MusicWorks: Supporting students’ musical career paths through technology-enhanced authentic learning

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**ABSTRACT**

Musicians are, by nature, immersed in rich media--primarily audio and video--and live each day working with, and around, various forms of media and resources. In today’s professional environment, musicians face multifaceted work that may include teaching, performing, marketing, promoting, recording or composing. The musician as entrepreneurial learner becomes a key focus for authenticity within their learning. Music educators, music professionals and musicians of all ages need to navigate key career choices along their career paths, and many will face choices regarding authentic approaches to learning. This chapter explores how enterprise pedagogy and entrepreneurial pedagogy can be authentic learning approaches for preparing and positioning music students within the higher education context. That is, authentic learning experiences provide opportunities for students to reflect on, and prepare for, the likelihood of multiple jobs and roles in their upcoming career paths. Podcasting as an authentic learning tool is explored through the development of ‘MusicWorks’ a podcast series giving voice to the multiple career paths of industry and educational leaders in music.
INTRODUCTION

The 21st Century has been defined by technological innovation, with developments in digital communications in particular allowing for the real-time online sharing of live and pre-recorded audio and video, and transforming communication, collaboration and education. These new opportunities for connecting and learning are impacting profoundly the future experiences of life and work for students. Dialogues regarding how higher education programs prepare students for their transition into their life and work after university are becoming key topics within an ever-changing higher education landscape, which includes complex challenges around globalization and internationalization and its impact on student experiences (Altbach, Reisberg & Rumbley, 2019), and UK students seeking to understand funding implications of a pending Brexit (Lay, 2019; MacPherson, 2016).

The challenges facing higher education go beyond the classroom. How students are prepared for their future work become integral to the development of the curriculum and choice of pedagogy deployed in its delivery. Approaches to teaching and learning should take into account typical career pathways and the roles and work patterns that exist now and that may exist in the future so that students might plan for and achieve their goals. How to deliver that most effectively is one of the paramount questions for higher education professionals working today.

Music careers, as is common in many sectors of the Creative Industries, including visual and performing arts, video games, film and television, are rarely the result of a well-defined career pathway. Often, they are unique formations based on a sense of vocation, on the consequences of personal choices, and of happenstance. Music careers are also dependent on the development of technologies linked to the recording, production and creation of music, and these have undergone fundamental and transformative change in the last two decades. As such, the creation, dissemination and transmission of music has changed dramatically in a
very short space of time, and this can be seen most directly through the impact of MP3 files and online music streaming on traditional music sales (Alexander, 2002). The music industry has experienced a significant upheaval which has disrupted its core income streams from royalties and copyright. It is, of course, possible for musicians to create, produce, market and distribute their music without the need of a record company. However, only by innovating and diversifying at a pace that has made it difficult for higher education to adapt and provide credible and focused support for students.

For music educators, this issue of positioning students for future careers is extremely pertinent. Professional musicians are now expected to upskill themselves in ways that extend well beyond the traditional notions of musicianship and performance practice found in higher education music programs. In essence, musicians must balance advancing their performance craft while exploring various ‘jobs’ to attain, and maintain, their musical livelihood. Often unconventional, the circuitous routes to attaining career goals in music do not fit into a traditional education model of learning one’s instrument and then building a singular career from music performance.

Music graduates often have career paths that are non-linear. They often engage with professional skills that go well beyond the formal learning experiences within a typical music degree (Brook & Fostat Young, 2019). Now, more than ever before, it is critical that students prepare themselves with entrepreneurial and enterprise knowledge and skills.

Allen (2019) suggests that such an approach can support “multiliteracies pedagogy of situated practice” (p. 139). Further, Ruthmann & Hebert (2012) highlight that the use of free and user-friendly online technologies enables peers to share their interests while allowing music learning to be delivered in ways that are motivational to students. That is, learning can be made attractive and interesting to the next generation of learners. While we need to be aware of both the challenges and opportunities that technology affords music education in the
21st century (Johnson, 2018), exploration of purposeful learning approaches can further the development of greater understanding of the use of this medium for the development of music, music education and entrepreneurship within music careers.

This chapter serves a range of purposes. First, it highlights the need to develop enterprise learning and entrepreneurial skills within musicians who are entering the industry, specifically as a means of addressing rapid technological change and the subsequent innovation and changes in careers pathways that result. Second, it then examines the emerging need to develop entrepreneurial methods of teaching and professional learning that reflect the careers on music industry professionals while highlighting the core skills that are essential in the 21st Century. The necessary modification to Higher Education is discussed, highlighting the new and emerging pedagogies and delivery modes that are needed to sustain the learning process, and more broadly, those engaged in the professional music industry. Third, the chapter positions the relevance of technologies in learning and discusses the background for the MusicWorks Project, a podcast series. This project, created through the desire to use of a podcast series as a teaching resource specifically in Higher Education programs, focuses on entrepreneurship and enterprise learning for early-career and emerging musicians. The context of the MusicWorks podcast series is then overviewed, with reference to the historical development of podcasts, the connection to authentic learning and the way that this challenges traditional pedagogy, curriculum and assessment, while developing skills through reflection and metacognition, preparing the learners for a life-long journey in music. In conclusion, the chapter provides important areas for consideration with students, teachers and institutions, combined with presenting areas of research that will be important to develop.

