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Missing a Beat: Exploring Experiences, Perceptions and Reflections of Popular Electronic Musicians in UK Higher Education Institutions

Introduction

Although formal educational institutions in the UK, and particularly in Higher Education (HE), have begun to acknowledge aspects of dance and hip-hop styles of music as useful inclusions in their curricula, there is still a notable lack of research into the relationship between popular electronic music production and formal education, with only a handful of studies in this area (e.g. Snell & Söderman, 2014). Thompson (2012) argues that Western Art music pedagogy and its related conventions as observed by Campbell (1991) are still evident in formal institutions today. Consequently the integration of popular electronic styles of music, such as hip-hop and house, into the curricula of formal educational syllabi, has been decidedly slow. The popular electronic musician is: "broadly defined through the notion that technology, such as the turntable or computer, is central to the interaction, performance and production of popular styles of electronic music such as dance and hip-hop" (Thompson, 2012, p. 46). The difficulty in integrating the popular electronic musician into formal educational and musical structures is generally linked to the use of music and recording technologies (Thompson, 2012). Consequently, popular electronic styles of music are often discounted in studies of musical practice, because an instrument is not 'played' in the traditional sense[1], and is overlooked in musical analysis due to a lack of pertinent and appropriate musicological and contextual frameworks.[2] Moreover, the experiences of popular electronic musicians have been largely ignored in studies of popular music learning, which typically focuses on rock-based[3] popular musicians (Green, 2002; Powell & Burstein, this volume). In order to illuminate the experiences of popular electronic musicians in formal education the following study surveyed popular electronic musicians studying music related[4] programmes at HE institutions across the UK, capturing some of their experiences, perceptions and reflections.

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[1] Both Randles (2013) and Williams (2014) explore this issue in relation to the use of iPads as instruments within educational settings.
[2] Exceptions include Rambarran's (2016) study of laptop musicians.
[3] The term 'rock-based' here refers to guitar, bass, piano, drum and vocal musicians.
[4] The term 'music related' used here, and elsewhere in this chapter, refers to educational programmes that include music such as music, popular music, sound and music technology.

Context

Music education is often grouped into three broad forms: formal, non-formal and informal, which are characterized by their methods of learning (Mok, 2011). Formal music education is delivered within an educational institution and employs a structured curriculum (Boeckaerts & Minnaert, 1999) based upon the framework of "Western Classical music pedagogy" (Green, 2002, p. 4). Non-formal education takes place inside or outside of an institutional context and often employs a tailor-made or loosely designed curriculum to suit learners' needs (Rogers, 2004). It typically involves the use of aural and oral methods of teaching and learning, often with musical notation to supplement the guidance of a teacher or mentor[5]. Informal music education typically involves developing musical skills and acquiring musical knowledge without a structured curriculum (Rennie & Mason, 2004) and often employs the approach of watching and copying teachers, family, friends, recordings or performances (Green, 2002; Thompson, 2012). These educational categories have been usefully described as a continuum (Folkestad, 2006), however there is still much debate on the boundaries of each educational category because it is often unclear where formal education ends and non-formal or informal education begins (Rogers, 2004). Although an in-depth debate is beyond the focus of this study, the contested definitions of educational categories provide a useful starting point in acknowledging the complexities of musical learning both inside and outside educational institutions (Lebler & hodges, this volume).

The experiences of learners in formal educational settings show how these distinctions and their traits are often porous. For example, an often-identifiable trait of informal music education is learning with peers in a cooperative manner. Studies into peer and cooperative learning[6] identify that these often take place in formal educational settings implicitly and recognize there are benefits of incorporating these practices into HE music provision more explicitly (Jones & King, 2009; Lebler & Hodges, this volume; Smith, 2013; Thompson, 2012). Green's (2002) analysis of how popular musicians learn highlights that the popular musicians in her study "were able to make connections between many of the skills and knowledge they were acquiring

[5] Although this is not always the case; See Mok (2011) for further discussion of non-formal learning.
[6] For an overview of the literature see (Burnard, 2013; Topping, 2005; Westerlund & Gaunt, 2013)

through formal and informal means. In spite of this… their informal learning practices continued unabated" (2002, p. 175). These connections were often made by the musicians themselves rather than purposely embedded into a specifically designed music curriculum.

