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## **Preparing the music technology toolbox: Addressing the education-industry dilemma**

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### **Abstract**

The growth in popularity of Music Technology degree programmes in the United Kingdom has been paralleled by the apparent decline in informal apprenticeship systems that have typically provided a gateway to employment in the recording industry. This article takes a critical approach to the tensions that exist between higher education and the music industries by exploring contemporary and historical approaches of apprenticeship. Drawing on interviews with industry professionals, current students and recent graduates who have achieved some success in the music industries, this article explores some of the perceptions, myths and contradictions of the apprenticeship-training model with changes in the contemporary professional environment. Our findings suggest that training for the music industries is more flexible and open-ended than some of the published narratives on apprenticeship would suggest. In addition, educational frameworks over the past twenty years have often focused on the technical aspects of studio practice at the expense of the social, aesthetic and human skills required by the industry. These formal frameworks often only focus on the transference of knowledge to the individual diminishing or ignoring the important processes of interaction with the participants in the field. Using the metaphor of a professional ‘toolbox’, we argue that there is a need for an approach that reconsiders the industry-education divide and considers the value of the educational process in a much wider, contemporary framework. Some twenty years since the initial development of Music Technology programmes in the United Kingdom, and in the context of the rapidly

changing nature of the music industries, it is an appropriate time to reconsider the nature and relevance of Music Technology programmes in higher education.

### **Keywords**

Professional toolbox

apprenticeship

music technology

curriculum

recording industry

employment

### **1. Contextual considerations**

The growth in popular music degree programmes in the United Kingdom has been well documented most notably by Boehm (2007) who indicated that the name Music Technology was linked to 351° distributed over some 62 institutions. One of the key ideas to emerge from her discussion was the notion that these degrees were strongly interdisciplinary and viewed as highly vocational.

The rise in these courses during the 1990s and beyond can be understood as the confluence of several important factors including the availability of affordable music technology centred around the computer; the expansion of numbers in higher education as part of the then Labour government's agenda of creating 'knowledge driven economy' (DTI and CEPR 1999); and an

emerging recognition of the economic importance of what have now become known as the 'creative industries'. As Pamela Burnard notes in her discussion of *Musical Creativities*:

There has been much debate in recent decades, although nothing approaching a consensus, about the concept of musical creativity. This debate has intensified as governments have pressurized the creative and cultural industries and other social institutions, particularly those involved with education, to articulate what constitutes the value of creativity, whether in terms of communication, or in relation to the global economy. Governments and industries are not only telling artists and educators what they should do but also prescribing the terms in which they should think and the ideals towards which they should aspire in their creativity practices. (2012: 7)

For those establishing courses in Music Technology in the 1990s, government sponsored documents such as the National Advisory Committee on Creative and Cultural Education's report *All Our Futures: Creativity, Culture and Education* (1999) and the *Creative Industries Mapping Document* (DCMS, 1998) provided an important cornerstone in the legitimization of this hybrid discipline. At the same time, the promise of a creative and cultural economy of producing industry-ready graduates and of providing entry into the new knowledge-driven economy was disappointing in comparison to the rhetoric of the time. According to *A Manifesto for the Creative Economy*:

Evidence suggests that most universities haven't been producing the kind of talent that the creative industries demand. We see this in the poor employment outcomes of

graduates from creative media specialist degrees evidenced in *Next Gen* (only 12 per cent of those graduating from games courses secured employment in the industry within six months of leaving university) and other studies. (Bakhshi et al. 2013: 103)

The tensions between industry and education suggested by these reports do, on the whole, take a reductive view of employment and overlooks the multifarious and multifaceted nature of the creative industry. Such a point was made in the critical study of Williamson and Cloonan who concluded that:

... there is no such thing as a single music industry. There are, however, people working in a range of industries centred around music. These are music *industries* and it them that we should study and engage with'. (2007: 320, original emphasis)

By placing our study in the wider perspective of the music industries we aim to re-examine the industry-education intersection from a number of perspectives in order to re-examine what appear to be competing voices in what David Ashton (2010) refers to as the 'industry-ready agenda'. As the politics of austerity intensify and further impacts on this agenda, we find this an appropriate time to pause and reflect on the nature of our courses and their purpose.

