The Makers 2.0

Our experiences this year: Facts, Feedback and a proposal

The Makers 2.0

conductive music

Bringing our project towards national level

2017/18 has been a fantastic year for Conductive Music. Not only we have expanded north, to include Yorkshire, but we have also reached a yearly milestone of 2,000 students (KS2/3 combined), as well as signing up new partners, with good international prospects.

All our Conductive Music programmes have been oversubscribed again, for the sixth year in a row! The consistent high engagement enabled us to reach 30% more students this year than in the previous academic year.

1

CIRCUITS

81% understand the positive-negative relationship.

2

CONDUCTIVITY

84% understand it well: 'Wood becomes conductive if you make it wet.'

3

'MARY HAD'

55% can play it on the fruit piano and understand the relative pitch concepts.

A National Snapshot

Encouraging Gender Diversity in STEAM

58% of our students identified as girls.

Our students approve!

Our experiences were rated **9.5/10** by our students this year.

Learning Designers

44% can correctly define conductivity in science and music.

Some Opinions

Will you think of STEAM subjects differently

80% yes: 'Yes. because you can get exciting answers'

A busy year!

In 2018 we visited 54 schools nationwide.

Student response:

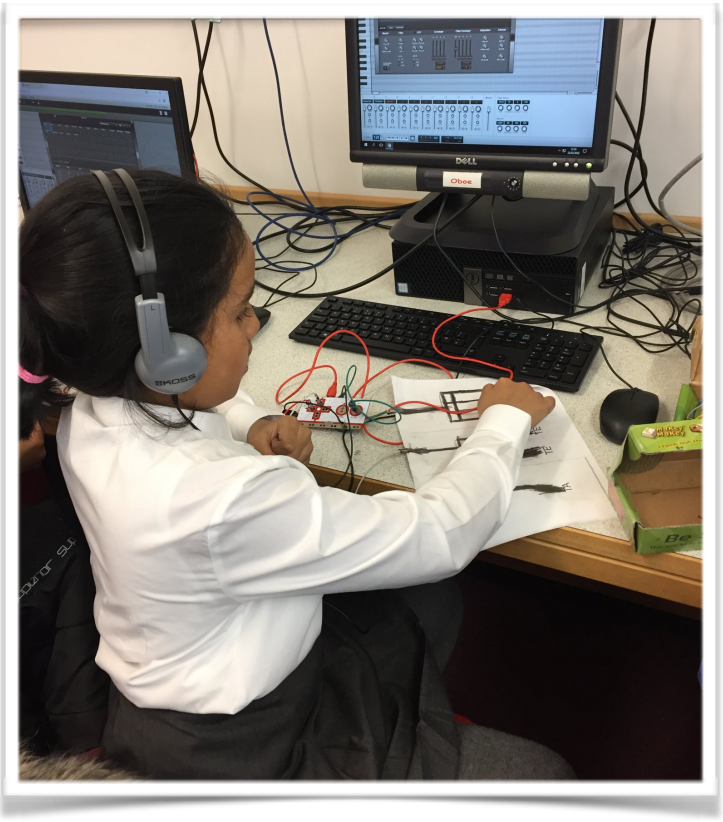
You are amazing and you have taught us a lot and everything we did today was fun and I did not know until now, thank you.

We have renewed our partnerships with the TECHNE Doctoral Training scheme in collaboration with Royal Holloway University of London (lead), University of Brighton, Kingston University, University of Roehampton, University of the Arts London, Royal College of Art and University of Surrey. We also have partnered with the Media Art Technology programme at Queen Mary, University of London. Thanks to these strong links with HEIs, Conductive Music hosted a paid researcher in residence throughout the year, boosting our academic value, providing a positive role model, and keeping our work future-focused.

fruit + music technology + electricity = awesome!
Year 4, Mead Primary - Romford

At the moment of writing, we have reached out to 1982 students and collected their opinions in 1512 feedback forms, backed by 61 teacher responses. We collected this astonishing amount of data during 91 sessions in 54 schools across our 8 partner Music Hubs.

The Makers 2.0 consisted of 3 parallel projects. One for Year 4 and 5 - the most booked, one for Year 6 - the least booked, mostly because of the SATs focus of many schools, who are unwilling to allow students out of lessons, and the last strand, for Year 7-8-9. Through The Makers 2.0, we engaged with young people from a variety of challenging backgrounds, including SEN (25%), EAL (30%), PP (40%), and PRU (5%) students. 100% of our participants were from documented disadvantaged and challenging backgrounds. We engaged 27% EAL students and 14% SEN students.



