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Sound Reflections: The Purpose, Perspectives, and Place of Audio Education

Paul Thompson and Ben Mosley

Introduction

As formal education at college and university level in sound recording and audio production continue to develop, and are seen as preliminary routes into the creative industries, it has become increasingly important to assess the place and purpose of audio education within the sphere of formal education and its relationship to the wider creative industries. The UK government Department for Culture, Media and Sport (DCMS) defines the Creative Industries based on international industrial codes and includes the following sub-sectors: advertising and marketing; architecture; crafts; design and designer fashion; film, TV, video, radio, and photography; IT, software, and computer services; publishing; museums, galleries and libraries; and music, performing, and visual arts.

As part of this discussion of place and purpose, it is also important to consider the perspectives of the numerous stakeholders, benefactors, and beneficiaries of audio education, which include students, educators, education directors, educational institution representatives, music industry bodies, music industry representatives, and the music and creative industries more broadly. Each group has their own perspective on the purpose of audio education and each has something to add to the discussion on the content and delivery of audio education programs. For example, in their *Manifesto for the Creative Economy*, Bakhshi et al. (2013) emphasize employability as the central purpose for audio education and argue that “evidence suggests that most universities haven’t been producing the kind of talent that the creative industries demand” (Bakhshi et al., 2013: 103). This, they argue, is evidenced in poor employment outcomes of graduates from

creative media specialist degrees as evidenced in only 12% of those graduating from games courses secured employment in the industry within six months of leaving university and other studies (ibid.).

Like all educational systems, HE is not removed from the political and economic landscape and its policies are: “heavily influenced by economic institutions such as the Organization for Economic Co-operation and Development (OECD), the International Monetary Fund, and the World Bank” (Rusinek & Aróstegui, 2015: 78). “Employability” and the development of professional and vocational skills has become central to the purpose of HE, which in turn has created tensions between these capitalist ideas and neoliberal and democratic perspectives on education (see Benedict et al., 2015 for a more in-depth discussion). Employability is defined as:

[A] set of skills, knowledge and personal attributes that make an individual more likely to secure and be successful in their chosen occupation(s) to the benefit of themselves, the workforce, the community and the economy (Little, 2006: 2).

Others argue that higher education functions to educate, to research and to transfer knowledge (Brennan et al., 2013) with an emphasis on the development of higher order skills: “such as, the ability to think logically, the capacity to challenge the status quo, and the desire to develop sophisticated values” (Chen, 2016: 2).

As the political, economic, technical, and social landscape continues to shift within the higher education sector and the creative industries too, now is an important time to reflect on audio education’s place, purpose, and function. The following chapter begins by exploring the place of audio education within the higher education landscape in the UK leading to discussion of the often-contradictory perspectives involved in defining its purpose and function within HE in the

UK and the creative industries. The chapter concludes by framing the challenges for audio education in light of these perspectives.

Study Design

Perspectives on the purpose and place of audio education were collected through a mixture of literature and document analysis, semi-structured interviews, focus groups, and email correspondence. Literature analysis was conducted in order to review current trends in educational research and to determine the purpose and the broader benefits of studying in higher education. Document analysis was conducted primarily with government agency publications and industry bodies such as Joint Audio and Media Education Support (JAMES) in order to gain a view on their perspective of HE audio education.

Semi-structured interviews and focus groups were conducted with 30 students studying an audio-related program at Leeds Beckett University. The interviews and focus groups helped to explore some of the themes that were highlighted by government and audio industry bodies and more importantly, some of the educational experiences of the participants. Exploring experiences as well as documents or artifacts: “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.

Finally, email correspondence was a useful method in helping to collect the perspectives and thoughts on audio education from audio industry professionals and audio industry representatives. Questions during the interviews and focus groups covered the respondents’ views and experiences of audio education at HE institutions in the UK. Further information was sought on whether the respondents considered audio education to be important to the creative industries and whether formal institutions are the best places to deliver audio education.

