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Exploring the Experiences, Perceptions and Reflections of Popular Electronic Musicians at UK Higher Education Institutions

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Abstract

Although formal educational institutions in the UK, and particularly in Higher Education (HE), have begun to include aspects of dance music and Hip-hop styles of music in their curricula, there is still a notable lack of research into the relationship between popular electronic music-making practices, such as performance, and formal education. This study explores some of the experiences, perceptions and reflections of popular electronic musicians in formal educational institutions in the UK with a specific focus on the performance of popular electronic music. Our findings show that formal education has had some impact on the development of popular electronic musicians' practice and, in some cases, acted as an introduction to popular electronic styles of music. However, the study's findings also highlight the need to develop more comprehensive musical curricula that include popular electronic styles of music as well as the more established popular musical styles such as rock.

Keywords

Popular electronic music

Higher Education

Popular music education

Music technology

DJs

Musical Performance

Introduction

Although formal educational institutions in the United Kingdom, and particularly in Higher Education (HE), have begun to acknowledge aspects of dance and hip hop styles of music as useful inclusions to their curricula, there is still a notable lack of research into the relationship between popular electronic music-making practices, such as performance and formal education. Consequently there are only a handful of studies in this area (Snell and Söderman 2014; Söderman and Sernhede 2015).

Thompson (2012) argues that Western Art music pedagogy and its related conventions as observed by Campbell (1991) are still evident in formal institutions today. The integration of popular electronic styles of music, such as hip hop and house, into the curricula of formal educational syllabi, has therefore 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: 46). Performance in particular is an often overlooked but essential part of some styles of popular electronic music. For example, turntablism involves the performance actions of looping and scratching records on a turntable for a performing emcee or sometimes in competition with other turntablists (see Katz 2004, 2012 for an in-depth exploration of the hip hop DJ battle). Turntablism can also involve collaboration (see Smith [2013] for a detailed exploration of the creative practice of British turntable teams) with ‘other DJs, or with other types of musicians’ during live performance (Katz 2004: 117).

Some styles of popular electronic music have adopted and integrated other forms of music and recording technologies into their live performances. These include the use of sampling devices such as the Akai MPC drum machine trigger pads, and

more recently gestural controllers linked to computers, samplers or recording software. The difficulty in integrating the popular electronic musician into formal educational and musical structures is generally linked to the use of these music and recording technologies rather than traditional instrumentation (Thompson 2012). For popular electronic musicians this technology forms an intrinsic role in the composition, production and performance of the music, with the technology forming or replacing the instrument (see Harkins [2010] for a more detailed exploration of the use of the digital sampler in this context). Much of the technology utilized by popular electronic musicians (such as the digital sampler and turntable), is deeply embedded into the culture and ideology of their related musical styles (e.g. DJ'ing). Consequently, the technology and techniques used are made explicit in the music (see Brøvig-Hanssen's (2013) article on opaque mediation for a more in-depth discussion on this point).

Challis (2007) recognizes the educational significance of the development of DJ performance skills as a useful tool to help develop musical understanding in so-called 'non-musicians'. Despite this advantage, however, popular electronic styles of music are often discounted in studies of musical performance, because an instrument is not 'played' in the traditional sense (see Randles [2013] and Williams [2014] who explore this issue in relation to the use of iPads as instruments within educational settings), and overlooked in musical analysis due to a lack of pertinent and appropriate musicological and contextual frameworks. Moreover, the experiences of popular electronic musicians within formal education have been largely ignored in studies of popular music learning, typically focusing on rock-based popular musicians (e.g. Green 2002), although this is changing as illustrated by articles in this journal issue. In order to illuminate the experiences of popular electronic musicians in formal

education, the following study was designed to capture the experiences, perceptions and reflections of a number of popular electronic musicians studying music-related programmes at HE institutions in the United Kingdom. Following a review of previous studies, identifying some of the broader themes involved in informal learning practices of popular musicians and the pedagogical approaches of popular music education institutions, the methods and design of the study are outlined. The results of the study are then discussed, highlighting performance as a key aspect of the experience of the electronic popular musician.

