendations for future music education provision and evaluation and research areas.

## Context: The place of the IAMM Project

As part of England's latest National Plan for Music Education (NPME II) (DfE & DCMS, 2022), MEHs are expected to provide classroom instrumental teaching to *all* children through models such as WCET: 'it is our ambition, captured in the national curriculum, that every child should have the opportunity to learn a musical instrument' (ibid.: 53). However, several factors prevent some children with physical disabilities and additional needs from fully participating in WCET. For example, there have been cases of children being removed from WCET because of the assumption that they will not be able to play the same instrument as their peers. Given that 'children can only benefit from music education if they are actually present' (Zimmerman, 2011: 60), this is problematic. In other instances, it may be decided that there is no other option but to give children with physical disabilities an alternative musical instrument, such as 'the child with the use of only one arm being told to shake a maraca in time to the music, whilst the rest of the class learn to play the violin' (Fautley & Daubney, 2018: 220). These scenarios are most likely to occur in schools which have not benefited from the provision of adapted instruments and accessible equipment tailored to individual needs.

Abramo (2012: 41) notes how a child's innate musicality and connection to music may be diminished or overlooked due to their inability to play conventionally designed instruments:

musical instruments' designs sometimes turn impairments into disabilities. A person might be very musical and enjoy the violin, saxophone, or piano. But if the individual does not have the use of both arms, he or she is unable to play these instruments. And like buildings, instruments are created by human artisans. So, from a social model perspective designed with a person with an impairment in mind, they prevent some individuals from making music with them even though their impairments do not inhibit them from enjoying music.

The issues outlined above reflect a lack of knowledge and awareness of adapted instruments, which is compounded by difficulties accessing and purchasing adapted instruments (Take It Away, 2018; Youth Music, 2020). Without such provision, there is a danger that children will be deemed unmusical and be denied opportunities to develop their musical identities. Nevertheless, through the programme of support offered by IAMM, a greater number of children are now accessing adapted instruments during WCET.

IAMM has come at a time of increasing focus on musical inclusion in England, evidenced, for example, by the 'rise in inclusive music-making opportunities for pupils with SEND in SEND inclusive ensembles' (Fautley & Whittaker, 2017: 63). IAMM can be seen as an enabler of first access to instrumental learning, increasing the likelihood of children and young people accessing SEND inclusive ensembles and other musical progression routes. In light of these contextual issues, this evaluation considers how the IAMM programme impacted parity of access within WCET across three MEH settings.

## Part A: Music teacher survey

### Participants

Survey data were collected from a total of eight music teachers covering two MEHs: Birmingham ( $n=2$ ) and Nottingham ( $n=6$ ) (see **Table 3**). The teaching experience of these participants had ranged from two to 17 years. The instruments these teachers taught within the WCET context included brass (trumpet, baritone trombone, trombone, French horn), woodwind (clarinet, flute, saxophone), and strings (guitar, violin, viola, cello). The quotes below are from the survey respondents, all of whom have been anonymised.

**Table 3. Survey respondents and instruments.**

Survey respondent	Hub	Usual instrument	Adapted instruments taught in the past	Adapted instruments taught at present
R1	NMS	Guitar	-	-
R2	NMS	Woodwind and strings	Clarinet with stand	-
R3	SfE	Brass	-	Trumpet with stand
R4	NMS	Brass	Trumpet and trombone with stand	Trumpet with stand
R5	NMS	Brass	Trumpet and trombone with stand	Trombone with stand
R6	SfE	Brass	-	Trumpet with stand
R7*	NMS	Woodwind	Trumpet with stand	One-handed flute and one-handed clarinet
R8*	NMS	Strings	Artiphon	Artiphon

\* R7 and R8 also took part in the observations and interviews reported in Parts 2 and 3, where they are identified as MT5 and MT4 respectively.

### Defining 'parity' within the WCET context

A key aim of IAMM is to provide parity of access within the WCET context. All respondents agreed that WCET is for *all pupils* regardless of whether or not they have any additional learning needs:

**R1:** All pupils have an equal opportunity and inclusive experience of musical learning in WCET.

- R2:** Allowing all pupils to access lessons regardless of any physical or emotional needs. This could involve adapting teaching techniques or providing adapted instruments or equipment.
- R3:** Access to the instruments for all, and taking away any barriers to access.
- R4:** Ensuring that all students have access to the same level of learning, everyone being able to join in lessons in the same way, eg [*sic*] same instrument as much as possible, everyone should have access to high level of teaching.
- R5:** Ensuring that all pupils feel able to join in with the class at a state at which they feel they are doing what the other children are doing on the instruments.
- R6:** Fair access to music for all.
- R8:** Making sure all students have an equal and equitable opportunity to learn, in a way that is right for them as individuals.

## **Training received with adapted instruments**

Six respondents stated that they had received training for using adapted instruments. Overall, they commented that the training centred around how to set up the instruments, as well as providing a useful demonstration as to how they worked. The training was offered by OHMI. One respondent also added that they received some additional training through the UpRising! project.<sup>6</sup>

- R1:** This September I took part in a one-hour training/demonstration of a trumpet stand, Artiphon, and ukulele.
- R2:** Explanation of how the instrument worked, how to assemble it/set it up. Opportunity to ask questions.
- R4:** From OHMI.
- R5:** [OHMI/GM] has been to train [MEH] staff a few times on how to use the stand and set them up.

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<sup>6</sup> <https://www.mehem.org/uprising/uprising.aspx>

- R7:** OHMI have given CPD sessions with the music hub.
- R8:** Through visits from [OHMI/GM] to the music hub and also through the UpRising! project.

Despite training being offered, however, most respondents said that it did not impact on their planning for WCET classes ( $n=3$ ) or was not applicable ( $n=2$ ). Those who said it did impact on their planning ( $n=3$ ) voiced how the inclusion of adapted instruments make them think about sequences of learning, considering whether some pupils might benefit from using adapted instruments, and being comfortable with how the instrument worked so it could be easily implemented into normal teaching processes:

- R4:** Adapt sequence of learning to ensure adapted instruments can be used sufficiently.
- R5:** Thinking about certain pupils that might either benefit from the trumpet/trombone stand or remembering other [options] like the trumpet App.
- R8:** Being comfortable with how the instrument works means I can teach with it in the same way I would teach with the violin, viola or cello.

The same respondents, with the addition of R2, also stated that the training had impacted positively on their teaching practice. With some variation, all teachers explained how the training made them more aware as to how WCET lessons could be made even more inclusive for all pupils:

- R2:** I have been more aware of pupils who might need additional equipment to support them. [...] I am clear on how to use adapted equipment when necessary.
- R4:** Really able to promote that all students can take part in the lesson.
- R5:** Ensuring that I think about different methods to keep all children included.
- R8:** It has shown me that there are ways in which all students can participate in a meaningful way regardless of disability or additional need.

Respondents were asked whether the training they received increased their confidence with regards to using adapted instruments in their teaching. All six participants who received training responded “Yes”, highlighting the importance of fully introducing music teachers to adapted instruments before their WCET teaching begins.

## **WCET—Autumn Term 2022**

Of the six respondents who were teaching adapted instruments at present, four commented that they received information about the adapted instrument(s) they would be using this year. Generally, teachers received instructions alongside the instrument:

- R3:** I received information about what the equipment was, and there were instructions given with the equipment.
- R5:** We were passed on the information from a colleague for the specific school we taught at once the schools had filled in the information.
- R7:** [OHMI/GM] delivered the instrument and provided us with a sheet with alternative fingerings for the one-handed flute. However, I haven't had any training on the one-handed clarinet.
- R8:** The Artiphon comes with a print-out with how to set it up and how to use it written by OHMI.

