



CASE STUDY: MUSIC THROUGH NEW TECHNOLOGIES

Music Games

The digital revolution is creating new ways for people to engage with music, giving rise to potential new opportunities for educators, health practitioners and technology developers to inspire and benefit people through music.

New technologies are transforming music-making opportunities in the classroom and wider musical environment. Music video games such as Guitar Hero and Rock Band are allowing young people to use games consoles to create and play music in new ways. The challenge for music educators is to capitalise on the evident motivation for informal music-making with digital technology to inspire and engage learners with music in educational contexts.

Glasgow Caledonian University's Dr Gianna Cassidy is an award-winning Music Psychologist and singer-songwriter with research interests in music in video games, game-based music learning, interactive entertainment design and games for health. Dr Cassidy says: "Our interaction with music is becoming increasingly more technology led. Here at Glasgow Caledonian

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Dr Cassidy lectures in GCU's School of Engineering and Computing, home to the Department of Computing and Creative Technologies, which supports the design, development and marketing of innovative digital products and services and entertainment-based services such as audio, web and games technologies.

Music games present a highly pervasive new digital platform to create, perform, appreciate and transmit music through peer and online communities, and are one of the biggest selling video game genres.

Previous research highlights the power of music participation to enrich cognitive,

social and emotional wellbeing, while a growing body of work highlights the educational potential of digital games to enrich personalised learning across the curriculum. However the music game synergy has been under-researched, presenting an opportunity to investigate the processes, experiences, educational opportunities and potential outcomes of both music participation and digital game participation in one context.

Dr Cassidy has been awarded grant funding from the Engineering and Physical Sciences Research Council for a two-year research project entitled 'Music Games: Supporting New Opportunities for Music Education'.

APPLIED KNOWLEDGE EXCHANGE

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This project will investigate the potential of music games such as Guitar Hero to inspire and engage learners with music, developing theoretical and practical knowledge to support and enrich authentic and inclusive classroom participation in line with defined curriculum goals.

Dr Cassidy intends to work with educators, learners and the games industry to establish attitudes, uses and requirements of music games, and generate user-driven scenarios of use for music games as a tool to support music education. She will investigate a music-making scenario with a market-leading music game in the classroom as an authentic and inclusive learning context. Her evaluation of the collective results will allow her to develop and refine recommendations for educators and industry on effective and innovation employment and design of music games.

Dr Cassidy is collaborating with Lucky Frame Games, YRock and RjDj, the MIT Media Lab and the creators of Guitar Hero, Harmonix, who will be supporting the development and dissemination of the grant.

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She sees the potential of music games research to help inspire young people and provide health benefits to people longer term. Dr Cassidy has also provided her expertise at music events and visitor attractions including Secret Garden Party, Latitude Festival, The British Science Museum and Edinburgh Interactive Festival.

Her publications include research into The Effects of Background Music and Background Noise on the Task Performance of Introverts and Extraverts for the Psychology of Music journal; The Role of Music in Videogames; and The Effects of Music Choice on Task Performance. She has also worked with commercial clients such as consultancy Bunnyfoot, on a Knowledge Transfer Partnership (KTP) which involved the development of usability techniques for emotional experience of games.

Dr Cassidy works with colleagues in Glasgow Caledonian University's unique eMotionLab, which focuses on User-centered Interaction Design research activities. The Lab allows researchers to analyse the impact of music on gaming performance.

Dr Cassidy has also collaborated with Glasgow Caledonian University colleagues on projects including EPSRC funded research into how music conveys emotion and could benefit the treatment of depression and the management of physical pain. She is a member of the Psychology of Music Research Group at GCU.