Context

Music education is often grouped into three broad forms: formal, non-formal and informal, which characterize by their methods of learning (Mok 2011). Formal music education is delivered within an educational institution and employs a structured curriculum (Boekaerts and Minnaert 1999) that is based upon the framework of: ‘Western classical music pedagogy’ (Green 2002: 4). Non-formal education takes place inside or outside of an institutional context and employs a tailor-made curriculum to suit learners’ needs (Rogers 2004). Although not always the case (see Mok 2011), 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. Informal music education typically involves developing musical skills and acquiring musical knowledge without a structured curriculum (Mason and Rennie 2004) and often employs the approach of watching and copying teachers, family, friends, recordings or performances (Green 2002; Thompson 2012). Although these educational categories have been described as a continuum (Green 2002; Folkestad 2006), it is still unclear where formal education ends and non-formal or informal

education begins (Rogers 2004). What is more clearly defined, however, is that learning takes place within and across these educational categories of music education. However, studies within the broad area of popular music pedagogy have only recently begun to explore the experiences of learners within formal education.

Studies into peer and cooperative learning have emerged over the last few decades (for an overview of the literature see Topping 2005; Burnard 2013; Westerlund and Gaunt 2013) and have identified the benefits of incorporating these practices into HE music provision. Green's analysis of how popular musicians learn draws heavily on interviews with popular musicians within Further and Higher Educational settings in the United Kingdom. Green notes that:

Young popular musicians were able to make connections between many of the skills and knowledge they were acquiring through formal and informal means. In spite of this, from all the evidence so far, their informal learning practices continued unabated. (2002: 175)

These connections were often made by the popular musicians themselves rather than embedded into the curriculum. Lebler maintains that the incorporation of peer learning and self-reflection into HE music provision is key to: 'produce graduates with the abilities and attributes necessary to adapt readily to a rapidly changing environment' (2007: 207) and that popular music students: 'are very capable of undertaking this kind of peer learning activity' (2008: 200). In their overview of UK HE music programmes, Gaunt and Papageorgi recognize:

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: 267)

However, it is noted that this was more evident in: 'chamber music or small band playing' (Gaunt and Papageorgi 2010) rather than in formal popular music education programmes, such as music production and music technology. Papageorgi et al. discovered that students who were predominantly studying in popular music programmes reported: 'a [cultural] clash between practical and academic aspects of music learning' (2010: 159) but also that the academic culture had a positive impact on the popular musicians in 'broadening musical minds and developing students' interests' (2010). The development of musical interests of popular musicians as a result of their engagement with formal education was also common in previous studies of popular musicians' experiences in formal education (Boehm 2005; Green 2002).

In his analysis of formal popular music programmes, Mantie (2013) identifies a difference in focus between the United States and other countries such as the United Kingdom, Australia and Finland. His findings indicate that outside of the United States there is a well-established incorporation of popular music in the music education system, however paraphrasing Green (2002), Mantie also suggests that despite this adaptation, 'Teaching strategies and methods in the United Kingdom did not change accordingly' (2013: 348). This lack of pedagogical change has resulted in the prioritization of some popular music styles, particularly those that use traditional

instrumentation or existing theoretical frameworks, over others such as electronic and sample-based popular music. Furthermore, the lack of suitable equipment in educational institutions directly impacts on the potential for the inclusion of electronic popular music. Discussing her study of music education in UK schools, Green notes that ‘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 encultured than guitars and drum kits’ (2013: 48). McQueen and Hallam explain that this 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: 234). Despite this prioritization of musical styles Gaunt and Papageorgi conclude that HE music programmes: ‘increasingly... now incorporate elements from several areas... in particular technology’ (2010: 262). Himonides and Purves further maintain that the inclusion of music technology in music programmes: ‘aids the various informal learning practices’ (2010: 135) of music students.

In their examination of the role of peer mentoring in recording studio-based learning within a Music Technology HE programme, Jones and King conclude that peer learning strategies ‘could be implemented as a formal teaching strategy for music technology departments and institutions worldwide’ (2009: 67). Similarly, Thompson’s study concludes that the informal learning practices of DJs and electronic music producers: ‘could be appropriately integrated into popular music and music technology pedagogy... and may help in the integration of popular electronic musicians into formal music education’ (2012: 54). For example, listening or watching and then copying performances has been suggested as a useful pedagogical

tool, particularly where music theory or other theoretical frameworks have yet to be established.