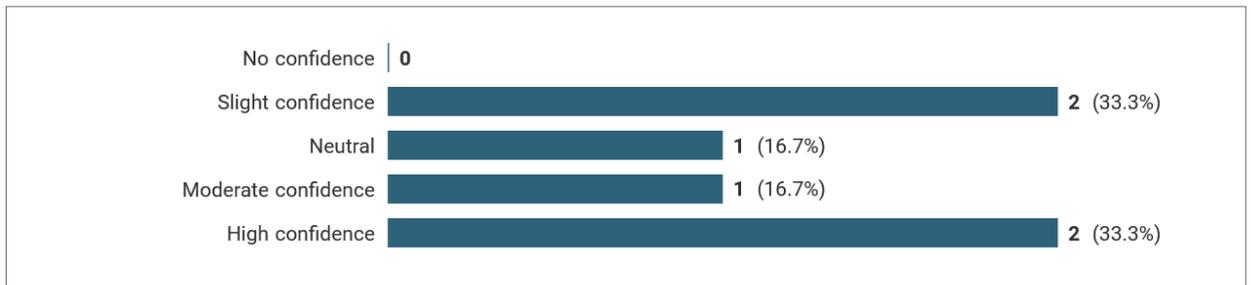
In relation to whether teachers receiving any information about the learner(s) they were teaching who were using an adapted instrument, only three respondents said they had. This information was passed onto them by the Head of WCET or CU.

- R3:** I received information from the Head of WCIT [WCET] which included a report of the needs of the learner, and how the stand would help.
- R5:** A Creative United form with school, expected instrument, summary and observations, conditions and recommendations.
- R6:** I received information about the pupil's needs from the Head of WCIT [WCET].

It is possible that some of the respondents may have been teaching with adapted instruments in schools which did not participate in the IAMM questionnaire and assessments, and that they therefore did not receive initial information.

To finish, the six respondents who were supporting adapted instrument learners in 2022/23 stated that they had 'slight' to 'high' confidence with regards to supporting adapted instrumental learners:

**25** How confident do you feel with regards to supporting adapted instrument learners this year?



**Figure 2: Overall responses to the question ‘how confident do you feel with regards to supporting adapted instrument learners this year?’**

Those with ‘high confidence’ had previously taught with the same adapted instruments they were using this year, enabling them to build their skills and experience over an extended period. Of the two respondents with ‘slight confidence’, one respondent had not experienced teaching with adapted instruments in or beyond WCET before 2022/23. The other respondent recalled a child playing a trumpet with a stand during their trainee year but had no direct WCET experience using adapted instruments. Furthermore, their instruments this year differed (one-handed flute and one-handed clarinet). These responses suggest that confidence is developed over time through exposure to specific adapted instruments.

### Summary of survey findings

Although the survey only received eight teacher responses, it did highlight that:

1. Teachers believed that WCET lessons should include *all pupils* and that adapted instruments were an important means of enabling this.

2. There was a correlation between teachers' previous adapted instrument teaching experiences and confidence levels.

## Part B: WCET observations

### Participants

Observations of five WCET classes took place between January and March 2023, encompassing the three MEH regions, four types of adapted instruments, and a range of learner needs. In **Table 4**, these observations are indicated as Schools 1, 2, 3, 4, and 5. In all cases, the primary rationale for the use of adapted instruments related to pupils' physical disabilities. In three out of five observations, the class teacher was present and actively supported musical learning. In all cases, the music teacher had been teaching their respective class music and supporting the adapted instrument learner for several weeks or months. OHMI's General Manager (OHMI/GM) was present at three of the observations.

**Table 4. Schools and participants in observations and interviews.**

Hub	Hub Lead	School	Pupil	Year	Instrument	Music teacher	Classroom teacher	Parent
Birmingham	L/SfE	1	P1	4	Cornet with stand	MT1	CT1 SENT1	-
		2	P2	4	Artiphon (ukulele)	MT2	-	-
Northampton	-	3	P3	4	Artiphon (ukulele)	MT3	CT3A CT3B	-
		-	-	4*	Artiphon (ukulele)		-	-
Nottingham	L/NMS	4	P4	4	Artiphon (violin)	MT4	-	-
		-	-	5	Artiphon (violin)		-	-
		5	P5	4	One-handed flute	MT5	CT5	Par5
		-	-	6	One-handed clarinet		-	-

\* Extra rows indicate where music teachers referred to other pupils they had taught, but when data was not collected from these pupils' schools.

WCET observations enabled the BCU researchers to witness the use of adapted instruments in real-world classroom settings and to consider aspects such as instrument set-up and technical requirements, how pupils were supported by adults, and whether the adapted instruments enabled parity of access.

Five key themes emerged from the observations including *support from class teachers and OHMI*; *parity of access*; *frequent teacher–pupil dialogue*; *pupil ownership and autonomy*; and *getting to grips with adapted instruments*. The italicized passages below are excerpts from fieldnotes taken during the observations.

### ***Support from class teachers and OHMI***

A classroom teacher was present in three out of five observations and provided important ongoing support to the music teacher and pupils:

*CT3B supports P3 throughout and routinely keeps a pad of paper by the Artiphon with guidance on which note is which sticker. She sometimes holds the pad up in front of P3 to help her play [...] MT3 shares “we’ve not done green stickers yet so we’re going to do green stickers and three notes”. Following this, CT3B stands with P3 and shows her the green sticker.*

*There are pleasant and supportive interactions between CT5 and P5 throughout.*

On some occasions, the class teacher would lead musical activities while the music teacher helped set up the adapted instrument. For example, CT1 led a whole class clapping game which enabled MT1 to focus on setting up the cornet stand. Sometimes the opposite would be the case, and the class teacher would set up the adapted instrument with the pupil. This happened with CT5 and the right-handed flute.

The classroom teacher also acted as an intermediary between the adapted instrument learner and the music teacher:

*Two valves get stuck on P1’s cornet—their class teacher [CT1] flags this with MT1.*

Overall, this support positively impacted musical learning, enabling music teachers to maximise learning opportunities and stay on track in their relatively short contact time.

In three of the observations, the OHMI General Manager (OHMI/GM) was present. She was asked for support or offered support in all cases. CT5, for example, asked for support with fixing a minor issue with the right-handed flute. MT5 asked if it would be possible for OHMI/GM to attend a separate school (where she teaches an adapted clarinet learner) for feedback and advice. In response, OHMI/GM later made some fingering cards for MT5, as well as some graphics for MT5 to include on her WCET PowerPoint slides to match the format that the other pupils had.

Additionally, OHMI/GM discussed alternative ways of using the Artiphon with class teachers and music teachers, which was received positively. Teachers' familiarity with OHMI/GM and their willingness to share issues reflected a growing *community of practice* between OHMI, MEHs, and schools (Kenny, 2016), and emphasised the importance of regular school visits so that music teachers, class teachers, and pupils can benefit from OHMI/GM's expertise.