Questions to audio undergraduate students also addressed whether they considered audio education as a route into the creative industries and whether or not they felt audio education had prepared them for their chosen career path. Finally, respondents were asked what they thought audio educators should be doing to ensure they deliver an appropriate audio education program in their chosen industry area.

The investigation included 40 participants, 30 of these were students, eight participants were industry professionals, and, in an attempt to capture as much of the spectrum of the audio industry as possible, participants from the areas of acoustics, postproduction/film sound, record production and audio engineering were selected. Two of the participants were industry body representatives. The responses from students, audio industry professionals, and audio industry representatives have been anonymized and included alongside the discussion.

Background and Context

Formal HE audio education programs in the UK began with the University of Surrey's Tonmeister program and became more established and prevalent through the 1990s and the area now has a strong presence within various other educational disciplines. Audio-specific programs, such as music technology, audio engineering, sound technology, and music production, have seen extensive growth over the last two decades (Davis et al., 2014). Carola Boehm (2006) noted that the term "music technology" (the most common term linked to audio education) was linked to 351 educational programs, distributed over some 62 HE institutions. As of 2014, this had risen to 80 institutions (Mosley & Thompson, 2014). At the time of writing (January 2019) this now stands at 443 courses across 112 institutions according to the UK University and Colleges Admissions Service (UCAS). Many of these programs are delivered in engineering departments, some in traditional music departments, and some in creative arts or media departments. The wide

range of discipline areas in which audio education takes place illustrates the broad spectrum of its nature, which includes a complex mixture of musical, technical, and cultural elements.

The HE landscape in the UK has changed significantly in recent years through the implementation of particular government policies, which have influenced the place and the perceived purpose of audio education in the HE sector. Most significant, and certainly the most prominent, are the changes in the way HE is funded. Following the Browne review (2010), student tuition fee contributions in England and Wales were increased threefold in order to pass on the full cost of HE to the student. In the 2015/16 academic year government caps on the number of students universities could enroll were lifted and universities have since been able to recruit as many students as they wished.

In 2018, the Teaching Excellence Framework (TEF) was introduced, which seeks to rate institutional teaching quality on a “Gold, Silver, Bronze” scale. The metrics for these ratings are based on student satisfaction with “Teaching on my course”, “Assessment and feedback”, and “Academic support” plus data for “Non-continuation” and “Employment or further study”. Importantly, much of these recent developments in UK HE policy are driven by a marketization agenda with the specific aim of creating market competition between institutions. Consequently, “the choices made by students [are] now conceived of as customers exercising choice in paying for a product in a market—and no longer as citizens exercising a social right” (Anderson, 2016).

The creative industries too have undergone significant change since audio education’s introduction in the 1990s. The post-digital economy landscape has notably changed since the 1990s with a decline in more traditional or established occupations and the appearance of new areas of audio-based creative economy activity. For example, whereas areas of the recording industry have degenerated, new areas in film, television, radio, new media, and online marketing have created fresh opportunities for graduates with skills in music and audio. Figures released by

the DCMS in 2017 show that the creative industries in the UK have shown an increase in jobs of 28.6% between 2011 and 2017. The closely related digital sector and cultural sector have shown an increase of 16.1% and 23.6% respectively across the same period. This is far in excess of the overall increase of 9.3% across the whole of the UK over the 2011–2017 period (DCMS, 2017). In 2017, the number of jobs in the creative industries sector stood at just over two million. The creative industries accounted for 6.1% of the total number of jobs in the UK in 2017. This compares with 5.2% of the total number of UK jobs that it accounted for in 2011. These figures suggest a healthy and growing industry with many employment opportunities.

Changes to the school level and post-compulsory education sectors (Further Education in colleges and small private providers) also continue to influence audio education in higher education, particularly as the Institute for Fiscal Studies (IFS) reported in 2017 that funding for sixth form and Further Education (FE) in the UK has been cut more quickly and more deeply than other areas of education (Belfield et al., 2017). FE is typically the place where students can study audio education programs before either moving into the creative industries or moving on to further study at HE level. If audio education programs are closed due to a lack of funding this influences both the educational and employment opportunities for future prospective students or creative industry trainees. Given the growth of the creative industries and the important role that audio plays in this, alongside the number of audio-related courses in HE, audio education can be seen as an interrelated part of the wide range of educational routes that feed into the wider creative industries.