BACKGROUND

In her writing, Nagel (1988) identifies an economist who notes,
... the simple models that we economists use to understand how the performing arts
‘work’ predict that almost no one would choose to be a musician, but that once one
had made that choice because of the supposed ‘psychic income’ from the career, one
would never leave it. (p. 67)

The choice to be a musician is a personal one, and it is a choice that may not make sense
except to another artist. Sacrifices are often made to enable a longer term goal of specific
musical career attainment (Hracs, 2009). For example, musicians may take on unrelated work
for financial reasons, perform outside of the musical style that they have specifically trained
for, or they may make familial sacrifices, such as delaying having children.

To some extent, these issues have been addressed by the prevalence of affordable
music production software and hardware, which has placed sophisticated music creation and
performance tools on the mobile devices we all keep in our back pockets. People can write,
rehearse and perform--within limits--wherever they are and whatever else they are doing.
Family commitments and other work is no longer a barrier to participation. However, while
the affordances of modern music technology means that music-making has never been more
accessible, career-minded musicians often face more challenges than ever as they seek to
build a professional music career (Brooks & Fostaty Young, 2019). Today, those seeking
careers in music find themselves needing skills beyond those that are traditionally associated
with being a performing musician: stagecraft and performance practice.

**Required Skills for Today’s Musicians**

Those same digital and mobile technologies that have opened up music-making and
provided new opportunities to write, record, publish and distribute music as an individual,
have had larger-scale impacts across the industry. They have disrupted long-practiced
professional workflows, core revenue streams and career pathways (Hracs, 2013). This has
caused a fragmentation of all aspects of the music industry but has had a particular impact on the recording industry, which has only just seen a return to growing revenues after fifteen straight years of decline (International Federation of the Phonographic Industry, 2018).

Musicians have often had to deal with careers that are multifaceted and have often held multiple occupations within a broader delineation of the sector (Nagel, 1988). Additionally, the pathways chosen by musicians and the ways in which they navigate their lives as professionals have changed hugely with technology access (Butz, Stifel, Schultz & O’Neill, 2017; Hracs, 2013; Moreau, 2013).

Table 1 outlines the diverse range of professional skills that are pertinent to contemporary music career pathways (Blackwell, 2018, Comunian, Faggian, & Jewel, 2014; Hracs, 2013; Mullins, 2018; Nagel, 1988; Rickels et al., 2013). It is noted that not all contemporary music careers will require all of these skills, but, particularly in the early stages of a career. It is likely that musicians will have to draw on a significant number of them as they manage their career development, build and market their professional profile, and sustainably grow the broad professional networks that are essentially to support professional musicianship within a community of practice.

Table 1.: Skills used in music career pathways.

<table>
<thead>
<tr>
<th>Organisation &amp; Communication Skills</th>
<th>Leadership &amp; Innovation Skills</th>
<th>Music &amp; Music Creation Skills</th>
<th>Teacher &amp; Educator Skills</th>
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This notion, that a music career is likely to consist of multiple, inter-related or even distinct pathways as opposed to a single, well-defined route, can be challenging for early-career musicians. Many feel that, despite their best efforts, they are not in control of the way that their career is unfolding, and they may have to deal with constructing, maintaining and presenting several different contrasting professional identities simultaneously. In one UK study on career paths of music graduates (Comunian, Faggian, & Jewel, 2014), for example, one participant stated:

In my head I would love to do more performing, number two is developing the company and then teaching, at the moment is the other way around doing mostly teaching, secondly the company and thirdly gigging, so in the long term, I am trying to build the company so that the teaching can diminish. (p. 176)

Further, it invariably holds true that while different individuals may end up at similar professional destinations, each is likely to have started their journey in very different places, and each is likely to have travelled a very different pathway from anyone else to get there. Taken together, the need for musicians to develop functional expertise in and to deploy broad
and diverse skill sets that are nevertheless focused on their particular professional needs as they navigate their own unique career path, makes it difficult for music educators at all levels to adequately support students’ employability needs.

**Revisioning Higher Education for Music**

Whether in Music and Music Education programs, or Music Industry courses, there is an expectation that degree programmes will prepare students to contribute broadly to society. There has been a significant movement in higher education during the last decade to respond to this challenge by embedding core graduate skills within the curriculum. These are personal qualities that are not formally taught, but which, nevertheless, embody ‘graduateness.’ They are intended to support students to negotiate the initial stages of their careers in an increasingly-complex and connected global society (Mietzner & Kamprath, 2013; Oliver, Freeman, Young, Yu & Verma, 2014).

