Instrumental Teacher Education and the Incoming Tide of Information Technology: A Contemporary Guitar Perspective.

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Abstract: There is a metaphorical incoming tide of information technology (IT) in the global guitar community. This phenomenological study examines the activities of the online guitar community to determine its role in guitar pedagogy. It questions how the traditional teacher-student model can continue to operate amidst the floodwaters of online guitar education resources. An historical presentation, and analysis of current practice is offered, and the pedagogical value of some online resources are scrutinised. The process of enculturation through Contemporary Popular Music (CPM) education is discussed from the perspective of guitar pedagogy and the implications for instrumental guitar teaching are examined. This study was designed to examine the activities of the online guitar community to gain a perspective on the phenomenon for the purposes of informing teacher educators working with pre-service instrumental guitar teachers.

Keywords: Guitar, Guitar Pedagogy, Guitar Teaching, Teacher Education, Contemporary Popular Music, Artist Network, Instrumental Tuition, Pre-service Instrumental Training.

Introduction

Benjamin Franklin famously assured us that death and taxes are two things that are a certainty (O Neill, 2007). Time and tide are another pair of certainties that, we are told, will wait for no man (Martin, 2017). The topics of how death, taxes and time influence musicians make for interesting discussions and have been discussed at length for millennia. But how do 'tides' affect musicians, music education and music teacher education? This article addresses a metaphorical incoming tide: the growing influence of online education and online resources via information technologies (IT), its relationship to educators and the training of pre-service instrumental guitar teachers. In particular, it will examine the activities of the online global guitar community, how this is affecting the education sector, and what implications this has in the training of pre-service guitar teachers. The traditional Western model of one-on-one instrumental teaching has persisted amid an array of changes in music education (Carey & Grant, 2015; Daniel & Parkes, 2017). However, recent developments in pedagogical approaches in the field of music education have challenged this methodology (Carey, Grant, McWilliam, & Taylor, 2013; Thornton, 2013). This article addresses the following question: How can pre-service Australian instrumental guitar teachers be assisted to accommodate twenty-first century information technologies in a culturally sensitive manner?

One certainty, like an incoming tide that has been growing over recent years, is the increased scrutiny being applied to 'extra-curricula' staff working in schools. Tighter restrictions, and higher levels of assurance have been required by schools, school systems and school registration boards, partly to safe-guard children, but also to shift the qualifications paradigm for those who have previously not required any formal teaching qualification in order to be employed. As a result, there has been a growing interest in the formal education of instrumental music teachers. One example is the Graduate Certificate in Music Teaching now being offered by the Elder Conservatorium of Music at the University of Adelaide. This course is; 'designed to upgrade the knowledge, skills and understanding of in-service instrumental music teachers to be eligible to apply for *Special Authority for an Unregistered Person to Teach* from the Teachers' Registration Board of S.A.' (Dollman, 2017). In response to two incoming tides, the need for formal qualifications of instrumental teachers and the influence of the internet, Avondale Conservatorium, near Lake Macquarie in New South Wales, is launching a Certificate IV in Studio Teaching to be delivered exclusively in an online mode in 2018 (Ricci, 2017). The concept of earning teaching qualifications, as an instrumental guitar tutor via the internet inspires questions regarding pedagogical issues regarding the use of the internet as a resource while instructing guitar. This, in turn, begs the question regarding the implications of using internet-based resources, which may include music from other cultures, in a culturally sensitive manner.

Another certainty, likely to have an ongoing impact on guitar teaching, is the influence of the internet. The online presence of a staggering variety of guitar instruction resources and interactive learning sites now offer the prospective guitar student a range of options hitherto unavailable. This incoming tide of resources has had its fair share of criticism, and for good reason. However, it may be time to analyse the situation afresh and ask some questions regarding pedagogical value: How should guitar teachers be educated to accommodate this? Is it perceived as a threat or as a resource? This article discusses the outcomes of a research study that examined the activities of the online guitar community. The purpose of the study was to gain a perspective on the phenomenon of online guitar education resources to inform the instruction of pre-service instrumental guitar teachers. These resources include instructional videos, sources of sheet music, tablature and transcriptions as well as interactive web-sites which offer a community learning experience.