Perspectives on Audio Education

The perspectives of the students surveyed for this study on audio education were varied but most students considered audio education to be a route into employment within the creative industries. However, one final-year student noted that:

Initially, before I started the course, I saw audio education as a route to employment but now I've nearly finished the course, I don't think it is necessarily tied to preparing you for employment. It's more about gaining broad skills.

The perspectives of industry professionals captured during this study were useful in providing insight into specific industry views on what they considered the purpose of audio education to be. For example, an acoustic consultant noted that although the majority of the practical skills can be learned while undertaking the role: "formal education afforded me a wider and deeper understanding of the principles and concepts that might not have been developed outside of university". An experienced audio engineering professional surveyed for this study also expressed his positive view toward the benefits of studying audio at a formal HE institution:

"A formal education that results in the award of a recognised qualification provides a bedrock of competence that can be applied to many areas over time" and "A University education that provides individuals with recognised, respected qualifications as well as delivering motivated self sufficient people with up to date technical, operational and business skills is crucial".

Conversely, a postproduction industry professional explained that: "I feel working in the field is far more beneficial than studying in a classroom for gaining experience and a solid skill set".

Generally, audio education was viewed by all the industry professionals involved in the study as useful in developing critical thinking and problem-solving abilities. A significant benefit of

studying audio related programs at formal institutions was highlighted by a recording industry professional who explained that: “educational institutions should (and do) give students a place to experiment and work with good quality resources without financial pressures”.

In bridging the two perspectives between education and employability, accreditation bodies provide a much-needed intermediary role between formal education and industry. The principle aim of an accreditation body is to ensure that graduates learn the necessary skills and knowledge on their educational program in order to meet the needs of the industry. Currently in the UK there are two main accreditation options for audio courses, the Joint Audio Media Services (JAMES) and the Institute of Engineering and Technology (IET). JAMES represents the creative industries and accredits educational programs on behalf of, and with the endorsement of, the following (JAMES, 2018):

- APRS (Association of Professional Recording Services)
- MPG (Music Producers Guild)
- MMF (Music Managers’ Forum)
- PLASA (Pro Light and Sound)
- UK Screen Association
- BASCA (British Academy of Songwriters, Composers and Authors)
- IASIG (Interactive Audio Special Interest Group)

The IET represents the engineering industry and its accreditation is awarded to higher education programs that meet the educational requirements of the UK Standard for Professional Engineering Competence (UK-SPEC), now in its third edition (Engineering Council, 2014). It centers on a review of a program’s content and delivery and includes areas such as relevance, coherence, challenge, assessment, staffing, quality assurance, and resources (IET, 2015).

Additionally, ScreenSkills (formerly Creative Skillset) offer their “Tick” accreditation for “practice-based degree courses that most effectively provide students with the skills and knowledge required by employers in the screen industries”. ScreenSkills Tick is a quality mark that is awarded to a wide range of creative industry courses from fashion to media business at many educational levels. There are several UK HE courses that feature audio in areas such as radio production, game audio, and postproduction that have been awarded the Screenskills Tick (screenskills.org, 2018).

Although these accreditation bodies serve a valuable role, they do so from very different perspectives, the IET from a technical perspective and JAMES from a creative perspective. JAMES is predominately a music industry body and the IET is an engineering industry body and therefore their accreditation focus and expectation of an educational program’s content and purpose is understandably different. At the time of writing, only three UK HE programs have been accredited by both JAMES and IET. One key aim of the ScreenSkills Tick is to identify “the UK’s most industry-focused courses and apprenticeships enabling universities, colleges and employers to recruit the brightest talent” (Screenskills, 2018).

Because accreditation bodies are industry-focused their perspective on the purpose and content of audio education is unsurprisingly from industry-related training with an emphasis on the practical acquisition of skills or knowledge. Perspectives on audio education are therefore varied and range from an HE perspective that views audio education as a way of developing higher order skills in audio production to an industry perspective that sees audio education as a way of gaining industry-related skills and training.