### ***Parity of access***

It was important to examine how the adapted instrument learners participated in their music lessons and implications for parity of access. In all five observations the pupils were fully participating in the musical activities. All adapted instrument learners were physically able to play their instruments independently; where adult intervention did occur, it was mainly based on finding particular pitches or chords:

*P4 is happy to use both hands on the Artiphon during particular tasks, for example when practising the E and D notes. Their sense of rhythm appears to be strong.*

*P5 voluntarily practises on the flute while MT5 helps another pupil.*

*P3 is a confident performer, she finishes going through a piece with flair—flicking her hand off the final note!*

*Pupils are put into pairs and asked to practise pitches CDDDFE from We Will Rock You. I go over to the P1 to have a chat. Confidently, she says to me, “shall I try?” She proceeds to produce a great sound from the cornet.*

*P2 rests their hands on the Artiphon, looking ready to begin their musical learning. [...] While practising Texas Rock, P2 really strums the strings and appears to be enjoying it. Particularly physically expressive strum for the final chord!*

The pupils had embodied responses to the music they were encountering and playing, as demonstrated by the ‘*physically expressive strum*’ and ‘*flicking*’ of a hand at the end of the song in the examples above. Other instances included ‘*P1 dances and taps to the soundtrack*’, ‘*P3 is really into the Stadium Rock song and moves along to the beat*’, ‘*P2 grooves along to the music*’. It is possible that with the physical barriers to instrumental playing removed, the pupils were afforded more space to connect with the music and reach a state of flow (Csikszentmihalyi, 2002).

Furthermore, removing physical barriers meant that the adapted instrument learners could participate in the same learning experiences as their peers; an important marker for parity of access. These moments were noted during observations, for instance:

*MT4 invites pupils to share their learning with the class. P4 volunteers and proceeds to play a high E. Upon hearing that it ought to be one octave lower, P4 calmly identifies and plays the correct note and looks pleased with their achievement.*

*P2 is playing a note really clearly, but it is the wrong string. MT2 corrects them and then all is fine. The sound is great. P2 moves onto practising a particular rhythmic passage and is clearly working hard on this.*

*P3 is good at finding the note and then playing it—still a little bit slower moving between them in time to the beat, but this is a common experience for all.*

*The class are using their mouth pieces and copying MT1's rhythms. P1 is very confident with this: they put their whole body into producing the sounds rhythmically. They're really trying their hardest while blowing.*

In the first example, being able to confidently play the Artiphon meant that P2 could get on with learning how to play, through trial and error, the note(s) and rhythms for that music lesson. Witnessing such moments, which are commonly experienced by *all* learners, reinforced the role and importance of providing adapted instruments in the classroom. However, Artiphon player P4 did appear to rely on using their index finger only, which made moving between notes more challenging. This may partially relate to the *positioning of the Artiphon*, discussed further below.

### ***Frequent teacher–pupil dialogue***

In some cases, frequent teacher–pupil dialogue helped to ensure that the adapted instruments were being used optimally, in a way that suited respective pupils' needs and felt comfortable for them:

*MT5 asks P5 if the flute stand is the correct height and P5 responds that it is fine.*

*While setting up the cornet stand, MT1 checks that the height is correct for P1. [...] "Shall we try this [playing through some music] standing up?" Says MT1 to the class. In preparation, MT1 adjusts P1's cornet stand and checks that they are OK with it. P1 nods and smiles.*

*MT2 chats to P2 about what they'll be playing today and what their options are: they can strum or tap the notes. MT2 asks P2 to tap a note; this works well on the second try and P2 produces a really clear sound. MT2 advises P2 that you have to tap it "really hard". He revisits this again later and asks P2, "which is easier?". P2 answers "strumming". MT2 shares: "I agree with you, you have to tap it really hard if you tap it".*

Individual, pair, and group work enabled music teachers to check in with the pupils and adjust instruments when needed, especially in cases where class teachers were not present.

*MT2 moves around the tables and gives P2 further guidance. P2 plays; “perfect” says MT2.*

Drawing on these observations, the presence of actively engaged class teachers, teaching assistants, or SENCOs gave music teachers more flexibility and ensure that this dialogue can take place.

### ***Pupil ownership and autonomy***

Music teachers and class teachers wished to foster pupils’ sense of ownership towards their adapted instruments. In addition to teachers checking that instruments felt comfortable to play and allowing pupils to choose between the tap or strum method on the Artiphon, some pupils were encouraged to set up and pack away their instruments. For instance:

*P2 packs away their iPod.<sup>7</sup> “Are you going to put it on charge for me?” says MT2. P2 is confident doing this.*

*T5 playfully jokes to P5, “come on, you know how to take it [right-handed flute and stand] apart!”*

Pupils had autonomy, with the freedom to choose how to play their instrument and, in the case of P3, which instrument to play.

*P3 regularly chooses between Artiphon and ukulele—but MT3 and CT3B will guide where needed. For example, “I think you’ll need your Artiphon” when they’re practising particular music.*

### ***Getting to grips with adapted instruments: Room for improvement?***

Like with all instruments, teachers and pupils had to get to grips with the adapted instruments’ technical specifications and requirements. Having had the opportunity to familiarise themselves with the instruments (all observations took place several months or weeks after the initial music lessons and some teachers had previous experience

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<sup>7</sup> The Artiphon runs via an App. In this case the App was on an iPod.

with adapted instruments), teachers shared emerging issues with the BCU researcher. Regarding the Artiphon, MT2 noted that it relied on an App, otherwise it would not work, so it has to be charged before the lesson. If the class teacher did not do this (for example, if the message is not passed on to a supply teacher) this could be an issue. The touch sensitivity on the Artiphon was also particularly strong, so tapping notes could be challenging. This was mirrored in the fieldnotes, which described P2's interaction with the Artiphon after a conversation with MT2 about the tapping and strumming methods:

*[the conversation] prompts P2 to have another go at tapping. They shake their hand at one point, perhaps suggesting some tension or stiffness from playing through this method.*

MT2 added that it could hurt or be tiring after a while spent strumming and touching the Artiphon. MT2 spent some time playing the Artiphon before he began teaching the class and noted that his thumbs were sore. However, MT2 noted that "ukuleles have design flaws too!" and had worked with P2 and the school to overcome these issues.

Elsewhere, the cornet stand was felt to be too tall for P1 (who is short in stature):

*MT1 turns to me and notes that the cornet stand is a little bit too tall for P1. When the cornet is lowered, it sometimes gets wobbly and has fallen off the stand before.*

MT1 had been given advice on how to position the stand by OHMI/GM, which had improved matters, but accessing shorter stands may be beneficial in the future.

### ***Artiphon positioning***

Across all three Artiphon observations, the Artiphon was laid out flat on a table, ready for pupils to begin playing. However, as noted by OHMI/GM who was present at two of these observations, Artiphons have neck straps and are intended to be played upright in a similar fashion to guitars and other string instruments (see [here](#) for an example). Therefore, it is potentially less easy for the music teacher to assess learning when the

Artiphon is laid out flat; especially if it is drowned out by dozens of conventional instruments with harsher timbres. It may also be harder for the pupils themselves to hear their instruments. This issue was noted while observing P4:

*I wonder if it is hard for P4 to hear their Artiphon in places when the whole group are playing. OHMI/GM notes that, were P4 playing it upright, the speaker would be closer to them.*

Playing the Artiphon upright meant that pupils could face the music teacher throughout the music lesson. In some cases, the table positioning meant that pupils were facing to the side or with their backs towards the music teacher. Even in cases where pupils' tables were facing forwards, their gaze was mainly downwards. This may partially explain why, as mentioned previously, P4 tended to use their first finger only to play notes: the need to gaze downwards may have limited their ability to follow and learn the fingering charts on the whiteboard. However, we were not able to interview P4 for this evaluation, so this is just a hypothesis. Nevertheless, OHMI/GM suggested that the initial teacher guides produced by OHMI should be clearer so that the Artiphon is not used on the table as its default positioning.

After P3's music lesson, OHMI/GM demonstrated how to play the Artiphon upright with the neck strap, and P3 shared that it felt fine. More observations would be needed to establish whether this works effectively for pupils, and which positioning they prefer. Nonetheless, it was interesting to learn that the upright position had not been explored in any of the schools. This issue is unpicked further in the music teacher interviews (see Part C).