It is recognized that many of the issues being addressed in this paper are not exclusive to the training of guitar teachers or guitar pedagogy, and may also be relevant to other instruments, and indeed other areas of education. For the purposes of this research the focus will be on training of guitar teachers and references to teacher education will be from this perspective. The term 'instrumental' is used to refer to specific pedagogy relevant to instrumental education in order to differentiate from broader music pedagogy and is usually, but not exclusively, conducted in one-to-one or small group lessons in educational institutions or private studios.

Methodology

This qualitative, phenomenological study investigated instrumental guitar teaching in the genre of Contemporary Popular Music (CPM). Two data sets were collected and analysed. Data set one comprised text data collected during the first six months of 2017 from relevant online guitar tuition websites, online guitar community portals, and industry publications which were located via a process of informal observational ethnography (Angrosino, 2007). The data collected during this process, from both text and audio sources, was in the form of written and spoken word.

Data set two was collected from academic research discourse and used to examine the findings (Brandstrom, Wiklund, & Lundstrom, 2012; Grant, 2013; King, 2010; Klopper & Power, 2012; Ruismaki, Juvonen, & Lehtonen, 2012). Qualitative analysis of the data was conducted using a process of Interpretive Phenomenological Analysis (IPA). Phenomenological studies unpack data through the perception and interpretation of the researcher and are sensitive to social and cultural meanings, and develop understandings from groups' points of view (Jonker & Pennink, 2010; Joseph, 2014). This study, founded in an ontological interpretivism (Goldkuhl, 2012; Tuli, 2011), by its nature stems from a subjective epistemology, which is not uncommon in social science research (Bourdieu, Chamboredon, & Passeron, 1991; Carlsson, Henningsson, Hrastinski, & Keller, 2011).

Literature Review

Prior to conducting research into the topic, a review of current discourse was undertaken in order to create a knowledge base from which the research could develop. To gain a comprehensive perspective on the influence of IT on instrumental teaching a broad net was initially cast to locate discourse on related topics before further narrowing the search to locate discourse specifically related to training instrumental teachers and specifically guitar teachers. The following literature review has been designed with this broad perspective, to place the study in the wider context and as a justification for the research. Topical academic discourse in the form of journal articles and relevant theses was targeted first and subsequently followed by a search for discourse in online communities, blogs and industry publications.

Research located in the field of online music pedagogy included topics of geographic disadvantage (King, 2010), cultural exchange (Klopper, 2010), and online networking (McPhee, 2015). In discussing the impact of the World Wide Web on education Roy, Baker and Hamilton (2015) state that it is 'one of the single most important developments to impact upon participation and engagement in the Arts' (p. 31). Baker, Hunter and Thomas (2016) found a number of information technology factors have impacted on the nature of higher education including 'globalisation of the world economy, economic rationalist funding models, and the development of an international higher education 'market place' (p.32). Much research into online guitar pedagogy development has been conducted, particularly from Scandinavia (Brandstrom, Wiklund, & Lundstrom, 2012; Ruismaki, Juvonen, & Lehtonen, 2012; Wallerstedt & Pramling, 2015). The general consensus among the papers is the internet provides valuable resources and tools but more research is needed to understand and develop appropriate pedagogical practices for its use in instrumental music tuition. Other international studies discussed practical methods and tools for instrumental teaching online (Pike, 2017; Pike & Shoemaker, 2015), video-conferencing for instrumental lessons (Dye, 2016) and online networking for instrumental teachers (Carradini, 2016).

The search for discourse on the influence of twenty-first century IT on music education found studies of informal learning practices (Mok, 2011), music cognition (Morrison, Demorest, &Stambaugh, 2008), and the merits of adopting popular music pedagogy (Wright, 2017). Cultural preservation through music education (Harrison, 2010; Otchere, 2015), and enculturation effects in music cognition, including implicit pitch association (Morrison et al., 2008) were also evident along with explorations of rurality and dominant music education discourses (Corbett, 2016). No papers were found discussing cultural implications of the online guitar community. Valuable insight gained from recent research is that this is not a uniquely western concern; but, rather a global issue (Campbell, Drummond, Dunbar-Hall, Howard, Schippers, & Wiggins, 2005; Collins, 2011) that has been

confounded by technology and the internet (Bigham, 2013; Cayari, 2011; Francis & Dairianathan, 2015).