The relevance of this topic has become more focused not only with the significant increase in student fees, but also with the creation of a £15m fund to support the creation of traineeships, apprenticeships and paid internships in post-16 education. The title of this scheme is 'The Creative Employment Programme', with headlines such as 'creating 6500 jobs in 1000 days' and

statements such as ‘The creative economy looks buoyant in comparison to the UK economy as a whole. News statistics from the DCMS outline that employment growth stood at 6% in the creative economy between 2011 and 2012, in comparison to just 0.7% in the wider economy’ (Mitchell 2014), we see a continuation and intensification of the line of thinking that the creative economy serves economic and employment ends.

Our focus is largely on the apprenticeship-training model, which has played an important part in the development of industry-ready workforce long before music technology became a subject for study in higher education. Our longer-term goal is to re-examine both our undergraduate and post-graduate provision with a view to finding a sustainable way to address the industry-education dilemma.

## **2. Methodology and study design**

Although the majority of the study draws from responses gathered during a series of semi-structured interviews, the approach is considered to be broadly ethnographic in the understanding that ethnography: ‘increases our knowledge of the details of cultural processes and practices’ (Cohen 1993: 135). The entire study included the responses from fifteen professionals employed in the recording industries, the majority of which are currently working in the music industries in the United Kingdom. Each of the practitioners identified themselves as a music industry professional (recording or live sound engineer or record producer) and their ages ranged from 18 to 62. The study included both male and female professionals and a minority were also employed as educators. In order to gain a more wide-ranging view of the perceptions, experiences and

contradictions of the apprenticeship-training model in the music industries, the professional cohort also included commercially successful USA-based recording engineers and record producers. Some of the professionals were also recent graduates who are now employed in the recording industries. Including professionals with a varying range of ages further helped to explore the spectrum of individual experiences across a number of generations and geographical areas in the music industries.

The study was conducted over a three-year period from September 2011 to March 2014 and primarily involved a series of semi-structured interviews. The semi-structured interviews were directed by twenty questions, which were designed to cover four broad areas. The first area, 'background', collected demographic and historic information and helped to identify the various ways in which the professionals in this study entered the music industries. The second area, 'beginnings', explored the types of work the professionals undertook in their apprenticeship role and captured information on their day-to-day tasks and responsibilities. The third area, 'perceptions', collected the professionals' thoughts and ideas on their apprenticeship in the music industries and their perceptions of changes in the industries. The final area 'reflections' encouraged the professionals to reflect on what they have learnt from their apprenticeship and identify aspects from their learning that could be introduced into formal education.

The interviews were transcribed from either video or audio recordings and the responses were grouped in relation to the four broad themes of the semi-structured interviews. Responses could therefore be compared and contrasted and common themes were more easily identified. In addition, by exploring the music industries prior to the expansion of music technology courses in the 1990s, the article provides a comparative viewpoint to examine current trends in formal

educational programmes and courses. All responses from the participants in this study have been made anonymous with the majority of conversational utterances, such as ‘errs’ and ‘ums’, removed to aid clarity. Finally, the interviews were complemented through participant observation of professionals, students and apprenticeships contributing to industry-ready initiatives and working alongside practitioners in the recording studio environment.