In their overview of HE music programmes in the UK, Gaunt & Papageorgi recognized, "a growing awareness of… peer learning...[leading to] an emphasis on collaborative creative projects driven by students' own ideas... supporting a move… towards a more student-centred approach" (2010, p. 267). However they note that this was more evident in "chamber music or small band playing" (ibid) rather than in popular music education programmes such as music production and music technology. Rather, Papageorgi et al uncovered tensions between some of the popular musicians in their study and formal education. These tensions occurred because of their often-opposing teaching and learning methods and focus. For example, students predominantly studying popular music programmes reported "a [cultural] clash between practical and academic aspects of music learning" (2010, p. 159).

This cultural clash between popular musicians and formal music education is also evident outside the UK. In his analysis of formal popular music programmes, Mantie (2013) identified a difference in focus between the USA and other countries such as the UK, Australia and Finland. His findings indicated that outside of the USA, there is a well-established incorporation of popular music in the music education system, however paraphrasing Green (2002) Mantie also suggested that despite this adaptation, "teaching strategies and methods in the United Kingdom did not change accordingly" (2013, p. 348). As evidenced by this study, this lack of pedagogical change has, we argue, resulted in only some popular music styles – particularly those that use traditional instrumentation or existing theoretical frameworks – to be prioritized over other musical styles such as electronic and sample-based popular music (see also Powell & Burstein, this volume). In a more recent study of music education in UK schools, Green suggested that this prioritization occurs because: "no teachers elected to buy twin decks for scratching. This is probably because scratching is that much further removed from the popular music into which the teachers themselves were themselves encultured than guitars and drum kits" (2013, p. 48). McQueen and Hallam support Green's suggestion explaining that prioritization occurs, "because music teachers have traditionally experienced a more formal training

themselves, and popular music has been seen as a motivating means to a more traditional end" (2010, p. 234). Consequently, popular electronic styles of music are often overlooked in preference for popular music styles that are more closely related to traditional musical instrumentation and traditional musicological frameworks.

Methodology

This study draws upon data gathered from an electronically distributed questionnaire and a series of semi-structured interviews, with the specific aim to focus on popular electronic musicians' musical practices, processes and their experiences within HE in the UK. As such, we have drawn on Papageorgi et al.'s (2010) approach to capturing students' perceptions about the pervading philosophy within their respective educational institutions. This helped to connect the musicians' perceptions with their approaches to musical learning and performance as they develop their skills as musicians. It has been argued that concentrating on experiences, rather than documents or artefacts: 'increases our knowledge of the details of cultural processes and practices' (Cohen 1993, p. 135) and, in this instance, it allowed a qualitative analysis of the musicians' experiences.

The study was conducted over a five-month period from August 2014 to December 2014, beginning first by distributing a questionnaire link via programme leaders to current students and recent graduates of music related programmes at eight HE institutions across the UK. The entire investigation included 41 musicians, who were either current students or recent graduates of music related undergraduate degree programmes. As the study included a relatively small number of musicians every effort was made to represent the breath of popular electronic music-making, and each musician first undertook a survey where they identified which category of popular electronic musician they were (e.g. DJ, turntablist, dance or hip-hop producer). In order to gain a perspective on a range of experiences, all ages from 18 to 41 and above[7] were included and the study included both male and female musicians[8]; a minority of whom were educators and professional, part-time popular electronic musicians. Also included in the study were commercially established UK-based hip-

[7] 41 and above was the highest selectable age category on the questionnaire.
[8] Participants did not have to declare their gender in the questionnaire although the majority of the musicians did.

hop and dance music producers and popular electronic musicians who had experienced some commercial success releasing their music on independent record labels.