Australian research findings implore universities to explore emerging digital technologies to keep abreast with both the competition and opportunities of global accessibility (Baker, 2013; Klopper, 2010) and to re-examine the European model typically found in contemporary music education to enhance cultural inclusion (Butler, Lind, & McKoy, 2007). Some Australian researchers advocate for informal pedagogy (Ballantyne & Lebler, 2013; Moorhead, 1998), peer to peer learning and assessing (Lebler, 2008) and self-directed learning (Lebler, 2007). Research has been conducted into the development of online tertiary music education in Australia and found 'either a poor implementation of the online delivery of music programs, a simple massification of content without pedagogical considerations, or no implementation at all' (Thornton, 2013). Thornton states that technology has caused a new dynamic in the making and sharing of music, and that music education paradigms must also develop in parallel to remain relevant. Therefore, it seems paramount that the education of music educators also develops in parallel.

The use of technology is a common topic in research in CPM education. Advocates for inclusion in curricula propose that technology use is actually a musicianship skill (Cayari, 2011; Dhokai, 2012; Grant, 2013; Hannan, 2006). Could this be taken one step further with a suggestion that technology use, and use of online resources, by instrumental music teachers is also a pedagogical skill? International researchers in CPM education advocate for collaborative and inclusive environments (Cremata, 2017), ensemble workshop scenarios (Hall, 2015), and cultural specificity (Dhokai, 2012). *A Comparison of Popular Music Pedagogy Discourses* (Mantie, 2013) is a content analysis of 81 articles on the topic of popular music education with a focus on discourse within the United States of America. Mantie found that, typically, where popular music education has been adopted, pedagogical practices have not been adapted accordingly. Cooper, Dale and Spencer's study observed benefits of integrating iPad technology into an undergraduate popular music program in Wolverhampton including improved motivation and interaction, as well as offering a more student-centered education (2009).

After a thorough search of the up to date discourse on the topic, no research was found from either Australian or international researchers on the training of instrumental guitar teachers to integrate online resources into their teaching. Following is a discussion of the study in topical areas; online music education, online guitar communities and online resources.

Online Music Education

Data set one contained discourse on options for informal music education via the internet. An initial observation found the options are prolific, typing 'guitar lesson' into the YouTube search engine in the first half of 2017 delivered over eleven million results, in the Google search engine over sixteen million results, and in Yahoo's search engine over five million results. Analysis of the discourse found the resources range in quality and have been the target of much criticism. Beyond a general lack of quality control the three main criticisms are a lack of structure, no sense of progress and a lack of accountability (Hart, 2017; Larson, 2017). Learners within the online guitar community also listed a lack of feedback as problematic and often sought personal tutors to supplement their online learning activities. There is a distinct difference between online resources that offer no feedback, for example YouTube, and online sources of "video exchange learning" which do offer personalised feedback, for example Artistworks.com. In the former case students use the

resources as they see fit, whereas with video exchange the pedagogical process is similar to on-site one-on-one learning. Formal online music education now exists in a variety of forms, and one example is Berklee Online, a division of the Berklee College of Music in Boston, USA. Berklee Online offers a variety of online guitar courses including a full Bachelor of Music (Berklee College of Music, 2017).

A topic of discourse found across both data sets was formalised music instruction via the internet. In Australia, the Australian Music Examinations Board (AMEB) offers online lessons and examinations for Theory, Music Craft and Musicianship. This incorporates a self-paced learning environment and a flexible examination timetable. There are practice exams and online tutorials available (AMEB, 2017). A small number of Australian universities now offer music education via online delivery. The University of New England's Bachelor of Music is only available in an online delivery mode (UNE, 2017). In New South Wales there are seventeen regional Conservatoriums offering on site instrumental and ensemble music education to school aged and adult students. However, in some of these cases, video conferencing is available for remote students. Two of these regional conservatoriums offer a Diploma of Music through an affiliation with the Central Queensland University. The students receive instrumental tuition and ensemble experience locally, while participating in coursework by online delivery (ANSWRC, 2017).