### **3. Findings**

#### ***3.1 Background and beginnings***

Interviews with professionals working in the music industry along with reflections from one of the authors of this article provided a way of capturing aspects of both formal and informal apprenticeships that offered a route into the recording and associated music industries such as post-production for film or TV. A good deal of the early experiences of these professionals relied on what Jewson refers to as ‘peripheral participation and situated learning’ (2007: 156). In this way, learning goes beyond achieving a formalized set of learning outcomes and moves towards a more diverse experience where learning occurs. This is due, in part, to the lack of any formalized training in apprenticeship and was evident in all of the responses from participants who had begun their career in larger recording facilities:

There was no formal training it was ‘dive straight in’ and one of the earliest lessons I learnt from that, which is a very important credo that I still hold today was to not pretend



you know something when you don't. If someone asks you and you don't know how to do it, just say 'I'm sorry, I don't know'. I still do that now.

This apparent lack of a formal structure meant that designated tasks, roles and responsibilities were staggered over a longer period of time in which certain roles or tasks had to be performed and mastered before one moved onto others:

Probably for those first couple of months, as a tea boy/runner, I was probably 9 to 5 office hours just to see was I reliable, capable of getting the tea, getting the sandwiches, getting the coffee machine going every morning and doing whatever else was asked. By three months it was decided that I could be left on a session.

However, one engineer highlighted a particular issue with performing tasks within the hierarchy of the recording studio:

The problem is the one thing that you can't really do as a tape-op/runner is ask questions; you're supposed to be kind of invisible... so you observe, you watch what people are doing but there's no one really there to show you.

This process was seen to have significant advantages for the group as it allowed the opportunity to become more involved as their skills and knowledge developed over time. A number of the participants noted that it took several years (ranging from two to six years) to progress from their starting position as a runner to assisting on a session.

In comparison to the apprenticeship model described here, our student group participated in a simulated industry experience where visiting artists work with students on a defined project over the period of two weeks. During this time, students take a number of roles in the studio working on a variety of roles that contrast significantly with the experiential learning experience provided by the apprenticeship model. In the simulated environment, hierarchies are negotiated, and while there is an opportunity to learn from professionals in the studio this was not the kind of ‘invisible learning’ described by one industry participant. For some of the group, this was the first experience of working in a studio environment as part of a non-curricular experience. As such, it provided an opportunity to assess their perspectives of professional work and to reflect on the experience and skills they had acquired. A rough and ready calculation suggests that on a three-year programme at university, a student might be expected to access the studio for around 500 hours. In the same period, a busy professional might work around 7500 hours and based on a 40-hour week, someone on the new government-sponsored apprenticeship programme could achieve around 5760 hours. In terms of real-world and industry-ready experiences, these differences are significant.

Absent from these interviews are those apprentices who did not complete their time and who left the industry. Little is said about these people, which allows us to reflect on the qualities of the people who did remain. In general terms, however, Unwin’s study of apprenticeships in other sectors suggests that while ‘just over 50 per cent of apprentices achieve the prescribed qualifications, in some service sectors, achievement rates are staggeringly low: for example, 16 per cent in health and social care, 31 per cent in hospitality’ (2007: 118).

### ***3.2 Perspectives***

A number of perspectives emerged from the interviews from professionals and student participants. These can be categorized into two main themes – flow or process, and people skills. Flow, or the pace of a session, had become a key concern of the student group who developed a clear understanding of the importance of working process.

... you have to keep the flow of the sessions... when we do modules at uni, the flow doesn't necessarily matter... you are normally recording yourself or your friend so you just get on with it.

The awareness of their impact on the process of recording was taken up by another student.

Going back to the whole flow thing... you can physically feel when you're slowing the process and you're losing something in that and it was more a thing of not wanting to cause that but to facilitate the process as much as you could.

Also participating in this conversation were two former students who are now working professionally in post-production in London. They discussed flow in professional sessions in terms of 'steering' the client in order to ensure that there was flow and that the task is completed on time. Thinking back to their own experience of student projects on the course, one former student noted that this issue of flow and working with clients was something that they learnt once

they had entered the industry: working alongside peers in the studio had not prepared them for that aspect of their work, a situation they saw in their own studios where they work with graduates entrants. They suggested that,

A lot of [graduates] don't know how studios work... especially the workflow. We're developing a training programme... because we have found that people are not coming in with the technical base [required].