In the first stage of the study all 41 musicians completed the online questionnaire. Responses were captured through Google forms, which allowed the results to be grouped by age, experience or a question-related theme. The questionnaire was split into three sections: “About You”, “About your Course[9]” and “About your Practice”. The “About You” section captured general demographic information and data more pertinent to the individual’s musical education and experience. The “About your Course” section captured information on each musician’s experience whilst studying their chosen music-related programme. The final section, “About your Practice”, gathered information on the development of each musician’s practice as a popular electronic musician.

From the 41 musicians, six were selected for interview. In selecting the six interviewees, an effort was made to represent each of the four main categories of popular electronic musician (DJ, turntablist, hip-hop and dance music producers). Therefore, each category has been represented by at least one of the interviewees. Of the six interviewees, two were hip-hop producers, one was a DJ, one was a turntablist, and two were dance music producers. The musicians’ responses from the questionnaire provided a useful starting point on which to base the questions for the interviews. A semi-structured interview approach was adopted to allow flexibility in exploring the issues and experiences of each musician whilst maintaining a commonality to each interview by posing the same questions (Priest, 1996). The interviews were recorded on a digital Dictaphone and later transcribed. The responses were then grouped in relation to the three broad areas of the questionnaire to highlight the development of particular themes. In this way responses could be more easily analyzed and common themes more readily identified and coded. Responses from the musicians in this study have been made anonymous and each respondent has been assigned a given number. The majority of conversational utterances, such as ‘errs’ and ‘ums’ have been removed to maintain clarity. Responses included in the main body of the text are from all of the participating musicians, as far as possible. In terms of the general themes of the study, the musicians’ answers generally reflected the

[9] The term ‘course’ here refers to the ‘programme’ of study.

experiences of all 41 musicians.

The musicians' previous experience of music education

In order to contextualize the popular electronic musicians' perceptions and experiences of formal education, the interviews began by exploring their experiences of music education prior to their HE studies. The majority of the participants had experienced compulsory music education relatively recently, although two of the musicians were 41 or above and had therefore attended school in the 1960s and 1970s. Of particular note, 25 of the 41 musicians in this study had not learned or studied popular styles of music in school prior to HE. A number of the responses regarding formal, compulsory music education were also notably negative:

> **Participant 20:** I learnt very little music at school. Music lessons in school were always difficult – a subject I feel a lot of children struggled to get to grips with, which meant a lot of pupils didn't bother trying.

> **Participant 19:** [Music education in school included] some appallingly boring lessons on elementary music theory and one small man's highly opinionated view of what we should listen to.

Responses from the musicians also showed that the majority of formal, compulsory music education only included the study of Western Classical music, as in this example:

> **Participant 10:** I studied GCSE[10] music in secondary school, but this didn't really address popular styles of music at the time (I only really remember covering Baroque music a lot!).

Music technology was introduced mainly to support composition within the Western Classical musical tradition:

> **Participant 32:** I studied music all the way up to A Level.[11] From what I can remember from the earlier years we were taught basic melodies on piano, and

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[10] General Certificate of Secondary Education is a qualification undertaken in secondary school between the ages of 14-16.

[11] AS and A-Levels are qualifications taken by 17-18 year olds in years 12-13 in the English education system prior to University

> classical music at GCSE. Also during GCSE we were introduced to Cubase[12] where we worked on compositions, so I guess this is where I was first introduced to electronic music making. Throughout A Level the lessons were very theory based, looking at music in history and working on harmony arrangements. We also studied Jazz and listening techniques. It was only through my own desire that in my free time I played around with Logic[13] and different synths.

Despite the frequent absence of popular electronic music from the curriculum, some of the musicians in this study highlighted that learning about music production and music technology on their programme of study had sparked their interest in popular electronic music:

> **Participant 15:** I was introduced to the world of music production whilst studying music technology at AS and A level during sixth-form[14] study. I was a complete novice in the area, having only having a background in music theory and performance. I quickly became enthusiastic about this area of music production as it was a world that was completely new to me.