As we look to the future of music education, it becomes evident that the traditional model of music conservatoire teaching is changing, and that change is both needed and welcome (Johnson, 2018). Emerging global models of learning continue to highlight how “Education has a vital role to play in developing the knowledge, skills, attitudes and values that enable people to contribute to and benefit from an inclusive and sustainable future” (OECD, 2018, p. 4). Yet, graduate skills for music students often do not outline skills for those jobs encountered along a circuitous career pathway.

How, then, might higher education support music students negotiate this complex terrain? Musicians need to be supported as they each carve out their unique and individual pathway. This suggests a need for authentic learning specific to music industry career paths: the highlighting of role models and their authentic, lived experiences to serve as exemplars.
for how others have successfully carved out successful careers in an industry where there are few well-defined roles or career paths.

**Positioning Pedagogy that Caters for Music Pathways**

Authentic learning is a term used to describe an approach to learning design that can promote student motivation by encouraging them to explore, discuss, and construct concepts and relationships in a way that involve real-world problems and projects that are relevant to the learner. However, universities have yet to evidence the inclusion of authentic learning within a 21st century learning context (Adams Becker et al., 2018). Perhaps it is due to tradition that music faculties and departments are often inclined to continue with the long-established conservatoire teaching model of face-to-face, direct interventionist contact. However, Jorgensen (2009) notes that “the field is in need of robust conceptual theories of music education” derived from research that includes “systematically describing the field” (p. 415), and this must take into account the full socioeconomic context in which it sits. Further, the disruptive impact of technological change has positioned music education at a point where it has become imperative to reconsider pedagogical approaches and methods (Johnson, 2018). Together, these ideas reaffirm Mullins’ (2018) statement, that “Music Education is well placed to assist in the development of these 21st Century Competencies” (p. 110).

How we reach such competencies and career skills requires careful consideration. There are multiple learning approaches that can offer students opportunities to explore the development of skills required of a musician in today’s context. Examples of these learning approaches include ‘Enterprise Pedagogy’ (Garnett, 2013) and Entrepreneurial Learning (Ringo-Ho, et al., 2018).

Enterprise pedagogy is a “collection of practices and theories of teaching that fosters enterprise learning” (Garnett, 2013, p. 5). Garnett describes this pedagogy as enabling students to participate actively in their learning, to ask questions, control tasks, take
responsibility for learning, and foster collaboration. With teacher as facilitator, students are able to attain a sense of personalized learning as tasks are linked to student choice and therefore aspects of motivation.

In his action research study, Garnett (2013) explores the student and teacher outcomes arising from the intervention of enterprise pedagogy implementation with students (11-14 year olds). Using student surveys to explore students’ perceptions of learning and motivations, along with teachers’ semi-structured interviews, Garnett found enterprise pedagogy to support student motivation toward active participation. Motivation was identified as taking place due to the connectedness of the task to students’ lives. Further, Garnett identifies a potential for enterprise pedagogy to support the differentiation of learning as it embraces students of differing abilities and roles.

Entrepreneurial learning supports students learning skills that are specific to creating new ideas and opportunities, combined with developing the knowledge, skill and efficacy (Ringo-Ho, et al., 2018). The implementation of entrepreneurial learning in a music scenario are limited by one’s imagination. Learning experiences may include giving students opportunities to create a solution to a musical performance challenge, or problem, launch a band, or develop an innovative approach to supporting a non-profit music organization.

From an implementation standpoint, the adoption of new pedagogies, technologies and/or innovations, often requires teaching staff to partake in professional development (Lock, 2018). Faculty awareness of how to implement teaching strategies that are new or different to traditional teaching methods often take time. The adoption of enterprise learning and entrepreneurial learning in higher education music contexts will also require time for careful curriculum development and design implementation of such innovations.
Rogers’ (2003) Diffusion of Innovations theory further underscores the challenges for adopting innovative processes and/or products. When viewed in terms of adopting new methods for teaching, the bell-shaped graph of Diffusion of Innovations theory suggests that while there will be innovators (approximately 2.5% of people), and early adopters (13.5%), the early majority of adopters only contains an additional 34% of the people group involved. In terms of changing teaching practices, this means that there will still be a large group of teachers (i.e., 50%) that will still have yet to seek to change or look to change their teaching practices.

How formal higher education music programmes move forward in teaching innovations over the next five to ten years will not only influence current music students, but influence the overall future of the formal music teaching model. The evolving nature of curriculum continues to challenge the more traditional didactic models of teaching, while the increasing global access to technology and constant societal changes around the world necessitate significant changes in real-world skills, future sustainability, combined with individual well-being and employability. These changes are key priorities and the need to focus on developing the requisite capacities and skills in students, while equipping them with a sense of agency and purpose in their learning and future careers is of key importance (OECD, 2018).