Purpose of Audio Education

In considering the various perspectives so far, it is clear that the purpose of audio education depends upon the nature of the stakeholder, beneficiary, or benefactor. For instance, the government views audio education as a route into the creative industries and prioritizes employability skills. The majority of industry professionals interviewed in this study also emphasize the importance of a curriculum that has its main focus as preparing graduates for work in the creative industries. However, one postproduction industry professional noted that he wouldn't have benefited from studying audio at university stating:

Rarely have I met someone in the industry that has formal education in music. The guys [sic] who usually go far are the people who have been working their way up industry since a young age.

On the other hand, one acoustics professional highlighted how studying formally at an HE institution gave them a deeper understanding of acoustics that wouldn't have been possible through on-the-job training. The perspective on the purpose of audio education is therefore also related to the area of industry. When asked about hiring prospective employees, one studio owner answered:

It wouldn't matter to me whether a person had a degree or not. What matters is that they are ready and willing to learn and can follow instructions. More often-than-not I'm looking for someone who is ready to be trained rather than someone who thinks they already know about engineering.

From this perspective, the purpose of audio education can be viewed as a combination of both the development of higher order skills and industry-focused skills and abilities.

Employability and the Creative Industries

Despite the additional benefits of studying at university level, including citizenship, civic engagement, increased health and well-being (Brennan et al., 2013), and the development of higher order skills, audio education in HE is often seen as a vocational pathway. This reduces its perceived purpose as “training” and to simply provide the workforce for a specific creative industry. However, this view overlooks the diverse and multidimensional nature of the creative industries and audio education more generally. The marketization of HE and the increase in tuition fees paid by students to fund their tuition however has fueled this “industry-ready agenda” (Ashton, 2010), which has become a dominant perspective on HE’s central purpose in the UK. This agenda has contributed to the centralization of employability within the curriculum (Ashton, 2010), so much so that the former UK government’s Department for Universities, Innovation and Skills (DIUS) stated that:

We want to see all universities treating student employability as a core part of their mission. So we believe it is reasonable to expect universities to take responsibility for how their students are prepared for the world of work (DIUS, 2008: 6).

The DIUS has recently been subsumed into the Department for Business, Innovation and Skills and indicates the current government’s stance on where they see the place and purpose of HE; as a central contributor to the workforce of the creative industries.

The emphasis on employability within the HE curriculum and the industry-ready agenda within audio education has been “dominated by employer and government concerns about the supply of graduates [and] has received little conceptual or empirical analysis” (Brown, 2005: 109). However, it is the creative economy and their industries that shape and define the meaning of “employability” and what it is to be “industry ready” (Ashton, 2010). Education providers are

therefore expected to add “employability” skills to their everyday delivery of subject-specific education and research. The term “employability” has been described as:

A set of achievements, skills, understandings and personal attributes-that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy (York and Knight, 2006: 8).

Employability skills include “self-management, team working, business and customer awareness, problem solving, communication and literacy, application of numeracy and application of information technology” (CBI, 2009: 8) with an underpinning positive and entrepreneurial attitude (ibid.). It has been argued that gaining employability skills benefits graduates as well as “their employer and the wider economy” (ibid.). Sir Christopher Snowden, the president of Universities UK, however maintains that studying at university shouldn’t simply be viewed in employability terms and explains: “I still very much believe there is a significant lifetime benefit to be got from going to university” (Snowden, 2014).

The general view of those involved in HE is that audio education is not simply a means to get a job. Rather, the purpose of studying a higher degree includes developing critical skills and knowledge within a particular discipline or subject. The purpose of audio education is therefore to gain subject-specific knowledge and skills and to develop critical thinking and problem solving abilities within the broad area of audio production. The results from this study showed evidence that students are also aware of this. One student stated:

The principles behind audio education can shoot off into other areas of work that would not normally be associated with music technology. I have learnt time management and problem solving skills that can be applied to other careers outside of music technology . . . it teaches you not just about music technology,

but also key life skills, team building, problem solving etc. Skills that may not be easily obtained in other courses.