> **Participant 29:** Through college in Cornwall, where I took a music technology course, I started experimenting with making my own style of chilled house music with washy vocals. This style was derived from my years playing in a shoegaze/psych-rock band.

> **Participant 11:** I began producing through studying music technology at A Level. At the same time I took an interest in electronic music and dance music.

Despite the formal study of music technology and music production influencing some of the musician's interest in popular electronic music, the vast majority of responses in the study highlighted a perceived disconnect between the musicians' own personal experiences of popular electronic music and the content of their programmes' curricula. For example, a number of the musicians noted that popular music within

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[12] Cubase is a Digital Audio Workstation software program made by Steinberg.
[13] Logic is a Digital Audio Workstation software program made by Apple.
[14] 'Sixth form' is a term for years 12 and 13 in the English, Welsh and Northern Irish education system.

their programmes was limited to guitar-based rock music. Consequently, access to electronic musical instruments and software was an important factor in developing the musicians' musical interest, skills and knowledge:

> **Participant 10:** I first started getting into electronic music after I bought Logic…I loved being able to compose for a huge array of instruments which I otherwise would not have had access to. As I learned more about music and new genres of music, I started to experiment with new sounds and textures, moving away from traditional instrumentation (drums, guitars, keys and bass) to more heavily sampled work using more abstract sounds such as percussive elements (like vocal snippets and SFX[15]).

> **Participant 37:** Once I found out about electronic music I really enjoyed it and felt like I wanted to be a part of that culture so I decided to start making electronic music. Also it was easy to get access to a DAW[16] and to have electronic elements at the ready rather than having to record instruments, which I wasn't able to do at home. I knew I could start making music wherever then as it was just on my laptop/computer and I didn't need much equipment to do it.

In summary, although the musicians' previous experiences within formal music education were mixed it is clear that only a minority were able to engage with popular musical styles – and, in particular, popular electronic music –in school. The musicians predominantly experienced Western Classical music in formal music education in schools, and in common with other studies (Bennett, 1980; Finnegan 1989; Green, 2002; Horn, 1984; Lilliestam, 1996; Berkaak, 1999; Cohen 1991) we found that popular electronic styles of music were overlooked in the curriculum. However, some music-related programmes within sixth-form and FE institutions offered some of the musicians the opportunity to engage with popular electronic music within formal education. All but one of the musicians who stated that popular electronic music was included in their school curriculum were between the ages of 18-21, which signals a potential change in approach towards the inclusion of popular electronic music in school curricula. The results of this study showed that outside of this age group,

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[15] SFX is an abbreviation of Sound Effects

[16] DAW is an abbreviation of Digital Audio Workstation

however, popular electronic musical styles were more likely to be included later on (in sixth-form, or 'Further Education') in formal educational programmes and that popular electronic styles were included within music technology, rather than traditional music, programmes.

The Musicians' programmes of study

23 of the 41 musicians in the study noted that popular electronic styles of music were included in the curriculum at the HE institution they attended. However, in-depth responses highlighted that the majority of this inclusion was on a contextual basis in which the history and culture of popular electronic styles of music were taught:

> **Participant 35:** We touched upon the history of early hip-hop, from DJ-ing in the '70s up to heavy use of sampling in the late '80s.

A minority of the musicians noted that they were taught some of the practical aspects of popular electronic music:

> **Participant 17:** They were taught in the context of computer-based music-making somewhat generally.
>
> **Participant 9:** Some lessons focussed on sequencing and synthesis, so dance music production techniques were covered. However, these techniques are not dance music exclusive, and overall, the course had a rock focus.
>
> **Participant 13:** Basic production values, structural aspects and timbre were taught through building a short track in a workshop style lecture.
>
> **Participant 30:** Though live performance using Ableton Live,[17] part of the module was to create a track.

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[17] Ableton Live is a Digital Audio Workstation software program designed specifically for use in live music performance as well as recording and production.