Papageorgi et al.'s focus on capturing students' perceptions about the central philosophy within their educational institution (2010) is a useful approach in determining how these perceptions may relate to their approaches to musical learning and performance as they develop their skills as performing musicians. It is worth noting that a considerable number of music programmes¹ at HE institutions in the United Kingdom now include the use of music technology in performance contexts as part of their music programmes, and the use of music technology in modern popular music performance programmes is gradually becoming more widespread. Moreover, the integration of electronic instruments and the use of music technologies in performance contexts begin to blur the distinctions between popular electronic musicians and popular musicians more generally. However, it should also be noted that simply integrating music technologies into a popular music performance does not necessarily make it popular electronic music, primarily because (as mentioned above) the use of particular technologies and their associated practices are explicitly connected to the ideology and culture of specific popular electronic music styles. Therefore, whilst the use of music technologies within music performance in educational programmes is becoming more widespread, this does not necessarily mean that the ideology, culture and historical context of their use within particular popular electronic musical styles are appropriately, or simultaneously, taught. Furthermore, whilst the benefits of using music technology within music performance pedagogy have been highlighted (e.g. Challis 2007), there still appears to be a distinct lack of formal music pedagogy that directly relates to particular popular electronic musical styles and their related ideology and practices. This study therefore focuses

on the music performance experiences of a group of popular electronic musicians' within their educational programmes.

Methodology and study design

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 United Kingdom. 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: 135), and in this instance, allowed a qualitative analysis of the musicians' experiences.

The questionnaire link was distributed via programme leaders to current students and recent graduates of music-related² undergraduate degree programmes, at various HE institutions across the United Kingdom. The investigation included 41 musicians from eight different HE institutions. Each of the musicians identified themselves as a popular electronic musician (DJ, turntablist, dance or hip hop producer) and their ages ranged from 18 to 41 and above.³ The study included both male and female musicians,⁴ and a minority were both educators and professional, part-time popular electronic musicians. Also included in the study were commercially established UK-based hip hop and dance music producers and popular electronic musicians who have had some commercial success releasing their material through independent record labels.

The opening stage of the study involved all 41 musicians completing an online questionnaire. Google Forms was used to host the questionnaire, capture the musicians' responses and allowed the results to be grouped and analysed by question-related theme. The questionnaire was split into three distinct sections: 'About You',

‘About your Course’⁵ and ‘About your Practice’. The section, ‘About You’, captured general demographic information and data more pertinent to the individual’s musical education and experience. The section, ‘About your Course’ captured information on each musician’s experiences whilst studying their chosen music-related programme at a HE institute in the United Kingdom. The final section, ‘About your Practice’, gathered information on the impact each musician’s formal educational experience has had on their practice as a popular electronic musician.

From the 41 musicians, six were selected to take part in a series of semi-structured interviews. In selecting the six interviewees, an effort was made to capture the experiences, perceptions and reflections from each of the four main categories of popular electronic musicians that had been identified in the study (DJ, turntablist, hip hop and dance music producers), with each particular category 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 2009). 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 analysed and common themes more readily identified. All responses from the musicians in this study have been made anonymous with the majority of conversational utterances, such as ‘errs’ and ‘ums’, removed to maintain a focus on the topic. The study was conducted over a five-month period from August

2014 to December 2014, and responses were recorded and analysed in order to identify common and significant themes. As far as possible, at least one response from each of the participating musicians has been included in the main body of the text. In defining the general themes of the study, the musicians' answers generally reflected the experiences of the vast majority of all 41 musicians.

The musicians' previous experience of performance in music education

In order to contextualize the popular electronic musicians' current perceptions and experiences in formal education, the study began by exploring their previous experiences of music education. The majority of the participants had experienced in-school music education relatively recently although two of the musicians (participants 18 and 19) were 41 or above and had therefore attended school in the 1960s and 1970s. Of particular note was the result that 25 of the 41 musicians in this study did not learn or study popular styles of music in school⁶ and a number of the responses regarding formal music education at school were overwhelmingly 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 had?] 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 music education only included the study of Western Classical music as in this example:

Participant 10: I studied GCSE⁷ 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,⁸ from what I can remember from the earlier years we were taught basic melodies on piano and classical music at GCSE. Also, during GCSE we were introduced to Cubase⁹ 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 Logic¹⁰ and different synths.

One participant highlighted how the study of musical styles was distributed across formal, non-formal and informal education:

Participant 9: I can only remember covering classical music during music lessons. Peripatetic¹¹ lessons covered jungle, rock and pop. Extracurricular music technology covered house, techno, hip hop and trance.