TECHNOLOGY AS A COMPONENT OF AUTHENTIC MUSIC LEARNING

Lombardi (2007) outlines ten elements found in learning experiences that are authentic in nature. These ten elements include: Real-world relevance; Ill-defined problem; Sustained investigation; Multiple sources and perspectives; Collaboration; Reflection (metacognition); Interdisciplinary perspective; Integrated assessment; Polished Products; and Multiple interpretations and outcomes (pp. 3-4). Together, these elements can form a learning
experience for students that is authentic to both their personal learning context (e.g., motivation), as well as authentic to the discipline in which they are studying.

Each of these authentic learning pillars provide students with key connections to learning about a specific discipline or topic. These connections are made through “interpersonal connections between apprentices and mentors, intellectual connections between the familiar and the novel, personal connections between the learner’s own goals and the broader concerns of the discipline” (Lombardi, 2007, p. 2). Overall, creating authentic learning experiences for students means that students will have opportunity to affirm their content knowledge, and through reflective practice, identify and engage in personalized approaches to furthering their learning on the topic involved.

When authentic learning takes place within a specific, or discipline-based context, students experience situated learning (Herrington & Oliver, 2000). That is, students experience a form of authentic learning that explicitly embraces discipline-specific language, skills, methods and approaches in ways that are typical of the discipline. As such, students gain an “advanced knowledge” (p. 23) of the discipline.

Authentic learning is not a new advancement in education, nor new to the specific discipline of music learning. The master-apprentice teaching approach can be said to be a form of authentic learning insofar as it adheres to the pillars described above. Based on this premise, authentic learning has been part of the traditional teaching approach in the music conservatoire for many years. However, the inclusion of technology to support authentic learning is relative to particular technological advancements, and the shift in the professional context also requires a refocusing of what authentic learning means in the context of the conservatoire. This raises the question of if and how the adoption of technology-enhanced authentic learning experiences might provide both that focus and the mechanism to deliver it.
Technology can support the student learning experiences in that it can allow students “to gain a deeper sense of a discipline as a special “culture” shaped by specific ways of seeing and interpreting the world” (Lombardi, 2007, p. 2). For example, by providing students with opportunities to listen to, reflect on, and engage with music professionals describing their own circuitous music career pathways, students are provided with role models and can reflect on their own career aspirations and the core skills required to achieve their individual musical goals.

As a learning experience, podcasting employs the use of media that have been archived (e.g., podcasts, interviews and reflections on the journey of music professionals). Subsequently, music students can learn by referencing what they hear and see about others who are in their world. When available, students can also engage with those involved in the podcasts in different ways to inform their own learning and decision making.

By perpetuating the process of shared learning through an archive of podcasts a large library of music career documentation can be created. The diversity of career trajectories exhibited can support students in finding solutions to possible issues they may encounter, seek the advice of peers and others in their field, and find solutions or new approaches to manage their own skill or knowledge deficits related to their specific music profession.

A Brief History of Podcasting

Podcasting began more than a decade ago. It is the creation and distribution of themed audio content commonly by means of a content aggregator, a service that gathers content from different online sources for redistribution. It uses RSS syndication, a standardised web feed, that allows for automated access to updates to that online content. In 2004, it moved from being a niche activity wherein the few podcasts in existence could be counted by the number of individual hits they registered on Google (Searls, 2004), to the mainstream. A
podcast round-up in the New York Times in October that year, for example, showcased the
growing movement and highlighted the best of podcasts from across the globe, ranging from
a popular unscripted weekly rant recorded in the living room of a Wisconsin artist through to
movie reviews from a film buff in California (Farivar, 2004).

The term podcasting, a portmanteau derived from *iPod*, Apple’s portable music
player, and *broadcasting* (Hammersley, 2004) suggests something of its Punk ethos: it is a
large-scale DIY digital subculture with few barriers to participation (McAlpine, 2018)
Anyone can podcast directly to anyone else’s device; all they need have is something to say.
But just as the DIY ethos of Punk depended on the availability of cheap recording equipment,
electric instruments and amps to give voice to the youth of the 1970s, podcasting emerged
from the confluence of five critical developments in technology.

The first was the development of the MP3 file format. Prior to MP3, full-bandwidth
digital audio files were very large, of the order of 10 megabytes (MB) per minute for CD-
quality stereo files. The MP3 compression algorithm, which uses psychoacoustic masking
effects based on frequency and loudness (Sterne, 2012), removes portions of the original
sound recording to achieve a lossy compression ratio of about 10:1. That is, compared to the
original uncompressed file, the equivalent MP3 requires only one tenth the storage, 1 MB per
minute at CD quality, making it much more feasible to share high-quality audio files over the
internet.