QUOTE

I would not change anything because I liked it and it was awesome!
Year 5, Ravenscroft Primary - Newham

Our Primary School Outreach

SUCCESS: 935 FORMS AWARDED US A RATING OF 8.9 OVERALL ENJOYMENT FROM THE STUDENTS.

Each project mixed Science, Music and ICT in innovative music-technology experiences, which included creative, artistic and technical skills.

The students responded well to the summative music assessment, with 75% understanding the length of a bar, 78% correctly describing basic rhythm functionality and 85% successfully composing a 4-beat bar. We are very keen for them to perform and just more than half of them, correctly used the Fruit Pianos and the Graphite drum kits to play popular children's songs.

The student evaluations show that, while students may be able to quickly learn and repeat theory principles, they often struggle to implement these principles in practice. Young people with challenging backgrounds may listen and be able to repeat back pieces of information in the classroom, but, during our workshops, they struggled to use their theory learning alongside critical reasoning when exposed to real-world challenges.

BARS

75% understand what the length of a bar is in music.

RHYTHM

78% correctly described and could clap along to basic rhythm in music.

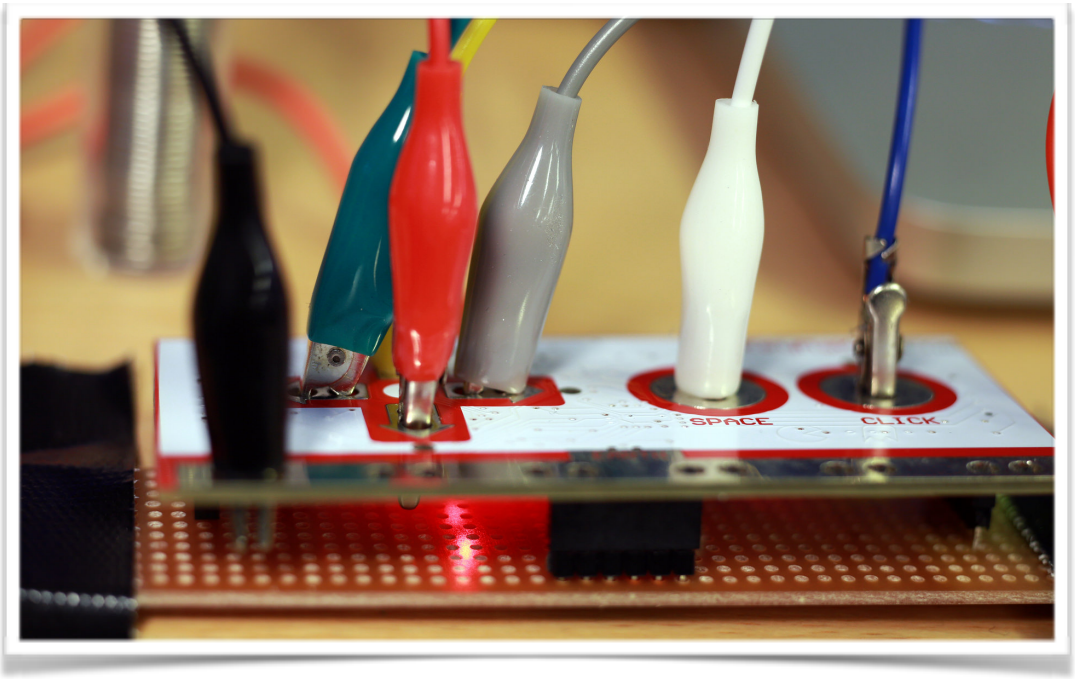
BEATS

85% successfully composed a rhythm for a 4-beat bar.

ELECTRICITY

Only 68% could define the property of "conductivity" in science.

The science sections of the learning assessments showed a different level of understanding between theory and practice. For example, 82% of participating KS2 students can correctly identify conductive materials (metals, liquids, etc.) and 91% of them can explain why those materials are conductive of electricity. However, only half of them can find and point to the clearly visible conductive metal polarised pieces of the electronic hardware, despite having used it correctly throughout the workshop.



The more conceptual science questions score considerably lower, with only 68% able to define the term Conductivity: It means that electricity can pass through it, such as electricity can pass through metal, copper wire and much more. We built the questions up from basic knowledge to problem solving skills. The final science question asked students to take a non-conductive material and make it conductive: only 51% managed to find a viable solution.