These critical skills and knowledge therefore extend beyond the technical and include the social aspect of the field—inclusivity and accessibility aren't always addressed as part of these social aspects but these are discussed later in this chapter. While the purpose of audio education depends upon the perspective of the relative stakeholders within the debate, and their views appear at times to be in conflict, some industry professionals who had studied audio education at university highlighted how audio education can complement working in some areas of the creative industries as in this example from an audio-technical consultant:

One and the other should form part of an holistic approach. Theory, discussion, experiments and projects are the key to developing a good foundation in a creative subject. This, by definition, can only take a student so far, and much of the methods of dealing with professional contracts/clients/jobs are adapted or augmented as a result of work-life experience.

Focus on Vocational Skills

One of the criticisms of audio education by industry professionals in this study was that curricula and its delivery don't provide enough real-world examples and that more industry experience should be offered as part of an educational program. This is challenging in a university environment where links with industry have not traditionally been that strong. A comment, from an industry professional interviewed for this study, of “most university courses fall down badly when it comes to providing informal learning by not giving students the opportunities to work alongside established expert professionals” hints at the some of the challenges of connecting students with the industry they are hoping to work in.

This challenge coincides with the need for audio education programs to provide an expansive curriculum that introduces the industry's various aspects (including but not limited to recording, postproduction, film, TV, radio, audio maintenance, acoustics, and audio programming) in sufficient depth. Since different areas of industry have different needs, these must also be addressed in the audio education curriculum. For example, audio maintenance requires greater emphasis on the technical aspects of the curriculum than other areas such as composition for film and TV. There are curriculum challenges in providing technical skills on creative courses:

Not enough courses seem to adequately cover engineering basics. This includes:

- Basic soldering skills
- Understanding signal flow paths
- Understanding the parameters that must be controlled when assembling complex systems (studios for example) from many interconnected audio processors
- Developing the ability to fault find in complex audio systems

There are many more.

There is an inherent challenge here in providing an educational experience that has both breadth and depth as noted by one student:

Because of the scope of Music Technology, the course has prepared me in other career paths through the wide variety of modules that have been taught. This has allowed me to consider my own career path, as well as others through modules that I have enjoyed.

This statement shows an appreciation that opening up a wide variety of career paths is beneficial in a course. However, another student commented that:

If it is to be a path to employment then the content needs to be more specialised and more geared towards that area of industry, such as game audio, rather than covering lots of little bits of different areas of the industry,

This statement highlights the challenge of providing an educational experience with enough specificity.

A comment from industry suggests a need for universities to “offer solid foundation qualifications in years 1 and 2, then offer considerable opportunities to specialise in year 3 and post graduation”. Many university courses are built on this type of structure already but it is often not possible to cater for the wide range of career paths and specialisms available. An important consideration, therefore, is ensuring that students have the adaptability to apply the skills that they learn during an educational program to new and challenging situations. The concept of transferable skills is often cited in university-level teaching, but many of the core skills from an audio curriculum are transferable in and of themselves. For example, skills in a music recording studio are applicable in a radio studio, a TV studio, or a film set. Audio editing skills can be applied in games, advertising, TV, radio, app design, and many more platforms.

Some of the views of the industry professionals discussed here and some of the issues identified earlier with regards to poor employment rates for graduates in the creative industries (Bakhshi et al., 2013) hint at the notion that a degree is not essential for success in the creative industries. Unfortunately, the growth of audio related educational programs in the UK “has been paralleled by the apparent decline in informal apprenticeship systems that have typically provided a gateway to employment in the recording industry” (Davis et al., 2014: 1).

Therefore, formal education must perform some of the roles previously delivered by apprenticeship programs. There is also some tension between the government view that a graduate should emerge perfectly formed and ready for industry from a degree course and the view from many employers here that the willingness to learn and a good attitude are most important. A key aim of all degree programs, and built into the QAA framework for Higher Education in the UK, is that of developing students into independent learners. One could argue that this aim addresses many of the employer concerns with regards to attitude and willingness to learn on the job. A degree course cannot hope to produce the perfect graduate every time but it should give all graduates enough skills to place them at a good starting point for a role in the industry.