## **Summary of observation findings**

WCET observations enabled BCU researchers to build an understanding of a range of adapted instruments in practice across the three MEHs. All learners were seen making music alongside their peers. Adapted instruments were, therefore, clearly important enablers for parity of access in WCET. The support of class teachers and OHMI's General

Manager, coupled with frequent check-ins from music teachers, ensured that the adapted instruments were accessible.

Some technical limitations of the accessible instruments were shared by music teachers and may be of interest to OHMI as well as instrument designers. The prevalence of Artiphons being played on the table suggests that initial guidance and training for music teachers needs to clearly explain how to use Artiphons in an upright position where possible.

## Part C: Interviews

### Music Education Hub Lead interviews

Interviews were conducted with two MEH leads representing NMS (L/NMS) and SfE (L/SfE) (see **Table 4**). From this, four key themes were identified: *the importance of OHMI and the IAMM project; the value of OHMI training; the effects of COVID-19 on impact; and perceptions of using adapted instruments*. These are expanded on below.

#### ***The importance of OHMI and the IAMM project***

One particularly important aspect of the IAMM project, from the perspective of L/NMS, was that it raised awareness of the scale of the need for adapted instruments within WCET settings. For example, upon first inquiry, MEH teachers identified that there were very few children who would benefit from adapted instruments: ‘when I asked our staff to just see how many young people they thought were in need of adapted instruments the answer was “not very many”. This was really interesting in its own right’ (L/NMS).

However, after completing the IAMM questionnaire, it transpired that the value of adapted instruments was potentially far greater than what had been expected:

[I said to OHMI] I'm not sure exactly how much need there is in the city and they came back [to me] and said, "but look here, these are the sort of the statistics on what we've got in the city", which I think is really good. (L/NMS)

Being presented with this previously unknown information was described as ‘upsetting’ to L/NMS. However, having the ability to ask a range of other professionals—not just the school-based music coordinators—helped provide deeper, and more accurate insight and build an informed needs analysis.

Although this was hugely beneficial, it also highlighted the fact that, over the years, numerous children had missed out on experiencing WCET lessons:

it was deeply upsetting, actually. [...] [Some music coordinators would say] “oh, no, we don't have any issues.” The SEND head saying: “yeah, we got loads.” So, we started trying to set up things differently and got into schools and really pushed [the IAMM project] and asking the SEND coordinators, not just the music coordinators. From that, we were finding out that there have been numerous children, over the years, that had never even been sent to the music sessions, the whole class music sessions. (L/NMS)

Importantly, the IAMM project enabled a shift in perceptions from a learner not being able to do something, to how the learner can be suitably supported so that the issue is no longer an obstacle:

[the IAMM project] made a mental shift to not just automatically assume that kids can't do things, but then to find your way around it. We also get things coming up from schools, which are actually very little to do with physical disability such as loud noises. So, yeah, we can make some difference. (L/NMS)

As a result of this important project, L/NMS ‘learned a lot about what's available to support young people with physical disabilities’.

The importance and value of OHMI and the IAMM project was also referred to by L/SfE, who commented that it is a means in which more inclusive work within the WCET setting can be done:

[the IAMM project] raises the profile of our inclusive work but also benefits the pupils in the schools [with] further engagement really in terms of our provision. It is about removing the barriers and making things workable. (L/SfE)

As was previously voiced by L/NMS, L/SfE also stated that being part of the IAMM project was important in equipping teachers to recognise disabilities—particularly hidden disabilities—in the mainstream setting:

[the reports from OHMI] have been hugely beneficial actually because that has supported the work that we're doing to upskill staff in recognising hidden disability in mainstream schools. [For example,] there was the one school with a huge number of reports and nearly all of them were to do with hidden disability. (L/SfE)

In addition, L/SfE acknowledged that adapted instruments were important both for first access and musical progression: '[it's important] we've got instruments that enable pupils to carry on, carry on learning and actually learn alongside their peers rather than I think prior to that, perhaps schools would have changed their instruments'.

### ***The value of the OHMI training***

For L/NMS, the training WCET teachers received was valuable, not just for clarifying the adapted instruments and how they would work in practice, but also for providing inexpensive solutions to offer greater inclusion for *all pupils*:

[an OHMI representative] came and did some training with our staff. She's got some fantastic videos of children doing amazing things with adapted instruments. The cellist playing cello with the feet and, you know, and I think that got through to people because it when it's an abstract concept, it doesn't get through to people in the same way, does it? But when you actually see something, it's an emotional response. I think the bigger thing with that is that so many of the solutions [offered] were actually really cheap, I mean they weren't expensive solutions. [For example,] most things are really simple solutions like stands for trumpets or things to hold your bow so it's easy to control, and I think that was the interesting thing that it wasn't always a really big expensive thing. (L/NMS)

### ***The effects of COVID-19 on impact***

As L/NMS had been engaged in the IAMM project since 2020, they also commented on the impact COVID-19 had on some learners' inability to continue with their adapted instruments in WCET lessons. They suggested that pandemic restrictions in schools meant that the impact of adapted instruments on learners' musical progression is not yet known:

the pandemic then came, and I remember just before pandemic, we were starting to see the first little generation of kids on adapted instruments who had kept going and were in a band or something and performing. [...] I think some take years before we understand the full impact of [the pandemic]. (L/NMS)

### ***Perceptions of using adapted instruments***

Both MEH Leads raised the importance of acknowledging learner and parent perceptions of using adapted instruments. L/NMS suggested that there was a difference

in learner perceptions; some appeared to enjoy using an adapted instrument whereas this was not the case for others, particularly, within the secondary setting:

some kids feel special because they're using [an adapted instrument] in a good way, but I think some kids don't want to be the one who looks different. [...] it's just it's different natures for children [...] it's not so much in the primary school. I mean, I think it's more secondary school. (L/NMS)

While secondary school settings are beyond the scope of this research, it would be beneficial to explore whether young people's attitudes to using adapted instruments shift across school phases further.

In addition, parental perceptions were commented on by L/SfE, particularly with regards to taking part in a project such as IAMM:

being part of these kind of projects you have to take into account the feelings and the opinions of parents and guardians, and that can be a big factor in whether something is seen as worthwhile or important, or even acceptable, really. [...] If parents don't give consent, then there is very little that you can do really. (L/SfE)

## **Music teacher interviews**

Over the course of the evaluation, four music teachers (MT1, MT3, MT4, and MT5) shared their reflections on WCET using adapted instruments. **Table 4** gives details of each of these teachers. BCU researchers met all of these teachers during WCET observations (see Part B) and with the exception of MT5, interviews took place after the observations.

The music teachers' reflections highlighted the importance of four emergent themes: *identifying and meeting pupil needs; familiarisation and adaptation; sharing good practice; and meaningful and inclusive opportunities.*

### ***Identifying and meeting pupil needs***

MT4 and MT5 both described how their ability to identify and meet pupils' needs in each of their classes was dependent on factors including schools' *support, organisation, and communication*. MT4 was quickly able to develop strategies for her Year 5 pupil because

[the] school had filled in the [IAMM] survey for that year, so had already identified that the girl with cerebral palsy wouldn't be able to hold an instrument. So then I was given an Artiphon to be like, this is for the school to use. (MT4)

In this instance, the school's decision to participate in the IAMM project meant that MT4 was able to spend the whole year exploring the best way to meet her pupil's needs.