Instrumental teachers need to be informed of the options available to their students and they also need to be trained in methods to keep abreast of developments in the online industry. It may result in significant pedagogical outcomes if instrumental teachers are trained in ways to explore, assess and use the range of online resources. Data set two provided discourse on the potential for music as an enculturation tool. A valuable topic for further research is the cultural implications of Australian educators using resources developed internationally and the training of pre-service music educators on these implications.

Online Guitar Communities

It has been estimated that there are hundreds of thousands of guitar related websites present on the internet (Fontana, 2017) creating a new phenomenon in guitar communities – online communities. Analysis of data set one found activities of members of the online guitar communities include videos of performances, tutorial videos, live question and answer sessions, as well as engagement in blogs, forums and chatrooms covering a diverse range of guitar related topics. Instrumental guitar teachers and students may find interacting online through social media, or guitar community web-sites, a valuable way to impart information, coach a student's direction or inform of quality resources. Knowing how to interact in this way is now a relevant skillset to teach pre-service guitar tutors and discourse in data set one contained requests for help in this area.

Guitar communities fit Wenger's description of Communities of Practice (Wenger, 2011) as the members share a common passion, interact regularly and learn through their involvement. Analysis of research in data set two found the presence of learning communities, and the immersion of a student in one, greatly benefits the learning process of the student (Newsome, 2016; Zimitat, 2007) and this extends to guitar communities (Bigham, 2013; Schwartz, 1993). Data set one included further discourse strongly supporting this notion. It was also found that communities of practice can provide platforms for musical enculturation and social transformation (Boeskov, 2017). In traditional guitar communities the building of relationships was previously fostered in gatherings including jam sessions and open mic nights. With the inception of online communities this has expanded to include digital formats including social media, online chatrooms and guitar forums. The sharing of

resources, mostly cognitive in nature, seems to be the primary activity of the community which is made up of practitioners ranging from beginner to advanced, and amateur to professional. New blended definitions of practitioners have emerged to cope with the new phenomena including the *prosumer* (professional consumer) (Manovich, 2008). Related areas of discourse predominant in data set one include technique, music theory, equipment, songs, and influential persons.

In his dissertation using Actor Network Theory (ANT) to describe the online activities of guitar communities Bigham describes them as a series of interlocking and overlapping dynamic networks with influence from various agencies (2013). Schwartz describes his experience of the local guitar community as a network of artists sharing thoughts and ideas often for the purposes of seeking support, critical feedback, idea development, and to foster a competitive environment (Schwartz,1993). He stated that communities of guitar players exist everywhere there is Rock music (p. 281). From the data corpus it seems that a relevant curriculum for the training of pre-service instrumental guitar teachers would, therefore, need to include methods of integrating community involvement for both teachers and students. For the teachers, an active involvement would best start during pre-service guitar teacher education programs under the guidance of an experienced educator.

A theme found in the data corpus revealed technological advances in global communications have caused a merging of these numerous small communities into one global online network now consisting of communities within communities. Some communities are geographically assembled yet many more are gathered by theme. Also, the relationship between these communities and industry has moved from being passive to interactive (Jenkins, 2006; Manovich, 2008) and from uni-directional to omni-directional. Bigham (2013) observed that the internet has had a dramatic influence on the global guitar community stating that 'online technologies have reconfigured assumed notions of community' (p. 6). The series of networks he describes includes online activities on guitar specific sites as well as generic information and entertainment websites. One of the most prominent of these is YouTube (Cayari, 2011). The growth in numbers of online guitar tutorial videos is a prime example of the rapid development in the online industry (Thussu, 2007) which has become an inherent part of the global guitar community. In an analysis of the on-line video phenomenon Kinder's four purposes; conference, exhibition, precursor and research (Kinder, 2008), overlap with both Wenger's (1998) and Schwartz's conceptualisations of community and network. Other online networks that act as portals for guitar communities include Quora, UltimateGuitar, TotalGuitar and 911Tabs. Data set one provided an example of a formalised community within the guitar industry. The Artistworks website offers students the opportunity to enroll in structured courses via video exchange and each student's videos are available for viewing and critique by other student members of the community. The use of interactive resources like this has different pedagogical implications for the training of pre-service guitar tutors, however, the same cultural implications are still present.