15 musicians noted that popular electronic styles of music were not included in the curriculum. Some of the musicians suggested that this might be, in part, due to a lack of recognition that popular electronic styles of music are worthy of study:

> **Participant 7:** I feel electronic and sample-based music is not considered as academically significant as other styles of popular music due to a perceived lack of compositional prowess.
>
> **Participant 34:** I think that academic [popular] music still revolves around the idea of bands/live music being the only credible form. Electronic music and especially up-pace dance seem to be viewed as adolescent. I think this could be down to the music still being quite young by comparison to traditional styles. This could also be impacted by some tutors having interests that are more akin to their age group [sic]. Therefore electronic music is not viewed as something as credible, due to the stereotypes that were made during the music's infancy.

In summary, over half of the musicians experienced popular electronic music within their programme of study through cultural and historical analysis, with a smaller minority engaging in practical study through lessons and workshops on composition and production. Some of the musicians noted that the practical study of popular electronic music is not considered as academically significant and this was potentially due to a lack of tutor knowledge and experience.[18] However, some of the musicians' responses echo Papageorgi et al's (2010) findings in which the musicians' musical tastes were broadened as a result of studying popular music in formal education.

Musicians' perceptions of what is missing from HE

We sought to capture the reflections of popular electronic musicians on what they perceived to be missing from the curriculum of their HE programmes. These reflections were mixed, but in general suggested that there was a general lack of acknowledgment that popular electronic styles of music are worthy of study. There

[18] For an in-depth discussion of this issue in relation to hip-hop,see Chapter 13 'How Critical Pedagogy and Democratic Theory can Inform Teaching Music, and Especially, Teaching Hip-Hop' in Snell & Söderman (2014).

was a shared expression that there could be a more appropriate use of musicological frameworks for analyzing popular electronic music:

> **Participant 17:** I felt that a greater emphasis on understanding electronic music would be particularly useful, though it remains a field which receives little musicological attention and several possible models emerge from the electroacoustic tradition and are not greatly applicable.

Some musicians' reflections highlighted how practical teaching (or facilitation) of music technologies could be more usefully integrated into their music curriculum:

> **Participant 11:** Creating a live setup as an electronic music producer has been very important, through the use of Ableton and similar programmes. There is a huge range of possibilities that can be explored through the use of live instrumentation and electronic music within programmes such as Ableton, I feel this area could be explored, as it is a popular area of interest within the electronic music scene.

> **Participant 10:** Musicianship and DJing. I feel that had the course been taught with a more musical slant to it then the same information and skills would appear much more applicable. I also feel that DJing helps producers and musicians immensely as it helps greatly with reaffirming music theory knowledge (for instance, harmonic mixing using the circle of fifths).

> **Participant 28:** Just general electronic music production is not really talked about. Deconstruction of tracks as a class would be interesting.

A number of the musicians also noted that the curriculum could focus more specifically on the music industries in relation to popular electronic music practice:

> **Participant 34:** I would implement a business element to the course. This is because a lot of electronic producers are freelance practitioners and I can imagine a lot of people give up before they get that far as they cannot seem to make a living from it.

> **Participant 7:** Electronic music production is a relatively specialist practice, in which finding a job within the industry is fiercely competitive… I believe there needs to be a marriage of education and practical experience to stand a chance of fulfilling the goal of achieving a job within the industry.

The musicians' comments highlighted a range of missed opportunities within current academic practice, such as a need for electronic popular music examples to be critically analyzed alongside other popular music examples within the curriculum. They also recognized an opportunity to incorporate the innovations in live performance applications of electronic music production, alongside the use of more appropriate theoretical and musicological frameworks. Some of the musicians also emphasized the need to include relevant entrepreneurial aspects within the curriculum. Entrepreneurialism, for example, has been identified as a key aspect of hip-hop culture in which hip-hop musicians, "recognized the importance of being self-employed, providing innovative goods or services, and attaining self-reliance and self-determination" (Price 2006, 40).