Despite the absence of popular electronic music in the curriculum, some of the popular electronic musicians in this study became interested in popular electronic music through studying music technology in formal education as in these examples:

Participant 15: I was introduced to the world of music production whilst studying music technology at AS and A level during sixth-form¹² study. I was a complete novice in the area, having only 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/PsychRock 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.

The comments above illustrate a perceived disconnect between the students' own personal experiences of electronic musical performance and production and the content of their programme's curriculum. In particular, the musicians' interest and knowledge of popular electronic music developed outside of their programmes of study. A number of the musicians also noted that where music performance was included in their Further Education (FE) or HE programme, it was limited to guitar-based rock music. However, one musician did comment that they were assessed on their DJing skills by performing at a local venue:

Participant 39: Our tutors marked us on how we chose our tracks, how we read the crowd and how we matched the BPM¹³ to mix the tracks.

One musician in the study explained, however, that:

Participant 9: DJing was not included in the course. If it was included, however, it would be useless without examining the relationship between a DJ and the audience.

A number of musicians expressed the accessibility of electronic musical instruments as an important factor in their musical interest and development:

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 SFX¹⁴).

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 DAW¹⁵ and also 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 was clear that only a minority were able to engage with popular styles of music in school. However, music technology programmes within sixth-form and FE institutions offered some of the musicians the opportunity to engage with popular electronic music through composition, and in one instance,

performance within formal education. Only one of the musicians in the study (a DJ) had their DJing performance assessed as part of their educational programme. The accessibility and affordability of music technologies also played an important role in helping some of these musicians to develop their interest, musical skills in performance and abilities in making popular electronic music.

The musicians' programmes of study

In the study 23 of the 41 musicians 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 DJing in the '70s up to heavy use of sampling in the late '80s.

A minority of the musicians 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 focused 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.

A small minority of the musicians in the study noted that they had encountered the practical aspects of popular electronic music-making through live performance using music sequencing software:

Participant 30: Though live performance using Ableton Live,¹⁶ part of the module was to create a track.

Participant 41: When required to perform a piece in our first year using Ableton and sample-based devices I really enjoyed the mix between live and electronic performance equipment.

The inclusion of popular electronic styles of music in HE was, however, far from unanimous, with fifteen of the musicians noting that popular electronic styles of music were not included in the curriculum. Some of the musicians suggested that this may 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 combination of a perceived lack of compositional prowess.

Participant 8: I felt electronic music should have been given more time and been pushed more, particularly in studio recording lessons where the emphasis was on drum kits and live sound as opposed to using the studios for electronic performances. Asking for a synthesizer and trying to work out how the in-built Theremin worked are further examples to support the inherent bias against electronica.

Participant 34: I think that academic music still revolves around the idea of bands/live music being the only credible form. Electronic music and especially up-pace dance [music] seem to be viewed as adolescent. I think this could be down to the music still being quite young by comparison to traditional styles. Therefore electronic music is not viewed as something as credible, due to the stereotypes that were made during the music's infancy.

Participant 3: In my experience, electronic music – whatever genre – is usually taught from a purely contextual basis. I am aware that certain more commercial institutions (Dubspot, Point Blank) seem to provide a fuller curriculum based around electronic music that is difficult to find in higher education institutions and seem to do quite well from it.

In summary, over half of the musicians experienced popular electronic music within their programme of study through cultural and historical analysis, with a

minority engaging in practical study through lessons and workshops on composition, production and performance. Some of the musicians noted that the practical study of popular electronic music and performance is not considered as academically significant and this was, in part, due to a lack of tutor knowledge and experience (For an in-depth discussion of this issue in relation to hip hop please see Chapter 13 ‘How critical pedagogy and democratic theory can inform teaching music, and especially, teaching hip hop’ in Snell and Söderman [2014]). As will be discussed later, the development of the music curriculum is therefore inextricably linked to the educators who are directly involved in developing and delivering it.

The influence of formal education on musicians’ performance practice

The penultimate part of the study sought to capture the popular electronic musicians’ perceptions of studying music-related programmes in FE and HE. Their responses highlighted a number of benefits that impacted the popular electronic musician’s practice.

Participant 32: Synthesis and Audio Editing introduced me to new ways of thinking about sampling, editing and sound design. Personally, I feel that studio recording, in particular mixing, allowed me to understand what creates a good and ‘well-balanced’ mix which can be applied to my own creations. Arrangement also helped me to understand how instruments can be used to work together in various harmonic layers.