In contrast, MT4 also worked in a school that was 'not the most organised', and that therefore 'hadn't filled in the [IAMM] form' (MT4). This meant that 'when I got in the first week it wasn't obvious to me then that [one pupil] couldn't... he didn't have use of both hands because [one] was poorly' (MT4). While she was developing initial technique with the pupils—playing pizzicato, without bows—his physical disability remained invisible. It was not until

the second session where we got the bows out [...] then I think I observed him. He was kind of using it in the other hand, he was kind of trying to rest it on the hand that he can't use, and on the arm. (MT4)

MT4 then worked through a series of *short-term, medium-term, and long-term solutions*. Initially, 'I told him to put it on the table. So the violin was on the table and then it was using his good hand to use the bow' (MT4). Then, during negotiations with the school to obtain the appropriate software to use alongside an Artiphon, 'the first week of him using the Artiphon I just connected it to my phone because I had the app on my phone' (MT4). Only once the school had managed to communicate with their IT systems provider was MT4 able to develop a secure, long-term solution by offering the pupil an Artiphon with its accompanying app.

MT1 and MT5 had similar experiences with some of their pupils. Although MT1 worked at a school that was well-organised and provided 'information on the student, on what they required and their challenges and disabilities' (MT1) before the sessions began, there was a delay in accessing the required cornet stand. MT1 and CT1 therefore had to develop a short-term solution, in which the pupil rested her cornet on an adjustable tray table. MT5 found herself in a similar situation with her Year 4 flute player, since this pupil's school had not had the opportunity to complete the IAMM assessment. As with MT4 introducing initial technique on the violin, when MT5 introduced pupils to the flute, 'we don't build the instrument, we just work on the headjoint [...] so I don't notice anything at this point, because you can hold the headjoint with any hand you like' (MT5). Only when the class began to discuss building the flute did the classroom teacher tell the music teacher, "oh, just to let you know, this student has only got three fingers on one hand" (MT5). MT5 became aware of a physical disability that had previously been invisible and was able to assess the pupil's specific needs during the lesson. Fortunately, after identifying that the pupil would not manage a traditional flute, 'the response from [OHMI] was like immediate, like, they were able to get in touch about this [one-handed] flute pretty quickly' (MT5).

According to MT5, the one-handed flute was a viable long-term solution—but only because of support provided by CT5. In this Year 4 class, the classroom teacher was actually a flute player herself, and could therefore support P5 in using the one-handed flute by setting up the instrument, offering tailored teaching, and moving the instrument and its stand when necessary. This freed up MT5 to try 'to keep the other children on task, and keep their attention' (MT5). On the other hand, when working with a Year 6 pupil playing a one-handed clarinet, 'I don't have another member of staff [...] and that means it's very tricky to manage the rest of the class with their questions [...] while, you know, having a bit of time with the child with this instrument' (MT5).

When MT3 was interviewed, it was clear that she was still in the process of developing a long-term solution for her Year 4 pupil who had limited movement in one arm. This

pupil would typically use both an Artiphon and a conventional ukulele during her music lessons, because

[the Artiphon] wouldn't do some of the things that I felt somebody with one hand needed it to do, in terms of... she can't strum it. And so that's why she quite liked having the ukulele as well, so that she could actually get that feeling of strumming it. Because [...] there's no way you can strum and press the notes down [on the Artiphon] at the same time. (MT3)

Usually, this pupil would use the Artiphon to play chords, and the ukulele to practise strumming. After the WCET observation and OHMI/GM noting that the Artiphon could be played in an upright position (see Part B), P3 had tried to progress to using the Artiphon with a neck strap. However, she was unable to press down the notes because 'she couldn't apply the pressure 'cause she didn't have a flat surface that she has on the table, and her actual, her ability to tap things is quite... she finds it quite difficult' (MT3).

In this case, holding the Artiphon across her body like a ukulele did not prove to be a viable long-term solution because the pupil was limited by the weakness of her upper body. She therefore remained dependent on the support of her classroom teacher, partly to 'hold it still for her' (MT3): 'I don't think [P3] would have got half as much out of it if [CT3B] hadn't taken the time to sit with her' (MT3). Therefore, some pupils may be able to play the Artiphon more independently if it is placed on a table.

### ***Familiarisation and adaptation***

The importance of wider support noted by BCU researchers during WCET observations was also noted by music teachers. For MT3, the support of CT3B was integral in enabling her to *adapt* her lessons to be as inclusive as possible. MT3 used coloured spots to mark the appropriate chords on her pupils' ukulele and Artiphon, but while she was teaching she was dependent on CT3B to '[write] down what [the pupil]'s dots meant, so if I wanted an F chord, she knew that [P3] had to press the red and the yellow dots' (MT3). The classroom teacher 'would also be on the lookout for other children in the class who needed help' (MT3), therefore freeing up MT3 to concentrate on delivering the lesson content. MT1 agreed that the support of the classroom teacher

was 'really important' for the smooth running of sessions, 'so that they can set up the instrument if they need to, or at least have that teacher-led activity while the instrument is set up by the [music] specialist' (MT1).

In contrast, for MT5, the lack of support in teaching the one-handed clarinet prevented her from checking on how her pupil was progressing. But furthermore, it meant 'I haven't had time to explore the [instrument set-up] [...] it's been tricky, so I'm like, sort of pulled in having to get through my lesson and keep everyone, you know, involved' (MT5). She only felt comfortable when making short-term adaptations to her WCET lessons, because

I'm flexible in that I can look at the instrument and do my best to set up the stand. The problem is that, you know [...] I forget things like how high the stand should be [...] I could definitely do with more time on the instrument on my own, you know, things like that would be worth doing. (MT5)

Building on the music teacher survey findings, MT4 recognised that confidence in teaching an adapted instrument could only develop through *classroom experience*: 'I think the confidence has come with just more time using it [...] because I've had that, the whole year of doing it within a whole-class setting' (MT4). As she became more *familiar* with the Artiphon, she also became more adept at making adaptations to her teaching. For example, she would allow more individual practice time during sessions with an Artiphon, 'just to give them a bit more personalised advice' (MT4). She would also adapt her terminology to account for the differences between the violin and the Artiphon: 'I tried to be mindful not to say [finger] on and [finger] off too much' (MT4). MT1 made similar adaptations as he learnt what his pupils could and could not do. For example, he would explore 'simpler options, maybe with less valve movement [if] the child struggled with finger movement' (MT1). When working with P1, 'I think what works best [...] is to keep her as involved in the whole group as possible, and she's doing the same thing as everyone else and that's what she wants to do' (MT1).

Although MT3 claimed that she did not plan her lessons differently to accommodate an Artiphon player—'the lesson plans are completely the same' (MT3)—she did agree that the more time she spent familiarising herself with the instrument the more comfortable she was in teaching it. Although she had used an Artiphon before in lessons with a pupil with cerebral palsy,

as I hadn't used it for a while [...] I had to bring it home and learn all over again. And I wrote myself a sort of crib sheet. But I did get a bit further this time. I found myself, I used it more efficiently this time. I understood more about what I could do [...]. So I think every time you use it, you get better, don't you? (MT3)

She summarised that, through familiarisation with the Artiphon and making adaptations to deliver inclusive lessons, her confidence had increased 'a lot, because [...] I've seen it be successfully used. [...] I don't trust it as an instrument, [...] but I do feel more confident in problem-solving with it than I did before' (MT3).

### ***Sharing good practice***

MT4 was particularly confident in adapting her pedagogy to teach the Artiphon because she had had extended opportunities for *Continuing Professional Development* (CPD) using adapted instruments. She was first introduced to the Artiphon during a CPD session with OHMI, when teachers from her MEH were able to try out different instruments and consider how they could be used in their WCET. In contrast, when MT3 first used an Artiphon, 'I had sort of half an hour of advice from a colleague who'd already used it once, but with violin' (MT3). Because she lacked access to constructive CPD, when the Artiphon she was using with a pupil with cerebral palsy had 'issues when it would just stop working [...], after a while, [the pupil] abandoned the Artiphon on about week five' (MT3).