In summary, although a minimal amount of practical tuition was included in some of the musician's programmes, the responses indicate that the general absence of practical popular electronic music could be due to a lack of recognition that popular electronic styles of music are worthy of study. Consequently, the musicians in this study noted that Higher Popular Music Education (HPME) could not only include more practical teaching or facilitation of music technologies, but also study of the music industries as they apply to popular electronic music practice. The centrality of entrepreneurship, business and industry to HPME is recognized in other contexts (e.g. Lebler & Hodges, this volume; Morrow et al, this volume; Warner, this volume), it might therefore present a reduced challenge in incorporating it into popular electronic music education.

Discussion

The responses from the musicians in this study highlight a number of important issues in their music education. Firstly, there is a shared perception that the

traditional Western Classical music pedagogical approach continues to prevail in the school classroom. When music technology was introduced in the classroom it was used mainly to support composition within the Western Classical musical tradition, not in the composition of popular electronic styles of music. Consequently, none of the musicians in this study experienced popular electronic styles of music during their (pre-higher education) school experiences. However, responses showed that different musical styles were included in the curriculum beyond the years of compulsory education (post-16 years of age) within formal education. In addition, popular electronic musical styles were more likely to be included within music technology programmes, rather than traditional music programmes. Including popular electronic styles of music earlier on in the music curriculum could not only benefit musical development of all students in the classroom, but could also help to remove the privilege and perceived importance of Western Classical musical styles in music education.

Secondly, and in relation to the first point, a fundamental issue highlighted by the responses from the musicians was that more appropriate musicological and analytical methods could be used in the study of popular electronic music. This was highlighted specifically because the musicians in this study emphasized that Western Art musical frameworks that were introduced to them during formal education weren't necessarily applicable or effectively contextualized in order to support their current knowledge, understanding or musical practice. Despite the development of more contemporary forms of musical and sonic analysis,[19] Hodgson argues that musicologists still, "remain largely fixated on musical details that can be notated (i.e. pitch relations, formal contour, metered rhythms, harmonic design, and so on) (2011, n.p.). Introducing new approaches to popular music education that recognize the informal learning practices of electronic music has been proposed by other studies (Ruthmann et al, 2008; Tobias, 2014; Tobias & Barrett, 2010). Lauri Väkevä makes a salient point in suggesting that "music educators need to welcome a critical attitude towards existing musical practices" (2010, p. 66). In the case of hip-hop, Snell & Söderman state that, "we need to approach teaching Hip-hop in ways that adhere to the principals of critical pedagogy and democratic theory" (2014, p. 198). This would reflect current thinking regarding HPME more generally (Hooper, this volume).

[19] For example see Butler (2006) ,Hawkins (2009), Snoman (2009) and Solberg (2014)

The findings from this study encourage us as educators to make the case for the inclusion of popular electronic styles of music earlier on in formal education, both practically and academically. Quinn suggests that employing music technology could provide a: “way into music, specifically composition” (2007, p. 28). However, the present study indicates that teachers and educators should go beyond employing music technology within a Western Classical context and use it within its specific musical context and related popular electronic musical style (such as dance music or hip-hop). Doing so may not only help to more usefully engage young people in music by including the musical styles that they identify with most (Partti, 2012; Wright, 2010; Snell & Söderman, 2014; Söderman & Sernhede, 2015), but may also help students gain a more comprehensive insight into music-making more generally. Furthermore, there is a case to be made for the development and application of appropriate theoretical and pedagogical frameworks that allow educators to include popular electronic music in a substantial way at all levels of education. This may help to increase the visibility of popular electronic styles of music, and in turn to alter the perception felt by some musicians in this study that popular electronic styles of music are considered academically ‘unworthy’.