Even so, downloading the tens or hundreds of MB required for high-quality long-
format programmed content using a dial-up internet service required perseverance and
dedication. Assuming no drop-outs, content might take two hours or more to download, and
as a result, users were unlikely ever to casually download material just to ‘have a listen’. It
was the shift, in the early 2000s, to high-bandwidth cable and fibre-optic broadband that
created the conditions that drove a significant behavioural shift in users; because they were
now able to download large files in minutes rather than hours, the volume of content being downloaded increased dramatically and users were much less selective about what they chose to capture (Hitt & Tambe, 2007; Kolko, 2010). The general public, or at least the technologically-savvy media-loving subset of the general public, embraced the notion of casual downloads and media file-sharing.

That emerging practice was further boosted by the emergence of easy-to-use software tools for sharing. The peer-to-peer system, Napster, for example, provided an ingenious way of aggregating sound recordings and other media files. Rather than host downloadable content on a remote server, Napster effectively crowd-sourced content, linking those users who were actively seeking content with the media libraries of those who had the content to share, whilst distributing the load so that each user was contributing only a small chunk of the overall file.

In a matter of months, Napster’s user base grew from zero to twenty-six million (Bergen, 2002). So successful—and disruptive—was the application that on behalf of five media companies, the Recording Industry Association of America (RIAA) sued Napster, claiming that it facilitated the theft of intellectual property (Ku, 2017).

Nevertheless, Napster had served as a proof-of-concept on multiple levels. Not only had it established a significant global demand for all types of audio file sharing, it established in the mind of the public that such content should be shareable and free at the point of delivery. Further, it even provided a model for how that delivery should happen: a centralised, searchable resource that aggregates and curates material so that end users might easily locate it, find similar content and download it to their own devices for consumption.

Users began to amass huge content collections, and this is where the fourth component comes into play. The cost of large-capacity hard disk drives tumbled in the late
1990s and early 2000s. So much so, that for relatively little outlay, an individual could download and store an audio collection that contained more digital content than could be consumed throughout their lifetime (Toigo, 2000). Together, these created the ideal conditions for online audio consumption.

Content production was supported by the fifth and final component: developments in sound and music technology that happened independently around the same time. The early 2000s saw an explosion in the availability of cheap, high-quality recording equipment and the large-scale virtualisation of recording studio technology that had previously only been the preserve of commercial studios. For very little out of pocket costs, anyone who wished to could create and distribute broadcast-quality content online, and thus was born the podcast phenomenon.

Podcasting, however, is just one tangible manifestation of this convergence of technologies. These same conditions have also had a transformative effect on the music industry, particularly the recording industry, which, until around 2008, when consumers spent more on live events, was the largest sector of the music industry as a whole (Williamson & Cloonan, 2013). Digital distribution, the disaggregation of content from physical media and wholesale file-sharing saw the near-collapse of the sell-through music industry as consumers realised that record companies could no longer charge customers simply for access to music, as was the traditional business model when music was tied to physical media. In an era where music is ephemeral and ubiquitous and where the expectation is that access to it will be free, record labels and artists have had to rethink how to get people to pay for content.

And the industry is getting there. By innovating in digital technologies, record companies are developing new markets and new social listening platforms that have seen revenues buck the trend of fifteen years of continuous decline (Global Music Report 2018, 2018). This disrupted professional landscape, however, one in which traditional workflows,
revenue streams and routes to market have been turned on their heads, is the one that our students will enter upon graduation, and it presents them with some very particular challenges.

These challenges, as noted earlier, mandate that music graduates are likely to experience multiple possible pathways into industry, have to deal with declining revenues and fragmented income streams, balance multiple concurrent roles, and have to self-manage their career development as they move from a scattered portfolio approach to one that is more focused and specialised (Hallam, 2017). These same disruptive and democratizing effects of technology have created an environment where music-making has never been more accessible, and yet, in a globally-connected digital world, it is becoming more challenging than ever to build a professional music career and connect digital content with paying consumers.

We would argue, therefore, that there is a pressing need to embed enterprise and employability into the music curriculum. This arises primarily from the need for our students to be able to build viable and sustainable professional careers in this uncertain and dynamic field. We would also contend that the disruptive tools that have created the conditions that make contemporary professional musicianship so challenging also provides the mechanism through which we can address this.

**Podcasting in Education**

Since its inception, podcasting has always been about more than just distributed audio content; its grass-roots approach to production has created a maker-community of podcasters who provide collective support as they build dedicated communities of listeners who are invested not only in the themes around which the podcasts are based, but who are equally invested in the podcast communities themselves. For example, BBC Radio 5 Live’s Kermode and Mayo’s Film Review podcast (https://www.bbc.co.uk/programmes/b00lvdrj), packages up
a broadcast film review programme with additional podcast content. It is ostensibly about film, but to view the podcast as such is to miss out on its much greater social and cultural reach.