MT4 therefore recognised the importance of continuing to *share good practice* with other colleagues, both within and beyond her own MEH. As part of another project investigating inclusive music-making, MT4 had

done a bit about the Artiphon and just kind of sharing my experiences with the other Hubs [...] I kind of made a video [...] which kind of has like some captions on it, just to kind of see in action... (MT4)

She believed 'it would be great if [IAMM] could continue forever' and 'get out to as many Hubs as possible' (MT4). MT1 and MT5 recommended that this could happen through raising *greater awareness* of the resources on offer from OHMI, such as wheeled instrument cases or ergonomic neck straps for pupils with issues around attention span. They also suggested developing a *recommendations forum* where instrumental teachers could share good practice and point their colleagues to accessible resources. MT1 added that classroom teachers might further benefit from more information on 'what the adaptations are there for, and how they're going to benefit the student in particular' (MT1).

### ***Meaningful and inclusive opportunities***

All four music teachers interviewed agreed that IAMM had made a positive impact upon the pupils with whom they worked, even if there were challenges in differentiating their teaching strategies to meet pupils' diverse physical needs. MT5 highlighted how IAMM was moving away from her own experience growing up with muscular dystrophy, when 'a lot of the time I'd struggle with things and I'd be told, "well you just need to practise more, you just need to do this..."' (MT5). She emphasised the positive change towards *growing awareness* and *normalisation* of alternative instruments and instrumental aids, which meant that pupils faced fewer barriers to full participation in instrumental learning. For example, MT3 said that using the Artiphon meant that P3 'could actually join in with things like chords, which she couldn't have done [...]. So it definitely made her able to join in everything more fully, even if the sound she was making was different from the others' (MT3).

Furthermore, MT5 pointed out how access to different instruments enabled pupils with physical disabilities to *progress* at the same pace as their peers: '[P5] is actually one of the people making a stronger sound, so it's good that she's not, you know, at a

disadvantage anymore' (MT5). Likewise, MT4 described how her Year 5 Artiphon player

is now carrying on [...] she's doing small group [lessons]. So there's only about five or six of them who were doing it now in Year 5, but she's one of them. So she's kind of progressing her skills and such on that. (MT4)

The fact that pupils wanted to pursue progression routes on their adapted instruments demonstrates that IAMM offered them *meaningful* rather than mediocre alternatives. MT1 commented how, on the arrival of her cornet stand, P1 was 'the happiest I've ever seen a Year 4 in a music lesson' (MT1). She no longer experienced discomfort during lessons, and instead,

it's obviously had a huge, huge impact on her and she's so involved in lessons now. Not just in the playing but in general when we're doing the singing and when we're doing rhythmic stuff, questions... all this sort of thing, she's much more involved now. So, I think it's had a major impact in terms of her outlook towards music lessons. (MT1)

Likewise, for MT4's pupils, playing the Artiphon was exciting rather than stigmatising:

I kind of had a word with them and said, 'look, we've got this alternative', and just kind of told him a bit about it, and his eyes just, like, lit up and he was just, like so excited by the fact of [...] it's kind of electronic, it's a bit different [...] it's more techie. (MT4)

MT5's Year 6 one-handed clarinet player was also proud of his instrument: having something distinct from his peers, 'it does encourage independence and sort of ownership by the students [...] giving them this independence and, sort of, this is their instrument and they know how to use it, it's also amazing to see' (MT5).

## **Pupil, teacher, and parent interviews**

Pupils, parents, and school staff were also interviewed during the evaluation. These participants—SENT1, CT3A, CT3B, CT5, and Par5—are listed in **Table 4**. For all participants, their experience of the IAMM project was determined by multiple factors.

Their interviews highlighted the need for an *inclusive school music culture* facilitated by *increased awareness of adapted instruments and equipment, individualised strategic planning*, and the development of *fruitful relationships*.

### ***Inclusive school music culture***

The Special Educational Needs Teacher (SENT) at one Birmingham primary school described the importance attributed to music-making in her school:

we push it as much as we can because lots of our children do not access any kind of music at home [...] And so for us here, they need to experience it.  
(SENT1)

For her school, music was considered an integral aspect of pupils' cultural education, and therefore it also needed to be accessible for pupils with a diverse range of needs and disabilities.

Through the IAMM project, SENT1 saw how *subtle adaptations*—such as the use of a cornet stand—could make instrumental learning accessible to pupils who might face additional barriers:

it's made [P1] part of the class. And that's what we need to have, is the inclusivity of it all. You know, it's not been a barrier for her. It doesn't embarrass her. [...] It actually looks like part of an orchestra. [...] So it looks quite professional.  
(SENT1)

Her pupils using adapted instruments or equipment were not stigmatised and were not made to 'stand out in a bad way' while making music (SENT1). Similarly, CT5 shared that 'other children are supportive' of P5's needs and the inclusion of an adapted instrument in WCET.

For P3 and P2, access to Artiphons encouraged them to believe that they could *keep playing* an instrument in the future, perhaps until they could 'do the same songs as [MT2]' (P2). CT5 believed that a wider impact of IAMM was evident in P5's 'resilience to

keep learning’, and Par5 parent believed that accessing an adapted instrument had positively impacted P5 ‘socially’ and in terms of ‘wellbeing’ (Par5). P3’s teachers from Years 3 (CT3A) and 4 (CT3B) agreed that playing the Artiphon had made a ‘huge difference’ to P3 and encouraged her to continue being ‘very resourceful and happy’ in the classroom (CT3A). Her Year 4 teacher summarised how WCET—in conjunction with access to adapted instruments—had supported the development of an inclusive school music culture: ‘it’s been such an enriching experience for the whole class. You don’t want anybody to find, you know, have a different experience. You want them all to be able to access it’ (CT3B).

### ***Increased awareness of adapted instruments and equipment***

All the schools where staff had identified pupils who might benefit from adaptational equipment (at the IAMM questionnaire stage) were offered video assessments for their pupils. Teachers found that the assessments were ‘great because the resources they asked us to get together were just general resources that we would have had at school, so like the balls and the balloons’ (SENT1). Only occasionally did they have ‘to improvise on a couple of things’ (CT3A). Carrying out the assessments in a quiet office ‘away from [other] children’ ensured that both teachers and pupils were comfortable (CT3A).

However, some classroom teachers wished that they had known about the offer of video assessments sooner:

it’s the very first time that I’ve taken part in any kind of interviews [assessments] for adaptations to musical instruments, and I wish I’d known about it sooner. [...] we’ve got lots of children in our school with lots of different types of disabilities and it would have been really helpful. (SENT1)

SENT1 explained that she had pupils in Years 5 and 6 who would have benefitted from equipment such as cornet stands, and pupils with attention deficit hyperactivity disorder who would have benefitted from instrument straps to prevent them dropping equipment. She also implied that her school’s intention to encourage independence and resilience

in disabled pupils could mean that some disabled pupils had experienced inaccessible instrumental teaching, but ‘wouldn’t have let that stand... [in the way] [...] they will just give it a go’ (SENT1). Although this could have positive outcomes, it could also have masked problems that could easily be solved through the *advantages of adaptational equipment*.