Quote
Can we do more of this every Tuesday or you can come every day?
Year 4, St Gerard's Primary - Rotherham

We are really pleased that our STEAM approach is actually changing mindsets. 80% declare that they will now think of STEAM in a different way

Also, in a difficult environment for Music and the Arts, we are very pleased to see that 52% of students select Music as their favourite subject!

Some Opinions

Will you think of STEAM subjects differently?

"Yes, I have learnt so much. It has encouraged me to have a bigger interest." Year 5, Bolton Row Primary - Rotherham

Changing minds

80% say they will think of STEAM differently now. 52% say that Music is their favourite subject.

"I regret thinking it was going to be boring!"

Success!

"the graphite paper actually worked & conducted electricity!" Yr 5, Waltham Forest

Student Perspectives

What would you tell your peers about this workshop?

"That you get the chance, once in a life time, that was super and i'll recomand it."
Year 7, Mayfield Secondary School - Dagenham

Raising aspirations!

70% of our students reported an increased interest in STEM careers.

Student response:

"Its a great workshop where you learn to compose music even if you think you can't."

Year 8, The Albany School - Rotherham

Our Secondary School Outreach

SUCCESS: 86% OF STUDENTS REPORTED INCREASING CONFIDENCE IN THEIR OWN TECH CODING SKILLS AFTER OUR WORKSHOP.

Our Secondary school project brought together music and science knowledge from the National Curriculum with GCSE subject matter and a focus on raising career aspirations for young people facing attainment obstacles. We reached a brilliant outcome in this area, with over 67% of project participants reporting that they were more interested in STEM subjects after the workshop than they had been before they engaged with us.

GCSE

65% intending to take a Technology/ICT GCSE and 50% for Music GCSE after our workshop.

TECH INTEREST

Only 32% expressed interest in a Technology or ICT GCSE before our workshop.

DIFFERENCE MADE

49% of students stated that their experiences in our workshop made an impact on GCSE choices.

We had successful outreach to students interested in Music, Digital & Technology, and ICT GCSE subjects, with approximately 65% of workshop participants indicating they would take a Technology or ICT GCSE and 50% for a Music GCSE.

Our feedback data shows that our project directly impacted these choices.

Only 32% of students expressed interest in pursuing Technology and ICT at GCSE level at the start of the workshop.

By the end, 67.9% reported an increased interest in STEM and 48.3% of students stated that they felt their experiences in the workshop would impact on their GCSE choices.

Quote
"Everyone should give it a go if they enjoy sciency, math related, technical music things."
Year 8 student

Our goal was not only to encourage interest in these topics but also to raise student confidence and experience levels in coding, a key STEM skill. The feedback showed that we achieved this goal through our skills-focused workshop content.

Before our secondary school sessions, only 31.1% of students had experience of coding. By the end of the sessions, all of the students had been shown how to change the code of our open-source hardware and had participated in coding skills activities. Our active approach, with hands-on activities for all learning types, accomplished our outcomes, with students showing clear increases in confidence in their own skill level.

Students described the workshop as "a fun confidence booster and very creative!" and "brilliantly perfectly great."

After the workshop, 85.5% of students responded that they would be able to change the code in open-source hardware without assistance in the future. This increase in confidence leads directly to continued engagement in future and a legacy of increased interest in STEM subjects, with all of the students who were confident in their own ability to code in the future also reporting that they planned to use the software again for their own projects after the workshop ended.

The Teachers' Perspective

SUCCESS: 96% TEACHER APPROVAL FOR OUR CURRICULUM-LEVEL APPROPRIATE CONTENT.

We are very aware that, without a strong commitment from the teachers, the sessions would never take place. Our network has expanded, to embrace 100+ schools and teachers, who are very busy, over committed and overworked. Their passion is the key catalyst that makes this whole project a success. Teachers emphasised the way that the workshop content was particularly well-pitched to the learning level of the students and to building their confidence no matter the student's abilities. We have collected responses from 61 teachers who rated the curriculum-level appropriateness of our content at 96%.