The global guitar community is seen to be important for three reasons, firstly the marketing strength and avenues of opportunity that this community has developed since the inception of the internet have a range of potentialities and is certainly under-researched. Upon graduation, many guitar teachers enter an industry that has this global guitar community at its core and which they need to learn to navigate. Secondly, as an educational tool it is also under-researched. For example, could, or should guitar teachers, and guitar teacher educators, use this resource by adopting a flipped approach (Grant, 2013) with internet based video tutorials as the primary pedagogical delivery method? If so, how? Or is it the role of educators and educational institutions to be re-active rather than pro-active to developments in artist network communities? The third reason that the global guitar community is

important is the potential of cultural influence by, and within the community. It can be argued that the online global guitar community has the potential to develop a global mono-culture amongst its constituency. Guitarists from all over the world are exposed to the same musical content, predominantly western Rock and Roll, and any content developments can now spread across the globe extremely rapidly (Roy et al., 2015). Instrumental teachers may not be aware of the local cultural impact of their teaching activities and need to be informed, during their teacher training, of how and why they should carefully develop their own curricula with cultural implications in mind.

Among the trends noted in data set one is a wave of young female prodigal guitarists emerging from France and the popularity of extreme heavy Rock in Scandinavia. In discussing the influence of the internet based guitar community French guitarist Tina S told The Huffington Post 'I am part of a generation that has a huge advantage over past generations... The tools of communication today allow people to publish their work, their passion, and be recognised by the whole world without moving from their chair' (Compagnoni, 2016). Training pre-service guitar teachers in the use of these tools of communication may result in their students having an advantage in accessing the online global music market.

YouTube

Since its inception in 2005 (Cayari, 2011) YouTube has become a growing phenomenon. It is the second most visited site on the internet (Alexa.com, 2017a) and provided much of the primary source data for data set one. It would be a difficult task to list and evaluate all the guitar tuition channels on YouTube. A simple search of 'guitar lesson' in the YouTube search engine results in over eleven million results (YouTube, 2017). This could prove daunting to the prospective guitar student wishing to navigate the possibilities to their best advantage, or to a teacher wishing to locate quality resources for their students. Surfing through what is available in an un-guided fashion, there is no assurance of quality, no scaffolding, and no guarantee of being delivered accurate knowledge and hence understanding. However, a number of educational guitar YouTube channels have been developed in recent years that demonstrate an effort to offer improved pedagogical scaffolding. Some of these channels are attracting very large numbers of subscribers. High subscriber numbers may not necessarily indicate a quality product, however, it has been found that collective intelligence can lead toward a style of public discernment in the emerging user generated content markets including social media and YouTube (Jenkins & Deuze, 2008).

In his discussion on what makes a good online guitar lesson Larson (2017) poses the question: 'Why should you pay money for online guitar lessons when there's literally millions of free YouTube lessons on the internet?' (0:42) He discusses the lack of quality control and scaffolding describing YouTube as a 'fragmented landscape' with 'no clear path' (2:23-2:25). He claims that some videos from famous rock stars are poor in their educational value. He states that a good video must be 'descriptive not prescriptive' (3:58-4:00) saying they should inform students about what can be done and how to do it, but not *what* to do aesthetically. In his conclusion he claims that the only things that cannot be taught on the internet are passion and discipline, saying; 'If you don't have those two things all the greatest information in the world can't help you' (4:56-5:00). These are attributes that a guitar teacher can impart, especially if taught how to and encouraged to do so. Further research into how online guitar lesson resources could, or even should, be included in instrumental guitar teacher training needs to be conducted in order to maximise the potential of this rapidly developing component of the industry.