Conclusion

Although small in scale, this study explored the experiences and reflections of a group of musicians who are often overlooked in music education research. It is clear that there is still much to be done, and this chapter has underlined findings from other research in this area (Ruthmann et al, 2008; Tobias, 2014; Tobias & Barrett, 2010), indicating that formal popular music programmes could benefit from more inclusive curricula that acknowledge popular electronic styles of music as commendable additions to the more established popular musical styles such as rock. The musicians in this study also highlighted how more appropriate musicological and analytical methods could be used in the study of popular electronic music, rather than traditional Western-Classical frameworks. Developing more appropriate analytical and musicological methods may also ease the integration of popular electronic music into all levels of music education and help to improve the perceived academic status of popular electronic music as worthy of study. Although not necessarily indicative of a wider trend, some educational programmes have begun to address this lack of popular

electronic music in HPME. Some examples include the BA Commercial Music and BA Commercial Music Performance at University of Westminster, BA in Electronic Music Production at Academy for Contemporary Music, and MA in Electronic Music Production and Sound Design at Berklee Music College, USA. This small-scale study is a useful starting point, however, additional research in this area is needed to further explore the issues raised by the musicians in this study to more reliably inform the development of popular music curricula at all levels of education.

References

Bennett, H. S. (1980). *On becoming a rock musician*. University of Massachusetts Press Amherst.

Berkaak, O. A. (1999). Entangled dreams and twisted memories: order and disruption in local music making. *Young*, *7*(2), 25–42.

Boekaerts, M., & Minnaert, A. (1999). Self-regulation with respect to informal learning. *International Journal of Educational Research*, *31*(6), 533–544.

Burnard, P. (2013). *Developing Creativities in Higher Music Education: International Perspectives and Practices*. Routledge.

Butler, M. J. (2006). *Unlocking the Groove: Rhythm, Meter, and Musical Design in Electronic Dance Music*. Indiana University Press.

Campbell, P. S. (1991). *Lessons from the world: a cross-cultural guide to music teaching and learning*. Schirmer Books.

Cohen, S. (1991). *Rock culture in Liverpool: Popular music in the making*. Oxford University Press on Demand.

Cohen, S. (1993). Ethnography and popular music studies. *Popular Music*, *12*(02), 123–138.

Emdin, C. (2010). *Urban Science Education for the Hip-hop Generation*. Sense Publishers.

Finnegan, R. H. (1989). *The Hidden Musicians: Music-making in an English Town*. Cambridge University Press.

Folkestad, G. (2006). Formal and informal learning situations or practices vs formal and informal ways of learning. *British Journal of Music Education*, *23*(02), 135–145.

Gaunt, H., & Papageorgi, I. (2010). Music in Universities and Conservatories. In S. Hallam & A. Creech (Eds.), *Music Education in the 21st Century in the United Kingdom: Archievements, Analysis and Aspirations* (pp. 260–278). London: Institute of Education, University of London.

Green, L. (2002). *How Popular Musicians Learn: A Way Ahead for Music Education*. Ashgate.

Green, L. (2013). *Music, Informal Learning and the School: A New Classroom Pedagogy*. Ashgate Publishing, Ltd.

Hawkins, S. (2009). Feel the beat come down: house music as rhetoric. In *Analyzing Popular Music* (pp. 80–102). Cambridge University Press.

Hodgson, J. (2011). Lateral Dynamics Processing in Experimental Hip Hop: Flying Lotus, Madlib, Oh No, J-Dilla and Prefuse 73. *Journal on the Art of Record Production*, (5).

Horn, K. (1984). Rock music-making as a work model in community music workshops. *British Journal of Music Education*, *1*(02), 111–135.

Jones, C., & King, A. (2009). Peer learning in the music studio. *Journal of Music, Technology and Education*, *2*(1).

Lilliestam, L. (1996). On playing by ear. *Popular Music*, *15*(02), 195–216.

Mantie, R. (2013). A Comparison of "Popular Music Pedagogy" Discourses. *Journal of Research in Music Education*, *61*(3), 334–352.

McQueen, H., & Hallam, S. (2010). Music in the Secondary School. In S. Hallam & A. Creech (Eds.), *Music Education in the 21st Century in the United Kingdom: Archievements, Analysis and Aspirations* (pp. 228–244). London: Institute of Education, University of London.

Mok, O. N. A. (2011). Non-Formal Learning: Clarification of the Concept and Its Application in Music Learning. *Australian Journal of Music Education*, *1*, 11–15.