With this in mind, SENT1 said that she was already planning appropriate interventions for pupils in Years 1, 2, and 3, so that they would be able to experience all the benefits of WCET in Year 4:

I know, looking at my children coming on, I know who will benefit from it straight away. I’m looking at Year 2, I’m looking at [Year] 1. [...] So I can see the difference that that would make for those children coming up. (SENT1)

P1, P2, and P3 also recognised the benefits of their adapted instruments. P1 agreed that the cornet stand made it easier for her to play because she did not have to hold the instrument at the same time. P2 and P3 both said that playing the Artiphon was ‘easier’ than playing the ukulele, ‘because all you have to do is press the buttons’ (P3). P2 added, ‘I like touching the strings and it makes a good noise. [...] You do the string and then it makes a slow noise, and then it feels calm’ (P2). Par5 shared that P5 enjoyed ‘making sounds’ on the right-handed flute.

P3 was unique among the pupils interviewed because during her class’s ukulele lessons she spent time playing both the Artiphon and the conventional ukulele. As explained by MT3, she would typically learn new chords on the Artiphon, which lay flat on a table, and practised strumming on the ukulele. This demonstrated some potential *disadvantages of adaptational equipment*. Until being taught how to play the Artiphon in an upright position using a neck strap, she was unable to apply all the techniques her peers were learning on the Artiphon. She also had to turn her back to MT3 to work at the table, and therefore relied on CT3B to write down the chord fingerings for her reference. Nonetheless, CT3B highlighted how, with a little practice, ‘I think now, if we put [the Artiphon] across [your body] [...] you can just use that as the strum and we

won't have to keep switching over' (CT3B). Although this was not altogether successful when MT3 tried it out with the pupil, this suggested that with sufficient expert support and repeated practice, adaptational instruments such as the Artiphon could be used to their full potential and help achieve parity of access to instrumental tuition.

### ***Individualised strategic planning***

Nonetheless, in some cases, adapted instruments were not necessary to ensure the inclusivity and accessibility of whole-class instrumental lessons: 'some choices of instrument are just... would break down the barriers without any other adaptations' (SENT1). When considering pupils presently in Year 3, SENT1 emphasised, 'we've got quite a high number of children with autism. And so I'd really like there to be some real thought behind the type of instrument that they're going to have' (SENT1). These pupils would not need adapted instruments—or even additional equipment such as ear-defenders—as long as a *suitable instrument* was chosen for them to learn. To make this decision, the SENT1 hoped to enter into conversations with the MEH to discuss pupils' specific barriers (such as noise sensitivity or motor coordination), 'so that we can start putting things into place [...] and making sure we can put aside something that's really suitable for them' (SENT1).

The interview with P1 reinforced the importance of instrument choice over and above the provision of adaptational equipment. P1 said that she enjoyed playing the cornet—especially when it was loud—and agreed that having a stand helped her to play. However, because of the distinctive jaw shape associated with her disability, she pointed out that 'it hurts my lips sometimes, [even when] I've [just] started playing' (P1). SENT1 reiterated that 'she hasn't got the capability to open [her mouth] very wide. [...] She would find that a challenge in itself to... for what, any blowing instrument would be. [...] You can imagine it'd be quite exhausting for her' (SENT1). Although P1 found the sessions manageable because they were at the end of the day, SENT1 questioned whether she would be too tired to complete the school day if her instrumental lesson was in the morning. This suggests that although the provision of a cornet stand

eliminated some barriers that P1 experienced, a more appropriate intervention could have involved playing a string instrument, rather than woodwind or brass.

### ***Fruitful relationships***

Alongside strategic instrument choices, classroom teachers also highlighted the need for fruitful relationships *between schools and MEHs*, and *between pupils and their teachers*. At School 1, it was an email from their MEH that initiated involvement in IAMM. The MEH provided information on specialist provision available for pupils with disabilities, ‘but also not just disabilities, you know, behavioural issues sometimes’ (SENT1). Furthermore, the pupil assessments they offered were carefully individualised. P3 was

very confident doing [the assessment], she enjoyed doing it. [...] I think because of the range of things that she was using, it just... it was the sort of things we would use for her for her physio[therapy] that we do. (CT3A)

The assessments were also able to account for instances when ‘some of our children don’t fit into the mould of their... title of their disability’ (SENT1). Nevertheless, although strong relationships between schools and MEHs were useful, occasionally delays in *communication* could hinder provision. For example, School 1

had to wait to find out who, which the new [brass] teacher was going to be, and you know, what day it was going to be [...] [and MT1] did have to wait a while to get hold of the right equipment. (SENT1)

The relationship between pupils and their teachers was also fundamental in ensuring accessible music-making opportunities. P1 ‘has got a very good relationship actually with [MT1]’ (SENT1). Mirroring findings from the WCET observations, P1 described how her music teacher would come and help her secure her cornet on its stand at the right height. She also said that he praised her during lessons, when ‘sometimes he give[s] me a sticker because then he’s kind of like, a kind of, “good try, good”... because he’s, like, he said to me, “you tried so hard”’ (P1). P2 clearly respected his music teacher and wanted to be able to play the songs MT2 played on his own instrument. He said MT2

helpfully 'tells us on the board [what to do], and he tells us what to press' (P2). P3 benefitted further from the support of her classroom teacher alongside her music teacher. While MT3 would '[tell] us the song', CT3B would provide additional one-to-one support by 'writing the notes down' (P3). CT3B joked that she had to write the chords out because 'honestly, I find it hard to remember things just like the children when they're learning something new!' (CT3B). But she added that by working together with P3, they found that '[the Artiphon]'s a brilliant bit of kit and I don't think we had any major difficulties' (CT3B).

For all the classroom teachers interviewed, the *individualised provision* offered by IAMM—whether it involved adapted instruments, extra equipment, or teaching assistance—was crucial in sustaining a school's inclusive musical culture. For P3, who began learning on a conventional ukulele,

the first lesson we sort of thought, how are we going to do the rest of this? And when we saw [the Artiphon], we were just like, well, [P3] can just join in and learn the chords exactly like everybody else. (CT3B)

For P5, CT5 was happy with the support that was put in place: 'the instrument arrived promptly ensuring the pupil did not miss out on learning alongside her peers. In addition, we had an introductory session with a music teacher going through the adapted instrument and the notes' (CT5). Reflecting generally on IAMM, CT5 shared 'I think it's great as it is accessible to all children and encourages others to be supportive too' (CT5).

However, SENT1 went one step further in describing the potential impact of IAMM. She highlighted how allowing choices of instrument and pedagogy to be guided by the specific needs of children with Special Educational Needs and Disabilities could, in fact, be what enabled WCET to meet the needs of all the pupils in a class: 'so actually, our special needs children could lead the way to the choice of the instrument that [the class] play. [...] [It] could meet all of their needs' (SENT1).

## **Summary of interview findings**

The interviews conducted for this research enabled BCU researchers to understand participants' lived experiences and the perceived efficacy of the IAMM project from a range of partners, including the adapted instrument learners. Overall, there was consensus between IAMM partners that the project had a positive impact. It is notable that witnessing the efficacy of adapted instruments shifted perceptions in MEHs; MEH Leads and music teachers who had participated in IAMM for several years had become increasingly assured that solutions were available. This was also the case for SENT1; the information from the IAMM assessments had ignited a wider interest with regards to how to successfully cater for all needs, and she was enthused about possibilities for future WCET cohorts with physical disabilities and additional needs.

Music teachers successfully supported adapted instrument learners during WCET and developed their confidence with regards to how to differentiate learning where required. IAMM training was a key factor in this and opportunities to share practice and test out instruments before WCET began were valued.

Music teachers emphasised the importance of being supported by classroom teachers during WCET lessons, and by wider school staff. Additionally, OHMI are becoming increasingly familiar to teachers and there were instances of music teachers reaching out to OHMI for support and advice. This mutual support enabled partners to work together to find short-term, medium-term, and long-term solutions to embedding adapted instruments within WCET. This highlights the complexities of working inclusively; achieving parity of access takes time and the adapted instruments are not without design issues.