The presenters, described by fans as ‘a bickering old married couple’, are the patriarchs of an international community of Wittertainees, who have their own ‘national anthem’; self-diagnosed medical conditions—Altitude-Induced Lachrymosity Syndrome, for example, is a malady that affects film-lovers on long-haul flights—fantasy social events on cruise liners; *lingua franca*, and, perhaps most importantly of all, a code of conduct that dictates appropriate behaviours in movie theatres. This virtual community is virtual only in the sense that is not physically located in any one place, and it demonstrates that podcasting at its best is a form of social media in which distributed audio content provides the platform and the focal point from which a sense of community, and indeed shared purpose and community values can emerge.

These key qualities—the ability of podcasts to automatically deliver themed content to end users and to develop connected communities around that content—align strongly with those of both formal and informal education. Podcasts enable educators to break down, complex ideas and instructions into digestible segments so-called ‘chunking’ (Thomas, 2007) or segmentation of educational material. In chunks, they can be auditioned and reviewed exhaustively, allowing for learners to engage and re-engage with the material over time as their knowledge and skill sets grow. The associated comments, blogs and discussion groups facilitate a deeper-level critical engagement with the material and may provide new material for further podcasts.

Many universities have recognised the potential of new media. They have adopted podcasts, along with blogging, Twitter and other forms of social media, as a pedagogic tool as they respond to the rapidly-changing technological environment within which modern
education operates (Rosell-Aguilar, 2007). Duke University, for example, operated a successful scheme in which iPods were offered to new students in order to encourage them to listen to educational podcasts (Belanger, 2005). and many other higher education institutions, including Yale, MIT, Purdue, Stanford and UC Berkeley have begun promoting lecture podcasts to their students via a password-protected service as well as publicly using iTunes U, a clone of Apple's iTunes Store (Brown & Green, 2007).

More generally, however, institutions and individual academics have been cautious to adopt podcasting on a large scale. Several studies have shown that educational podcasts do not necessarily impact directly on student grades (Lazzari, 2009), and that podcasting has a similar effect on student learning as other review materials (e.g., Copley, 2007), suggesting that students only really benefit from podcasts if they bring to them the same sort of study skills that they would to lectures and tutorials (McKinney, Dyck, & Luber, 2009).

Copley (2007) notes that by far the biggest use of educational podcasts is the distribution of lecture recordings for students to review and revise, allowing learners to access educational content at a time and place that is convenient for them (McGarr, 2009). This approach can also be used to flip the learning environment by providing pre-recorded lecture materials to students in advance and freeing up time in class for discussion and other active learning activities (Vess, 2006).

Arguably, however, the real value in podcasting is not in simply replicating traditional modalities of learning. To do so misses the opportunities that new technologies afford, and often makes the original content less accessible and engaging. Back in the early 1980s, for example, Atari released a video-game version of the Rubik’s Cube for its VCS console, apparently confident that people would pay ten times as much for the digital version of a puzzle that played better as a collection of plastic parts and stickers (McAlpine, 2018).
In the same way, we should not be trying to build technology into our classes just to provide new ways of accessing content, but rather, we should be thinking of the new educational affordances that the technology brings and designing new educational experiences that combine the very best aspects of face-to-face and digital delivery.

Harris and Park (2008), for example, note how podcasting might be used in the context of a law class to complement and enhance learning:

Podcasting is being utilised not only to provide a repeat or summary of a lecture given but also to provide timely academic material such as law-related news to students. Such usages could create the relationship that is based on continuous communication and interaction between teachers and students by having students engage in academic debate and in accessing timely academic research [… and] has been used to provide a two-way communication so that it has become a means of communication and dialogue between teachers and students. (p. 549, original emphasis)

Podcasting, as described above, supports an authentic learning experience for students to learn about discipline-specific music career skills in a meaningful and easy-to-access manner. As a vehicle for learning, podcasts can provide music students with opportunity to learn from music industry professionals about the career pathways possible to achieve one’s music career goals. Therefore, it is suggested that providing local-, as well as international-, music industry voices in an accessible format (i.e., mobile and archival) can promote enterprise and entrepreneurial skill awareness through an authentic learning experience for music students.

**MUSICWORKS: A PRACTITIONER-LED PODCAST SERIES AS AUTHENTIC LEARNING EXEMPLAR FOR LEARNING ABOUT MUSIC CAREER PATHWAYS**
**MusicWorks** is a newly-instigated podcast, produced and distributed by Melbourne Conservatorium of Music at the University of Melbourne, that is based around a series of long-form interviews with industry practitioners. The podcast is designed to showcase personal accounts, stories and experiences, drawn from both established and emerging music professionals so as to capture both the journeys that they have taken to establish themselves as music industry practitioners, and the changing face of the industry itself.

These podcasts will be stored and organised in a suitable platform to be utilised for teaching through the development of new course content, and also connected to the creation of new modes of course delivery that better reflects the needs of the student in 21st Century. The project has the specific purpose of archiving stories and journeys, while also providing access to the stories through a variety of publicly available digital formats.