Participant 11: Studio recording has helped to improve the live elements of my tracks, and given me more confidence to explore recorded music within an electronic style. Having a greater understanding of composition and arrangement, as well as music theory gives you the tools to create full musical piece, rather than just creating segments of electronic samples or synthesizers. It is important to have a full understanding of a range of styles of music and how it is created, to be able to transform your skills as a producer of electronic sounds, into a musical composer.

Participant 18: Understanding how and why real instruments are recorded and mixed the way they are means you can break existing norms through experimentation. Sequencing is a basic essential, as is knowing how to digitally manipulate sound files. A basic understanding of theory greatly improves composition which in turn helps when arranging a piece and possibly changing the pitch of a sound to give the listener a specific feeling. A knowledge in acoustics and synthesis helps the composer to understand the various effects used in the creation and mixing of electronic music.

Participant 36: I generally enjoy learning about drum and bass in my spare time, therefore studying other genres within the course helps to expand my knowledge of other genres.

The comments above highlight that, similar to findings in other studies (Thompson 2012; Green 2002; Snell and Söderman 2014), students often had to contextualize the technical aspects of their programmes to specifically relate to their

own popular electronic musical practices. The musicians in this study, though, did not view this as a specific issue; rather, they viewed it as an opportunity to learn related skills that supported their musical practice. Acoustics and audio engineering were also highlighted as useful supporting subject areas for some of the musicians' practices, such as mixing. This is because in popular electronic music production, mixing is often part of the composition process:

Participant 15: I feel that subjects such as acoustics, psychoacoustics, and audio engineering provide an essential context to not just electronic music production, but music production as a whole. For example, Audio engineering allows the learner to develop a deeper understanding of frequency response of various audio systems, allowing the mixing process to bear these in consideration, especially when making EQ decisions. Acoustics and psychoacoustics again allow the learner to understand key concepts of using reverb in mix decisions... Areas of psychoacoustics also provide a useful insight into theories that can be used in music production, such as the Haas effect, the theory of consonance and dissonance, and its effect on perceived emotional response.

Participant 28: Acoustics has been helpful as it highlights the importance of speaker placement and room acoustics, but also, what reverbs to apply on instruments to create specific senses of space that work together.

There were also unexpected outcomes from studying formal music-related programmes:

Participant 3: I became very interested in the use of algorithms in composition both in terms of creating phrases or arrangements but also in terms of creating synthesizers. I received a huge amount of support in this area at University and have since completely changed the way I create and perform music.

Studying related topics such as audio recording and acoustics had some impact on the musical practices of the popular electronic musicians in this study, with a minority reporting unexpected outcomes that have entirely altered the way in which they compose and produce popular electronic music, again demonstrating a need to recontextualize aspects of their programme into their own creative practice, without these links being explicit within the curricula.

Future directions for popular electronic music and HE

The final part of the study sought to capture the reflections of popular electronic musicians on what they felt was missing from the current curriculum of their HE programmes and define the changes needed in HE in order to facilitate popular electronic music's inclusion. The musicians' reflections were mixed, but in general illustrated how the musicians shared an idea that there was a general lack of acknowledgement of popular electronic styles of music as worthy of study. There was

a shared expression that there could be a more appropriate use of musicological frameworks in which to analyse 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.

In addition, some of the reflections were related to the practical teaching, or facilitation, of music technologies as they apply to popular electronic music:

Participant 11: Creating a live set-up 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.

These quotes highlight that performance is an important aspect of popular electronic styles of music and additionally that the inclusion of popular electronic music styles in music lessons can have a number of functions, as one musician explained:

Participant 15: I think that electronic music composition, production and performance should most definitely be taught in school from the beginning of KS3.¹⁷ This element of music could be incorporated not only into music technology lessons, but also music lessons. I feel this is appropriate for two main reasons: (1) Popular music is holistically much more of an accessible subject for many younger learners to study, especially for those who live in deprived socio-economic areas. These learners may have issues outside of the educational environment, and a musical style that is more relevant to them, in my opinion, has much more of a chance of benefitting their well-being, rather than theoretical lessons on the history of western music. I believe electronic music composition shows a gateway to the teaching of music notation and theory. I believe music is taught through practical tasks, and that non-practical theoretical lessons are both monotonous and completely useless to the majority of young learners. (2) As stated in previous sections I was only made fully aware of electronic music production at AS study. I feel if learners are fully introduced to this subject from a younger age, there is much more of an

opportunity for that learner to find a hidden talent at a considerably earlier age. For example, some of the most promising electronic music producers I meet on Soundcloud are at an age as young as 12! Music is often a subject that is dropped at KS4¹⁸ study, and I feel that electronic music composition, production and performance would inspire many learners into further study of this area.