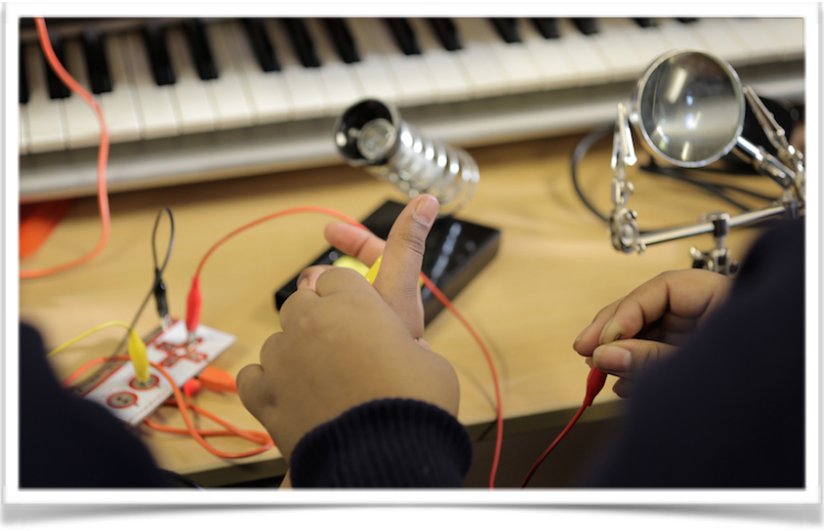
QUOTE

"A perfect mix of listening, learning and practical. The children were absorbed for the whole session. Clear delivery and perfectly pitched at the correct level."
St Ursula's Primary - Bristol

Teachers reported that the software tools we used in the workshops were more effective than the music technology and audio programmes they had previously used in school computer and music labs. Mayfield Secondary School in Dagenham now uses Audiosauna, based on their positive experience with our workshop tools, and SENco's in other schools have plans to use it in workshops with their students. A teacher at Downsell Primary said that they "can't wait to use these in class" because the students engaged with the new, simple browser-based applications better than with outdated lab equipment. Teachers and SENco's also indicated that they would be looking into procuring Makey Makey equipment for their schools to use after the project.

QUOTE

"I was very impressed with the delivery of this workshop. The children engaged wholeheartedly and were fascinated by the idea of playing music through themselves and through fruit."
Burnley Road Academy - Halifax



The only area where we struggled to meet our goals in this project was in engaging teachers through afternoon CPD courses. We found that teachers often did not have time to participate in afternoon sessions after school hours. To respond to our teacher feedback and improve this in future, we modified our CPD offering to be a series of Lunch & Learn sessions. These sessions take place over lunchtimes between classes, and offer a friendly and accessible space for the CPD workshop content while not placing added stress on the teacher schedules.

Thoughts from Teachers

This is a very exciting opportunity for children. It encompasses Science, Music and ICT. A wonderful experience that is thought-provoking and inspiring!
Redscope Primary

School - Rotherham

What about the tech?

More than 30% of teachers said they would like to use the software and hardware technology tools that we introduced in the workshop again in their

We also produced a series of video tutorials and resources for teachers, freely available on our website and YouTube channel. These resources enable teachers to access CPD material as appropriate in their own time.

Reflections from Our Staff

In order to learn and improve our projects, and to develop our staff skills, we ask our workshop leaders to reflect on the workshop delivery throughout the project. Our workshop leaders have a uniquely deep & broad view on how students have responded to our activities. Over the entire project this year, our workshop leaders rated the "students' overall attainment and learning" as an average of 7.2 out of 10. The highest attainment ratings were achieved with schools in Rotherham, including several perfect 10s.

QUOTE

"The best follow-up for this workshop may be staff training to be able to lead the children in next steps and our school being able to order resources needed."
Aston Hall Junior and Infant School - Calderdale

Staff also reflected on students' behaviour in the classroom space. Behaviour ratings were consistently high across the board, with staff commenting on how the new content adjustments has better engagement from students this year. Our workshop leaders also made special note of how much impact a skilled and highly engaged school TA has on the workshop delivery in any school space. Despite the critical role of school teacher participation, we saw some very low engagement from classroom teaching staff in the workshops.

Some teachers inspired students and others just caught up on marking and wrote christmas cards!
Workshop Lead - session in The Albany School - Hornchurch

We hope to build up and further support the positive behavioural impact of TAs by working more closely with schools to ensure their engagement next year.

What Next?

We are expanding our Music Hub partnerships throughout England. Increasing our scheme of work to cover more CPD, more regions, and more year groups was a top request from heads of school, teachers, and SENco leaders this year.

We are growing as a global movement, bringing our workshops to enthusiastic participants in Hong Kong, Canada, Thailand, Japan, and New Zealand. Our research and development team will participate in a month-long residency in Cyprus. This will enable us not only to increase our impact in communities worldwide, but also to deepen our engagement with our international colleagues in the music education field.

QUOTE

"This program is perfect for today's curious, inquisitive and technologically orientated children. "