Challenges

In addressing each of the perspectives on the purpose of audio education, the challenges in developing and delivering the curriculum of audio education are wide-ranging. Audio education programs are expected to develop transferable skills and knowledge that are common to all degree programs. These include the development of higher order cognitive and communicative skills in young people, such as, the “ability to think logically, the capacity to challenge the status quo, and the desire to develop sophisticated values” (Chen, 2016, p2). Audio education programs are also expected to develop subject specific skills and knowledge so graduates can operate in a rapidly changing industry.

Added to these challenges are the educational expectations to periodically refresh the curriculum in response to new research, new innovations, or new economic landscapes in a way that balances the needs and expectations of each of the beneficiaries and benefactors of audio education. Engaging meaningfully with industry is important here as noted by this response to

the question “do you view audio education in universities as important for the future of the creative industries?”:

Yes. Providing the creators and providers of courses work VERY hard to consult with relevant industry representation during the structure of course material. Further, industry representation should be sought as a part of any review process, internal or external, to sit alongside any academic representation. . . . Equally, industry input should be sought when designing and updating project and practical module working briefs thereby ensuring up to date and relevant student work and study is derived.

Educators are typically responsible for the design, delivery, and evaluation of their programs but government (particularly in the UK) increasingly seeks to dictate what universities are expected to do and how the outcomes of their activities are measured. The Research Excellence Framework (REF) and Teaching Excellence Framework (TEF) in the UK are good examples of this as they are used to assess the quality of research and teaching of UK higher education institutions through an auditing processes that is designed to measure how research and teaching meet specific expectations. Government also expects universities and their courses to respond to the needs of industry and industry increasingly has input into the design and implementation of university courses through the accreditation process. However, as suggested by some of the discussion earlier in this chapter, the expectations of industry and government do not always align, leaving universities and educators in an unenviable position.

These challenges cannot be met by educators or institutions alone; overcoming some of these issues requires cooperation with government agencies and operatives within the creative industries. One recording industry professional highlighted the perceived value of the creative industries has reduced and therefore HE institutions have a critical role to play:

I believe creative industries as a whole are fundamentally suffering from a lack of value—i.e., a cataclysmic funding gap and a complete cultural devaluing from central government downwards. Creative industries, of which audio work is a part, are neither understood nor valued by a systemic infrastructure that is focused heavily on “quantitative success”. It is crucial that universities have the funding, the staff and the ethos necessary to correct this alarming trend.

It was further noted by another of the recording industry professionals that the creative industries also have a responsibility to work with those in audio education:

I do not believe that sufficient creative jobs exist in the UK employment market . . . industry has developed a disturbing ignorance of artistic/creative study. Video game and film audio production were areas I felt I was most equipped to work in, following graduation. My time after university coincided with a business world still reeling from the banker-led crash of 2008. Simply put, I would prefer to see more creative workplaces making better use of students and graduates from audio courses.

Previous studies in this area noted that facilitating access to the creative industries allows students to appreciate its mechanisms and creative values (Thompson & McIntyre, 2013). In this context, it also helps students to prepare for the demands of their career path and work toward gaining specific skills and knowledge in their chosen area of the creative industries.

The creative industries are often difficult for graduates to enter due to the ways in which outputs and activities are monetized. Work is often transient and freelance in nature and value is often wrapped up in intellectual property and copyright. Operating and succeeding in this environment requires both an understanding of the nature of the industry but also flexibility and a certain amount of entrepreneurial skill. Audio courses often feature some sort of “industry” content but

actually preparing students for the rigors of a freelance career is not easy and many courses fall short in this area.