Papageorgi, I., Haddon, E., Creech, A., Morton, F., de Bezenac, C., Himonides, E., … Welch, G. (2010). Institutional culture and learning I: perceptions of the learning environment and musicians' attitudes to learning. *Music Education Research*, *12*(2), 151–178.

Partti, H. (2012). *Learning from Cosmopolitan Digital Musicians: Identity, Musicianship, and Changing Values in (In)formal Music Communities*. Helsinki: Sibelius Academy.

Price, E. G. (2006). *Hip hop culture*. ABC-CLIO.

Quinn, H. (2010). Perspectives from a New Generation Secondary School Music teacher. In J. Finney & P. Burnard (Eds.), *Music Education with Digital Technology* (pp. 21–29). Bloomsbury Publishing.

Rambarran, S. (2016). DJ hit that button: Amateur laptop musicians in contemporary music and society. In R. Mantie and G.D Smith (Eds.) *The Oxford Handbook of Music Making and Leisure*. New York, NY: Oxford University Press.

Randles, C. (2013). Being an iPadist. *General Music Today*, *27*(1), 48–51.

Ruthmann, A., Finney, J., Seddon, F., Dillon, S. C., Leong, S., Burnard, P., … Collins, D. (2008). Music education with digital technology: changing identities, researching digital classrooms, and strategies for change. International Society of Music Education Conference.

Smith, G.D. (2013). Pedagogy for employability in a foundation degree (Fd.A.) in creative musicianship: Introducing peer collaboration. In H. Gaunt & H. Westerlund (Eds.) *Collaboration in Higher Music Education*. Farnham: Ashgate, 193-198.

Snell, K., & Söderman, J. (2014). *Hip-Hop within and without the Academy*. London: Lexington Books.

Snoman, R. (2009). *Dance Music Manual: Tools, Toys and Techniques*. Taylor & Francis.

Söderman, J., & Folkestad, G. (2004). How hip-hop musicians learn: stratagies in informal creative music making. *Music Education Research*, *6*(3), 313–326.

Söderman, J., & Sernhede, O. (2015). Hip-hop – what's in it for the academy? Self-understanding, pedagogy and aesthetical learning processes in everyday cultural Praxis. *Music Education Research*, (0), 1–14.

Solberg, R. T. (2014). "Waiting for the Bass to Drop": Correlations between Intense Emotional Experiences and Production Techniques in Build-up and Drop Sections of Electronic Dance Music. *Dancecult: Journal of Electronic Dance Music Culture*, *6*(1), 61–82.

Thompson, P. (2012) 'An empirical study into the learning practices and enculturation of DJs, turntablists, hip hop and dance music producers'. *Journal of Music Technology and Education*, 5/1, pp. 43- 58.

Tobias, E., & Barrett, J. R. (2009). Counterpoint or Remix? A Dialogue on Popular Music and Popular Culture in the Music Teacher Education Curriculum. In *Collaborative Action for Change: Selected Proceedings from the 2007 Symposium on Music Teacher Education* (p. 35). Rowman & Littlefield Education.

Tobias, E. S. (2014). From Musical Detectives to DJs Expanding Aural Skills and Analysis Through Engaging Popular Music and Culture. *General Music Today*, 1048371314558293.

Topping, K. (2005). Trends in Peer Learning. *Educational Psychology*, *25*(6), 631–645.

Väkevä, L. (2010). Garage band or GarageBand®? Remixing musical futures. *British Journal of Music Education*, *27*(01), 59–70.

Westerlund, P. H., & Gaunt, D. H. (2013). *Collaborative Learning in Higher Music Education*. Ashgate Publishing, Ltd.

Williams, D. A. (2014). Another Perspective The iPad Is a REAL Musical Instrument. *Music Educators Journal*, *101*(1), 93–98.

Wright, R. (2010). Democracy, social exclusion and music education: Possibilities for change." In R. Wright (Ed.), *Sociology and Music Education*. Farnham: Ashgate, 263–282.