From pupils' perspectives, access to adapted instruments made WCET lessons "easier" and inspired them to want to keep playing their instrument in the future. All the pupils spoke positively about the support they received from their music teachers and, in some cases, their classroom teachers. However, the challenges with learning a brass instrument for P1 raised the question of whether there should be more pupil choice and consideration with regards to which instruments are chosen for WCET.

## Recommendations

### **Key Recommendation 1: Achieving parity of access in WCET requires collaboration and communication at all levels.**

Collaboration between IAMM partners at all levels was a key factor in achieving parity of access in WCET. This included the support of classroom teachers during WCET lessons to enhance adapted instrument pupils' learning and enable music teachers to check in with adapted instrument learners more frequently. When music teachers and classroom teachers worked together, they were able to communicate learners' additional needs effectively and collaboratively create short-term solutions for pupils who were awaiting adapted instruments. However:

1. Not all music teacher participants said that they received information about the adapted instruments they would be using during the autumn term teaching. Consider how all teachers receiving adapted instruments can be equally informed as to their use, especially with regards to schools that do not participate in the IAMM questionnaire and assessments.
2. Not all music teacher participants said that they received information about the learner(s) they were teaching who were using an adapted instrument. Consider how best to share this information so that teachers are equally well-informed about any learners with adapted instruments.

### **Key Recommendation 2: Scaling up IAMM so that all young people can fully participate in WCET.**

75% of participating schools identified young people who may experience barriers to learning a musical instrument in WCET classes. This has significant implications for other MEH regions and for ensuring that *all* children can learn to play a musical instrument (DfE & DCMS, 2022). Considering this, and the positive impact of IAMM noted by participants, IAMM should be scaled up so that more MEHs can benefit from its programme of support. In light of the emerging community of practice formed through

IAMM, OHMI school visits should continue so that the culture of openness and joint problem-solving between OHMI, music teachers and schools is sustained.

**Key Recommendation 3: Increasing opportunities for music teacher Continued Professional Development on using and teaching with adapted instruments is highly important.**

All of the surveyed music teachers who had participated in OHMI training shared that it had increased their confidence in teaching with adapted instruments. Their preparedness for WCET differed significantly depending on how familiar they were with particular instruments and the amount of time they had spent setting up and playing the instruments. It would therefore be beneficial for music teachers to have regular access to adapted instruments and to provide shadowing opportunities for teachers who are yet to teach with adapted instruments. Music teachers were interested in the idea of a recommendations forum to share resources and good practice. The forum could also include feedback on instrument design and useability.

**Key Recommendation 4: The use and design of adapted instruments requires ongoing monitoring and development.**

Issues related to the usage and design of the adapted instruments were noted during WCET observations and discussions with IAMM partners. Across WCET observations, the Artiphon was placed on the table rather than being played in an upright position. This raised the issue of whether the information music teachers receive from OHMI about instruments needs updating. Aspects noted by partners included the need for shorter cornet stands for pupils who are short in stature, the low battery life and high touch sensitivity of the Artiphon, and the possibility of using different conventional instruments (rather than adapted instruments per se) to cater for pupils with additional needs and their peers.

## Possible Further Evaluation and Research Areas

- Further IAMM evaluations with existing and new IAMM partners (e.g., MEHs, schools, pupils).
- How IAMM impacts on supporting children's non-physical additional needs in the context of WCET.
- Continuity rates and progression routes of current and past IAMM participants.
- Awareness of adapted instruments, accessible equipment and IAMM across all MEHs.
- The relationship between the positioning of the Artiphon during WCET, individual user needs, and pedagogical practice.
- Young people's attitudes towards using adapted instruments across primary and secondary school phases.
- Perspective of assessors who conducted the IAMM video assessments.
- Closer consideration of resources music teachers use with adapted instrument learners.
- Observing and documenting OHMI training sessions.

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## References

- Abramo, J., 2012. Disability in the classroom: Current trends and impacts on music education. *Music Educators Journal*, 99(1), pp.39-45.
- British Educational Research Association, (2018). Ethical Guidelines for Educational Research. Available from: [https://www.bera.ac.uk/wp-content/uploads/2018/06/BERA-Ethical-Guidelines-for-Educational-Research\\_4thEdn\\_2018.pdf](https://www.bera.ac.uk/wp-content/uploads/2018/06/BERA-Ethical-Guidelines-for-Educational-Research_4thEdn_2018.pdf) [Accessed March 2023]
- Clarke, V. and Braun, V., 2013. *Successful qualitative research: A practical guide for beginners*. Sage Publications Ltd. London, UK.
- Csikszentmihalyi, M., 2002. *Flow: The classic work on how to achieve happiness*. Rider.
- Department for Education and Department for Culture, Media and Sport, 2022. *The power of music to change lives: A National Plan for Music Education*. Crown Copyright. Available from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1086619/The Power of Music to Change Lives.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1086619/The_Power_of_Music_to_Change_Lives.pdf) [Accessed March 2023]
- Fautley, M. and Daubney, A., 2018. Inclusion, music education, and what it might mean. *British Journal of Music Education*, 35(3), pp.219-221.
- Fautley, M. and Whittaker, A., 2017. *Key data on music education hubs 2017*. Birmingham City University. Available from: [https://www.open-access.bcu.ac.uk/6509/1/KeyDataOnMusicEducationHubs2017\\_0.pdf](https://www.open-access.bcu.ac.uk/6509/1/KeyDataOnMusicEducationHubs2017_0.pdf) [Accessed March 2023]
- Kenny, A., 2016. *Communities of musical practice*. Routledge.
- Maxwell, J.A., 2013. *Qualitative research design: An interactive approach*. Thousand Oaks, CA: Sage.

Merriam, S.B., 2002. Introduction to qualitative research. (pp.1-17). In Merriam, S.B. (Eds.) *Qualitative Research in Practice: Examples for Discussion and Analysis*. San Francisco: Jossey-Bass.

Nenadic, E. and Booth, N., 2022. *Independent Evaluation. Inclusive Access to Music-Making (IAMM) Project*. Project Report. Birmingham City University. Available from: <https://www.open-access.bcu.ac.uk/13247/1/Independent%20Evaluation%20of%20the%20Nottingham%20and%20Northampton%20IAMM%20project%20FINAL%20May%202022.pdf> [Accessed March 2023]

Take It Away Consortium (2018). *Make Some Noise Report*. Available from: <https://takeitaway.org.uk/makesomenoise/> [Accessed March 2022]

Take It Away Consortium, 2020. *Guide to Buying Adaptive Musical Instruments*. Published by Creative United. Available from: <https://takeitaway.org.uk/wp-content/uploads/2020/06/Guide-to-Buying-Adaptive-Musical-Instruments.pdf> [Accessed March 2023]

Youth Music (2020). *Reshape Music: A Report Exploring The Lived Experience Of Disabled Musicians In Education And Beyond*. Available from: [https://youthmusic.org.uk/sites/default/files/2020-10/Reshape%20Music%20-%20A%20report%20exploring%20the%20lived%20experience%20of%20Disabled%20musicians%20in%20education%20and%20beyond\\_0.pdf](https://youthmusic.org.uk/sites/default/files/2020-10/Reshape%20Music%20-%20A%20report%20exploring%20the%20lived%20experience%20of%20Disabled%20musicians%20in%20education%20and%20beyond_0.pdf) [Accessed March 2022]

Zimmerman, S., 2011. Including those with special educational needs: 'whole' class instrumental and vocal teaching. (pp.53-62) In Beach, N., Evans, J., Spruce, G. (Eds.) *Making music in the primary school: whole class instrumental and vocal teaching*. 1st ed. New York: Routledge.



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