Can We Do More? (Recommendations and Further Work)

Social intelligence and emotional intelligence often feature in the literature regarding graduate attributes (Artess et al., 2017). However, these attributes are often not addressed in the core of audio curricula. The development of these skills is more likely to be dependent on individual student's circumstances or addressed through pastoral support. Audio educators need to be aware that they have some responsibility in educating beyond the core curriculum and to explore where their skills and understanding fit within a wider social context beyond the creative industries. In a world that faces great challenges with regards to sustainability, inequality, and political stability our young people need a wide awareness to succeed, prosper, and lead.

Projects that connect students with their local community or bring the community into the classroom such as community educational projects, working with people with disabilities, exploring how audio can support blind and partially sighted people, and how audio experiences can be improved for those with hearing problems can provide opportunities for students to develop these vital social and emotional intelligences. Other graduate attributes such as flexibility, adaptability, positive attitude, aspiration, resilience, and work ethic (Artess et al., 2017) could also be seen to be more closely aligned with a student's sense of self-worth and their general well-being and therefore, mental health awareness and its management could be a useful inclusion within an audio curriculum, helping to focus on the "person" as well as their skills, knowledge, and understanding.

The creative industries have long been recognized as underrepresented by minority groups. Recent research has also highlighted the issue of sexism and the challenges women face entering the audio industry (Lanzendorfer, 2017). Introducing the social study of contemporary issues alongside core audio education curricula could help to introduce all students to the challenges certain groups of people face in the creative industries and further equip students with knowledge and experience that will help them, beyond the classroom, to challenge gender stereotypes for example, or how to address everyday occurrences of misogyny or sexism wherever it occurs.

Another area where there is room for development is the area of sustainable development in audio. Most of the large broadcasters (ITV, BBC, SKY, Channel 4, etc.) have strong sustainability agendas and many audio/visual productions are carried out under the Albert guidelines for sustainable production (Mosley, THIS VOLUME, and 2015). Students pursuing a career in broadcast are highly likely to be required to work within these guidelines and policies and educators can help prepare students for these challenges.

Conclusions

Given the varied perspectives on the purpose of audio education, the challenges identified, and the sheer breadth of possible career paths within the creative industries, it is concluded that audio education cannot address all of the needs of its stake holders, beneficiaries, and benefactors.

Although the “industry-ready agenda” (Ashton, 2010) perspective has become a dominant voice in the debate of the purpose of higher education in the UK, the educational perspective that there is a significant lifetime benefit to studying at university (Snowden, 2014) is equally as valid.

Industry accreditation bodies such as JAMES and IET, therefore, play an important role as functional intermediaries between education and industry in bringing these apparently opposite perspectives together.

In addressing each of the perspectives on the purpose of audio education, the challenges in developing and delivering audio education are wide-ranging. Audio education programs are expected to develop transferable skills and knowledge that are common to all degree programs and develop subject-specific skills and knowledge so graduates can operate in the rapidly changing creative industries. What is clear is that these challenges cannot be met by educators or institutions alone. Addressing some of these issues will require cooperation with government agencies and operatives within the creative industries.

At the time of writing, the discussion on the purpose and place of audio education is arguably more important than it has ever been. In a world where audio visual communication, broadcast, and entertainment is so prevalent in the post-digital economy the need for graduates that have relevant skills, knowledge and abilities with sound and audio is growing increasingly important. However, this varied and relatively unmapped discipline faces challenges in providing sufficient depth and breadth of curricula that can adequately serve such a diverse and rapidly changing industry.

It is acknowledged that although the data presented here cannot accurately portray the numerous and varied perspectives on audio education or reflect the breadth and depth of audio education at different HE institutions. Rather, the perspectives presented serve to provide a useful starting point to begin a more in-depth discussion on the place and purpose of audio education in UK HE, particularly as formal courses in sound recording and audio production continue to develop as preliminary routes into the creative industries. This study has highlighted a number of areas for future work and research however the most important is that audio education could benefit from greater consultation between industry representatives and education providers to help bring understanding to each of their perspectives. Further research is also needed in this area to identify the benefits and disadvantages of more focused audio educational programs that target specific industry areas or current skills shortages. Doing so will afford a more empirically

informed perspective on the place and purpose of audio education in UK HE and help to meet the needs of each of its benefactors, beneficiaries, and stakeholders.

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