New app could transform music teaching in schools

September 6 2017

Credit: University of Sussex

Developed by academics and musicians at the University of Sussex, the Syncphonia app enables a music teacher or conductor to break down the different parts of a piece of music, so that the notes and tempo for each player's instrument is displayed on their own tablet, highlighted bar by bar. This keeps them in time with the rest of the orchestra without being distracted by multiple lines of notation, reducing stress for children and learners.

Professor Ed Hughes, head of Music at the University of Sussex, who has led this project, said: "When I volunteered to play piano in my

daughter's school orchestra I noticed that some children became visibly upset or put off when they lost their place in the music. Reading music notation and playing in a group at the same time is a complicated activity, and often you are expected to learn it by diving in straight away. So I asked colleagues with Music Computing and Psychology expertise if we could design and evaluate an app to address this through a research project.

"We found that the Syncphonia app removed a lot of the stress of getting lost for children and made them feel more confident and relaxed. This encouraged them to start or continue learning and playing together - the orchestra in our test school grew in size. It's also enabled them to play longer and more complex pieces, that previously would have taken weeks to perfect."

An interdisciplinary team of researchers from arts computing and psychology backgrounds collaborated to design, programme and test the new system and app. Dr Chris Kiefer and Dr Alice Eldridge led the design and coding of the tablets, while Dr Fidelma Hanrahan and Professor Robin Banerjee evaluated the impact of the system on players' enjoyment, engagement and ability.

The technology was created through a participatory design process - rather than making 'expert decisions' for the musicians, the researchers worked closely over many weeks with students and staff at a primary school in Sussex to design and develop every part of the software in ways which made sense for them.

Dr Eldridge and Dr Kiefer explain their motivations for adopting this approach: "This participatory design process promotes the creation of usable, sustainable technologies as it ensures the end product both meets the needs of users and is intuitive for them to work with - two key aspects of good design."

Professor Robin Banerjee, deputy head of the School of Psychology at the University of Sussex, said: "Previous psychological research has shown that children often lose motivation at an early point when learning a musical instrument, if they do not feel they are doing well and progressing. When we tested the Syncphonia app with a primary school orchestra of children aged 8 to 11, we found that the children responded with high motivation and enjoyment of group playing. In fact, many of the children who previously perceived themselves to have less ability found the Syncphonia app to be especially helpful.

"Ensemble music playing can have a positive psychological impact on children, especially socially. Supported by Syncphonia, the children in our test group placed a high value on the opportunity to play music together in an orchestra, to develop new relationships with their peers, and ultimately to belong."

Professor Hughes explained: "The app successfully removed barriers to learning, like getting lost, or getting out of time with the other players, while not 'deskilling' them - they still had to read the music. This resulted in fewer children becoming discouraged and leaving the group than their teacher had previously experienced, and allowed the group to progress more quickly, learn more complex pieces, and produce a better quality sound than without the app. We hope that the Syncphonia app will mean that more school children will be able to take advantage of the benefits associated with playing in a group."

The app is now being launched at an event during the British Science Festival, and its developers hope that it will be taken up widely by schools to support music teaching and learning - especially as music in primary schools comes under threat from funding and curriculum pressures.

The research has been funded by an AHRC Digital Transformation grant

and is now being supported by the University of Sussex's Enterprise Development Fund.

Mike Herd, executive director of the Sussex Innovation Centre, who are working to bring the app to market, said: "We at Sussex Innovation Centre and the University's Enterprise Panel believe there is a big - and growing - potential market for Syncphonia. With music departments and amateur ensembles often keen to embrace new technology, there is a great opportunity for the system to become a feature of musical education throughout the UK and beyond."

More information: For more information about the project so far, including images and video of the system being used in schools, please visit: netem.org.uk/

The Syncphonia app will be available to download on Saturday 9th September 2017. www.syncphonia.co.uk/index.html

Provided by University of Sussex

Citation: New app could transform music teaching in schools (2017, September 6) retrieved 1 July 2024 from https://phys.org/news/2017-09-app-music-schools.html