A number of the musicians noted that the curriculum could focus more specifically on the music industries as they apply 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.

These comments highlight a range of missed opportunities within current academic practice, such as a need for electronic popular music examples to be critically analysed alongside other popular music examples within curricula. They also recognize an opportunity to incorporate the innovations in live performance

applications of electronic music production, alongside using more appropriate theoretical and musicological frameworks. There are then specific implications for teaching music at all levels of education, and specifically for training music teachers. The primary implication is that hiring educators with competency in practical, live performance skills in popular electronic music will not only help in the practical delivery of popular electronic styles of music it may also contribute to the ongoing development of the music curriculum at all educational levels. The second implication is that popular electronic styles of music should be included in the curriculum of teacher training programmes. Teachers in training, or pre-service music teachers, who may not have any prior knowledge or understanding of popular electronic styles of music could benefit from studying it from practical and theoretical perspectives. Introducing analytical and musical frameworks for the analysis, composition and performance of popular electronic styles of music within music teacher training may also help to link the more traditional elements that are emphasized in music teaching to more contemporary elements. Both of these aspects may further enhance the music learning experience of musicians of all interests and all ages and engage students in more contemporary practical music learning. As Challis suggests:

Whether garage, drum and bass, house, or R&B – have a motivating power to engage even the most difficult of students in creative music-making, while providing fringe benefits, such as improving self-confidence and learning to work as a team. (2007: 66)

Employing music technology during music lessons has already been highlighted as a useful ‘way into music, specifically composition’ (Quinn 2010: 28). However, engaging young people in music through the musical styles that they identify with most may also help students gain a way into music performance, specifically because of the key role of performance within particular styles of popular electronic music, such as dance music and hip hop (DJing, scratching and rapping for example).

Popular electronic music performance and formal education

The responses from the questionnaires and interviews gave insights into the motivations behind musicians’ desire to study music-related programmes formally:

Participant 5: While I was an electronic-based musician before, the reason for doing the course was to gain a bit of insight into the analogue realm, and so my main focus was dealing with real musicians/instruments etc. so I could incorporate these ideas into my electronic-based music at a later time.

Responses also highlighted how musicians perceived whether there is a need to study popular electronic music formally in order to make it:

Participant 38: I mean, ideally, I would love to have a section specifically tailored to the music I make but I think I've gained better knowledge learning the things I wasn't as interested in, and therefore has helped me with my music a lot more, than a specific direction towards e.g. house.

Participant 17: I found that there was plenty to learn from related practices, whether or not they coincided directly with my own.

Participant 32: I believe that while electronic music production is studied within the course, that is not what it is all about, which I understand and agree on. To me, electronic composition is a passion regardless, which I study and try to progress in every day, while learning new and other interesting areas on my course. If the course was more dedicated to electronic composition, I believe I would be left a lot more narrow-minded, as I believe the course has broadened my horizons in terms of what can be done with my degree.

The majority of the musicians were therefore motivated to study their chosen programme because they generally wanted to increase their knowledge in the broad area of popular music, learn new methods, explore new ideas and apply them to their own music-making and performance.

Discussion

The findings highlight that the musicians in this study generally only experienced Western Classical music in formal music education in schools, and in common with

other studies (Bennett 1980; Horn 1984; Finnegan 1989; Cohen 1991; Lilliestam 1996; Berkaak 1999; Green 2002) popular electronic styles of music were overlooked in curricula. It was also uncovered that different musical styles were included later within formal education, and popular electronic musical styles were more likely to be included in sixth-form or FE institutions within *music technology* programmes, rather than *music* programmes. Over half of the musicians in this study noted that popular electronic styles of music were included in their current HE programme of study, but this was predominantly on a contextual, rather than practical, basis. The implication here is that including popular electronic styles of music earlier on in the curriculum could not only benefit musical development of all students in the classroom, but could also begin to remove the privilege or perceived importance of Western Classical musical styles in music education.