This approach embodies the notion of authentic learning, which, as Lombardi suggests, works best when those authentic learning connections are made through “interpersonal connections between apprentices and mentors, intellectual connections between the familiar and the novel, personal connections between the learner’s own goals and the broader concerns of the discipline” (2007, p. 2). The use of practitioner-led interviews that set out how music industry professionals forged their careers first-hand provides, by definition, an authentic perspective on the subject, and provides a focal point around which a broader community can be built; not just learners and educators, but also professional practitioners, policymakers and consumers. Taken collectively, this approach demonstrably aligns to authentic learning, since each of the authentic learning elements as identified by Lombardi (2007, pp. 3-4) are embodied by the **MusicWorks** project:

**Real-world relevance:** the project highlights the voices of current music industry professionals that have journeyed through at least part of their career. This means that those
listening to the podcast will hear about the unique skills each individual acquired along their career journey, and how they applied them in their musical field. It provides a high degree of contextual relevance to the learning experience. As appropriate, interviewers highlight questions that come in from the complimentary MusicWorks website visitors and guests.

**Ill-defined problem:** as noted earlier, the specific problem that the podcast series is designed to address is both multifaceted and loosely defined: what do modern career pathways look like in the contemporary music industry, and how can students be supported in navigating them? The personal accounts of the series illustrate this idea; each story is unique and presents a notably different perspective on the industry and what it means to work as a professional musician within it.

**Sustained investigation:** although in its early stages, the podcast series is planned to run for many years, so as to build up an extensive archive of oral histories that capture the changing face of the music industry over time.

**Multiple sources and perspectives:** similarly, because each podcast episode is based around a conversation with a different professional practitioner, over time, what is created is a substantial and authentic recorded archive that addresses the same topic as seen from multiple different perspectives and chronologies.

**Collaboration:** instigating a podcast series like this is fundamentally collaborative, since it requires the buy-in and participation of both interviewers and interviewees. However, in building a community of listeners alongside participants, and using the podcast website and accompanying social media presence as a platform to foster listener engagement, the podcast provides a ready-made mechanism to encourage collaboration at all levels.

**Reflection (metacognition):** in almost all cases, students need explicit training to develop reflection and metacognitive skills such as self-regulation, thinking and planning. Research suggests that the most effective way to develop them is to present students with
opportunities to develop these capacities alongside course content. By building each episode of the series around a semi-structured interview that encourages the interviewee to reflect on their careers and professional achievements, the podcast serves as a mechanism for developing a range of metacognitive skills in listeners.

**Interdisciplinary perspective:** The focus on music industry, which encompasses a huge range of diverse roles, from technical production through performance practice to logistics and legal, means that the podcast series necessarily has to present an interdisciplinary perspective.

**Integrated assessment:** The podcast is designed to engage learners both informally (e.g. members of the public who subscribe to the podcast because they have an interest in contemporary music and the personalities behind it) and formally (e.g. students who engage with the podcast series as part of their studies). As such, while there is no requirement for assessment for the former group, the latter would be well-served by a mode of assessment that builds upon the self-reflective nature of the interviews and encourages personal reflection by students as they take stock of their own career progression to date, their future career pathways, and how they might develop them.

**Polished Products:** The podcasts are produced to broadcast standards using the highest production values.

**Multiple interpretations and outcomes:** The podcast is predicated by the idea that there are multiple pathways into and through the music industry, and that each is likely to be unique and shaped by the personal and professional needs and experience of the individual. This holds true for both interviewees and listeners, and so the rich professional stories that are presented in the podcast will hold multiple interpretations for listeners as they contextualise and relate the information to their own experience, and these have the potential for students to resolve many possible career outcomes.
IMPLICATIONS AND RECOMMENDATIONS

There are key implications and recommendations for the adoption of an authentic learning resource, such as MusicWorks, in the following sectors: music students, music instructors and faculty, and institutional level.

Student Level

Students have the opportunity to learn directly from the lived experience of industry professionals. In addition, by becoming part of the extended podcast community, they will have opportunities to interact with others online and build networks to support their burgeoning music careers. While the accompanying website and social media presence provides a platform for students to engage fully with this community, students will need to use and develop appropriate metacognitive and self-regulatory skills through listening, questioning, and contextualising the podcast content, continually thinking about, and reflecting on their own learning.

In terms of recommendations for future work in this area, and in-keeping with the notion of an evidence-based approach, we plan to develop our context-specific understanding of the ways that students engage with the MusicWorks podcasts, and to examine the podcast’s function as a means of developing career pathways. In a similar vein, evaluation will include: the impact of student access, the frequency and degree of usage of the content provided in the podcast format and collection of data to ascertain the level of usage, the impact that these podcasts have had on students’ sense of engagement and adoption of enterprise learning and entrepreneurial activity, and impact on the development of students’ metacognition and self-regulatory behaviour. From an employability perspective, longitudinally investigations on the impact that understanding the diverse and unique pathways music professionals engage in during their careers has had on graduates by tracking destination statistics and by following up with students at regular intervals after graduation is
necessary. Finally, the findings will present recommendations for review of whole-course curriculum and assessment processes based on similar authentic learning experiences with podcasts, and evaluating the impact of these changes on the curriculum.