The idea of flow as a concept was possibly taken for granted by the industry professionals in our study. However, from their perspective came the suggestion that it was important to have the right skills in order to streamlining the recording process:

You're expected to know it [the studio equipment] inside out and you have to learn that pretty quickly so I'd spend a fair bit of time looking through manuals but in down time I'd be there really trying to learn, rather than messing about with compressors and settings I'd be sat with the RADAR making sure I could do what people would ask me to do. You know, 'can you cut this from here to here' and it was the same with tape editing, I sat there with a few old reels that were kicking around, added a bit of music to them from a CD and I'd sit there actually cutting old tape and trying to figure out how it works.

Another producer agreed and pointed to the idea that the technical knowledge and understanding and skills had to become,

... almost second nature to you and you don't have to think about all the equipment and everything because you want that aspect to become more transparent so you can get to real reason why a band come to a studio, which is to make a record.

Technological skills were not the focus of attention for the student group. While they clearly recognized the need to make a session 'flow', they also recognized that the studio was a place where people work together.

I think [the most important skill] was people skills, pure people skills... you had to get to know someone quite quickly... and you needed to have a relationship with the person you are working with... it makes it much more comfortable, a much more enjoyable place to work.

Compared with the professional participants in the study who could spend more than twelve hours of their working day in the studio, our student experience was limited. For those who had undertaken the apprenticeship route, people skills had been a particular feature of the early stages of their development. As Thompson and McIntyre (2013) have noted, interaction between the individual and the field of experts is an important aspect of becoming creative in a particular domain. From a professional perspective, one interviewee recalled that when you went into a studio in the 1970s 'there was that chance...' not only to participate, but also to meet a range of experienced musicians and to learn from them.

The combination of flow and people skills was underlined by one professional participant who had learnt his skills ‘at the tail end of the analogue thing’, which, he explained, allowed him to develop an understanding of the importance of decision-making not only in terms of flow, but in terms of developing an understanding of the record-making process and also the idea of hearing ‘inside’ the music.

I feel the best people work through instinct and after a period of time you know how to make those types of decisions and that is something that you watch people do. The longer you spend in watching people making decisions that you really learn to hear inside music, your ear becomes naturally critical...

In this way, spending time with people allowed the development of a more critical insight into the quality of the music.

### ***3.3 Reflections***

We were particularly interested to see how professionals viewed their apprenticeship experience and they provided a number of reflections on the difference that they perceived between their own experience and present-day students. Many of the participants had worked with graduates and had also been involved with a number of education courses. One producer who has worked in the United Kingdom and the United States over a 30-year career suggested that:

You can't make a valid comparison between apprenticeships and formal education because they serve different purposes. On the educational end it's geared towards the end result of the piece of paper you get, or specific goals in this module or that project. If you're in a real-time studio situation you're talking about being in a commercial environment and everything that goes along with that... you know from making the tea to cleaning up after they've left and that whole sort of client relationship that you can't put into practice in an educational environment.

One engineer expanded on the difference by pointing out that from his perspective is,

... that element of observation that's missing, observing tons of different practitioners on a daily basis, you just can't beat that as a form of education and it's so difficult to replicate a real scenario.

The range of experiences and the ability to observe different approaches and to learn from these were summarized by one experienced professional in the following way.

The advantage we had was that we saw things that didn't work and we were able to fill up our toolbox with these experiences.

When asked directly about their experience of the employability event, the students were clear that they had

... learned more in the employability fortnight than we had learned on the course so far... even if it was only a simulated working environment... that sense of it was hugely important I think.

The research conducted through these interviews reflects the views of a range of participants with extensive industry experience as well as graduate entrants to the profession and our own students. The purpose of the study was not to develop a systematic, quantitative enquiry but instead to provide a qualitative approach so that ideas, opinions and experiences could be shared to inform our own response to the ongoing debate around preparing our students for employment. The comments presented here are necessarily selective but fell into a number of clear categories that were supported by discussions in the interviews that are not represented here.