Although a minority of practical tuition was included in some of the musicians' programmes, the responses from the musicians indicated 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 suggested that formal education could not only include more practical teaching or facilitation of music technologies, but also study of the music industries in relation to popular electronic music practice. Responses from the musicians also indicated 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 were not 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 (e.g. Butler 2006; Hawkins 2009; Snoman 2009; Solberg 2014), Hodgson argues that musicologists still: ‘remain largely fixated on musical details that can be notated (i.e. pitch relations, formal contour, metred rhythms, harmonic design, and so on)’ (2011). Proposing new approaches to popular music education that recognize the informal learning practices of electronic music has been suggested by other studies (Ruthmann et al. 2008; Tobias and Barrett 2009; Tobias 2015) and Väkevā makes a salient point in proposing that: ‘music educators need to welcome a critical attitude towards existing musical practices’ (2010: 66). In the case of hip hop, Snell and Söderman further add that: ‘we need to approach teaching hip hop in ways that adhere to the principals of critical pedagogy and democratic theory’ (2014: 198; for further discussion of this issue, see Bell [this volume]).

Finally, the responses showed that popular electronic musicians do not necessarily see a requirement for formal education or training in popular electronic styles of music in order to learn how to produce it and, in common with other studies of popular music (e.g. Green 2002; Snell and Söderman 2014) the musicians continued to make popular electronic music outside of formal education. The popular electronic musicians in this study did emphasize, however, some of the benefits of studying related subjects, such as audio production, that were particularly useful in helping to develop production skills, such as mixing and mastering. Studying related subjects also helped to develop the musicians’ technical skills, such as configuring audio equipment and setting up home studios.

Conclusion

Although relatively small-scale, this study has highlighted some important aspects of the experiences of popular electronic musicians within formal music education and emphasized some notable themes from their responses. First, it is clear from this study that formal education has had some impact on the development of popular electronic musicians' practice and, in some cases, acted as an introduction to popular electronic styles of music. Subjects such as audio recording, acoustics and audio engineering have been shown to benefit the musicians' practices in popular electronic music. However, it is also clear that there is still much to be done; this chapter has affirmed and underlined findings from other research in this area (Ruthmann et al. 2008; Tobias and Barrett 2009; Tobias 2015), indicating that formal popular music programmes in HE 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. Although not indicative of a wider trend, some educational programmes have begun to address this lack of popular electronic music in HE (B.A. Commercial Music, and B.A. Commercial Music Performance at University of Westminster, and B.A. Urban and Electronic Music at Southampton Solent University, for example). Nevertheless, additional research in this area could further elucidate the impact of formal music education on popular electronic musicians' learning practices and help to inform the development of more diverse and inclusive popular music curricula and popular music pedagogy as music-related programmes in formal education continue to grow.

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Notes

¹ For example, the B.A. (Hons) Music Production and Performance Degree at Leeds Beckett University and the B.A. (Hons) Creative Musicianship Degree at The Institute of Contemporary Music Performance.

² The term ‘music-related’ used here, and elsewhere in this chapter, refers to programmes with titles including the words music, popular music, sound and audio.

³ 41 and above was the highest selectable age category on the questionnaire.

⁴ Participants did not have to declare their gender in the questionnaire although the majority of the musicians did.

⁵ The term ‘Course’ here refers to the ‘Programme’ of study.

⁶ School in the United Kingdom refers to compulsory education from ages 4 to 16.

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- ⁷ General Certificate of Secondary Education is a qualification undertaken in secondary school between the ages of 14–16.
- ⁸ AS and A-Levels are qualifications taken by 17–18 year olds in years 12–13 in the English education system prior to University.
- ⁹ Cubase is a Digital Audio Workstation software program made by Steinberg.
- ¹⁰ Logic is a Digital Audio Workstation software program made by Apple.
- ¹¹ Peripatetic is the term used to describe music teachers who travel to different schools to teach one-to-one and group lessons.
- ¹² Sixth-form is a term for years 12 and 13 in the English education system. Because it is post-compulsory it is included as part of FE.
- ¹³ BPM is an abbreviation of Beats Per Minute.
- ¹⁴ SFX is an abbreviation of Sound Effects.
- ¹⁵ DAW is an abbreviation of Digital Audio Workstation.
- ¹⁶ Ableton Live is a Digital Audio Workstation software program designed specifically for use in live music performance as well as recording and production.
- ¹⁷ Key Stage 3 (KS3) refers to school-aged students aged 11–14.
- ¹⁸ Key Stage 4 (KS4) refers to school-aged students aged 14–16.