**At the instructor and faculty level**

The principal impact on instructors involved in such authentic learning experiences, is that they will be better able to: support students’ capacities to reflect on and engage in understanding their own professional skillset and its potential deployment within a range of professional settings; and to support the development of metacognitive skills. By engaging with the podcast content, educators are also able to provide more focused contextual guidance and support for students to develop their own career pathways, with the possible provision of mentor-coaches who collaborate with the students as part of the experience. Further, by providing them with an additional educational resource, educators are able--and encouraged--to adapt their pedagogic approach. This implies course content and assessment processes will need to reflect the changes in student interaction and engagement, and to develop a more collegiate relationship with students as part of a community of listeners as they curate podcast content and share with students the most relevant episodes.

Recommendations for next steps in research and future areas of research include: developing a robust assessment framework that aligns with the notion of authentic learning for podcasting; and capturing and analysing statistical data regarding the impact of technologically-mediated authentic learning on student engagement and attainment. Further explorations include professional development: how best to support colleagues integration of podcasting and other technological modes of learning into the curriculum so as to review and rethink the approach to conservatoire teaching when set against a 21st Century Context.

**At the institutional level**
For this approach to work effectively, institutions will need to support and resource the production and dissemination of podcast series as a legitimate teaching and learning strategy. And, perhaps more importantly, provide staff with the time to rethink their pedagogic approach and develop new teaching content that integrates technology into the learning experience in a meaningful and systematic way.

It is also vital that if new digital modes of learning are to become a key part of curriculum design and delivery, that assessment instruments are designed and integrated with the ten pillars of authentic learning. Some faculties may find this a challenge to traditional approaches to learning and assessment in Higher Education. However, it will boldly provide increased context and relevance to the development of skill and knowledge in careers in professional music. If we fail to design assessments that legitimize these collaborative and authentic approaches to information construction and its use, students will learn to see learning as being something separate from the rest of their digital lives.

The primary concern at institutional level is likely to be the cost of upskilling staff as well as producing new teaching materials and developing infrastructure that supports new digital approaches to teaching, learning and assessment. While most universities are already taking steps to address these items, it is also true that the vast majority of universities have systems, processes and infrastructures that are grounded in and biased towards traditional modes of operation and literature-based approaches to teaching, learning and assessment. Capturing and reporting data about institutional costs involved in developing and implementing new modes of authentic digital learning and to develop discipline-independent guidelines for its adoption will be beneficial.

**CONCLUSION**

In a broad sense, the chapter has begun a much-needed initial step to address the absence of research-informed practices that explore the intersection of music technology and
authentic learning approaches to support personalized student learning for preparation of multiple music career pathways. Based on this notion of multiple career paths, the world of professional music and music making requires a diverse range of skills and competencies to continually create, re-create and modify learning approaches to sustain motivation and employability. Through the adoption of entrepreneurial and enterprise learning as a form of authentic learning, music students will be positioned to embrace necessary skills to attain current and future career goals. Further study in the exploration of authentic learning approaches to help support those preparing to enter the music profession through the explicit acknowledgement of career pathway diversity, and the supportive benefits of innovative approaches to learning is necessary.

*MusicWorks* represents one instance of an authentic approach to technologically-mediated education, that brings together community building, both in the sense of drawing on the expertise of existing professional communities of practice, and in developing new communities of educators and formal and informal learners, to document and provide multiple perspectives on the changing face of the music industry at a time when it is experiencing instability and significant flux.

By carefully aligning the podcast series to Lombardi’s pillars of authentic learning, and by specifically providing diverse and authentic professional stories that have broad appeal yet sufficient direct relevance to students to support learning, we anticipate that *MusicWorks* will provide a strong platform for embedding employability support within the curriculum and a mechanism through which educators can familiarise themselves with current developments in industry practice and contextualise their own teaching.
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**KEY TERMS AND DEFINITIONS**

**Music programs:** In this context, music programs identify degrees that are focused on teaching music at the bachelor and graduate level.
**Technology-enhanced learning:** In this context, it refers to the use of audio and visual recordings in the form of podcasts, combined with the use of various online environments to support the learning process.

**Entrepreneurial learning:** In this context, refers to the trial, development and acquisition of skills, attributes and behaviours as part of the creation of an active and sustainable career.

**Experiential learning:** In this context, it refers to learning that is developed through experiences encountered as part of the learning process and modified through self-reflection.

**Authentic learning:** In this context, it refers to learning situated in real-world experiences that allows the learner to construct meaning and understanding that is relevant to their own needs and interests.

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1 CD quality, that is 44.1 kHz, 16-bit stereo, requires 44100 x 16 x 2 = 1,411,200 bits of information for each second of recorded audio. This equates to approximately 0.168 MB per second, or 10.1 MB per minute.
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