#### **4. Analysis and outcomes**

The participants of our study reflected on their own understanding of experiential learning either through the apprenticeship model or simulated working practice. Wenger refers to this as 'situated learning', an approach that provides a way of immersing 'groups of people who share a concern, a set of problems or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis' (in Wenger et al. 2002: 6). A major element of this type of learning resides in the social interaction with people who work regularly



to form a community of practice. For professionals and students, there seems to be an agreement that this type of learning provides many opportunities to develop and learn skills.

One of our professional participants understood the importance of situated learning as part of a process of developing models of good practice and then applying them. Drawing on the analogy of driving, he reasoned that,

... you don't really learn to drive until you've actually passed your test... you don't really start to learn until you're doing it for yourself. You can build up a collection in your mind of certain techniques and preferences that you see other people do but you don't really start to learn until you're actually doing it yourself and you've done it for a little while on your own.

The concept of the student - or indeed professional toolbox - provides an interesting metaphor for not only considering the acquisition of these tools but the opportunities for collecting those 'techniques and preferences' that form the content of the toolbox. How well equipped such a toolbox becomes depends on a wide range of factors, but it would seem that interacting with people, developing relationships and working effectively as part of a team were essential professional skills to acquire and these skills can only be acquired by working on what the students referred to as the 'genuine product'.

From this viewpoint, the gap between situated learning and institutional learning could easily be regarded as a flaw in our provision. Reconciling the needs of industry and education is not

necessarily a task that universities are designed for and, as the interview participants noted, apprenticeships and formal education serve different purposes. This divide has a long history. Universities, like the apprenticeship model, developed during medieval times and each era has adapted them to meet the perceived needs of their times. In our own times, the link between the creative industries and the economy by successive governments since the 1990s has significantly narrowed the lens from which we not only view but *value* education. In setting his remit for the *Creative Industries Mapping Document* (1998), Chris Smith focused solely on the economic benefits. According to this report, ‘total revenues of the music industry in 1995 were £3.6bn’ and,

Sales of recorded music have been growing at a 10% annual compound growth rate... attributable to: the strength of domestic releases; the extension of music demand across three generations; increased buying power among older income groups; and favourable economic conditions in the UK. (DCMS 1998: 68)

While Smith was utilizing already out-of-date sales figures as a means for justifying the importance of the creative economy, Pine and Gilmore (1999) were formulating what they would call ‘the experience economy’, a model which argues that with technological progress, increasing competition and a shift in expectation of consumers moves the focus from goods (tangible things) to an experience economy where products are given away as a way of not only selling services but providing experiences. The implications of these opposing discourses are still being felt today in both education and industry.

As the focus on employability grows stronger and we develop better strategies to bridge the education-industry divide, the dilemma that emerges is that we may lose sight of the wider educational goals that universities have traditionally aspired to. The toolbox metaphor not only provides a metaphor for the inclusion of specific skills and aptitudes, it provides an opportunity to reflect on the way we prepare our students for their rather uncertain future. For one particular student, situated learning and the industry experience brought all the learning together into a relevant and meaningful experience.

You can spend hours and hours learning how to use microphones [and] compression... it means nothing until you are in with someone working on a genuine product, that's what it is all about, this is what we are aiming for, and we're only just now [in our final year] touching on it... having that real world experience teaches you a great deal about yourself as well.

In a dynamic and changing industry, education provides some stability for students to develop awareness and reflect on the skills necessary for their future success. By looking to the past and considering those aspects of the apprenticeship model that were essential for a career in the music industry, we might be in a better position to assess the success of our current approaches in preparing the next generation of professionals. We believe our research provides a critical perspective not only to address the apparent specificity of the employability-ready agenda but the broader concerns of a holistic educational experience.

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