Facebook

The third most popular site on the internet, and another portal for the guitar CoP is Facebook which was a primary source of data for data set one. Analysis of these data found guitarists use Facebook in the fashion of an Artist Network (Bigham, 2013), developing local and global networks that share information, ideas and artistic outputs. The local networks are used to organise events, find like-minded guitarists to develop artistic connections, trade equipment and as a base for human resources. Global networks are used primarily for inspiration to explore extra-cultural musical ideas and to spread artistic developments across geographies and cultures. This study found guitar community Facebook groups in Australia include genre specific guitar clubs, nationwide trading forums, vintage guitar collector discussion groups, fan pages for bands, and private pages for guitar schools and educators. Curricula for the instruction of instrumental teachers could also include tools for using social media, such as Facebook, not only as a marketing avenue but for its pedagogical potential as well. The lead author has developed a Facebook page for his guitar students and uploads weekly hints and tips, information about local bands and live shows especially involving current or past students, links to other guitar related websites and a video of the week, which is often an instructional video. Informal feedback from the students has been positive and an un-foreseen benefit is the ongoing connection with past students and the snowball networking this enables.

Other Guitar Websites

Claiming to be the largest online information portal for the global guitar community, the website Ultimate-Guitar (www.ultimateguitar.com) initially grew out of a hobby by Russian amateur guitarist Eugeney Naidenova in 2002 and now attracts over thirteen million visitors each month. (Alexa.com, 2017b). The site was a primary source for data set one as it hosts forums on a wide range of guitar related topics with threads numbering in the hundreds of thousands (ultimateGuitar.com, 2017). As an educational resource Ultimate-Guitar hosts a tablature library of over 1,100,000 pages of tablature with licensing agreements from major publishing companies and over 2,000 artists. However, their marketing manager Jonathan Kell cites the reason for the website's popularity is the community and his comments are synchronous with the notions of an Artist-Network (Music Trades, 2011):

> *'We're inviting people to come in and share their opinions with others who share the same interests. For the active users, it's like being surrounded by friends... People like to come and read articles about music, see interviews and videos, and then share their comments and opinions in the chat rooms and forums... Guitarists are very passionate in the online world.' (Kell in Music Trades, 2011)*

The pages of tablature are uploaded by members of the community creating an open access file-sharing library. The website also features news, music reviews, free lessons, an online guitar tuner and tips for self-taught guitarists. Other similar member driven sites which also provided data include Guitar Tab Universe (www.guitartabs.cc), A-Z Guitar tabs (www.guitaretab.com) and 911Tabs (www.911tabs.com).

Some of the biggest names in the Musical instrument manufacturing business are now getting in on the online education bandwagon. President and CEO of Fender Musical Instrument Corporation Andy Mooney instigated some market research which delivered valuable pedagogical findings. The research found 45% of guitars are sold to beginners, 90% of them abandon it in the first year, and beginning guitarists spend four times as much on

lessons as they do on their guitar (Mooney, 2017). This led to Fender launching an online lessons business, FenderPlay, in July 2017. Fender's marketing goal through this initiative is to reduce the abandonment rate of beginner guitarists by ten percent and thereby boost future guitar sales. Their research found that people tend to learn best in small steps at their own pace and in their own environment and FenderPlay offers a pedagogical approach called *Hear It, Learn It, Play It* (Fender.com, 2017). This is an example of a formalised guitar information portal with quality control and scaffolding that could be used as an exemplar, as well as a resource reference, when training pre-service guitar tutors.

A serious issue with the online guitar communities, and the file sharing websites in particular, is copyright infringement. Many websites were surreptitiously developed by members of the guitar community only to be shut down by the major music publishing companies. Although developments in this area have been made this is still an unresolved issue with various loopholes in the network of global copyright laws allowing for tablature file sharing websites to still play a major role in the online global guitar CoP. It is of vital importance, both to the long-term safeguarding of the industry, and themselves, that instrumental teachers are properly trained in copyright laws, both local and global. Furthermore, training instrumental teachers with methods of modelling correct attitudes towards intellectual property will help ensure a healthier future for the music industry.

Discussion

How should the training of pre-service instrumental guitar teachers respond to this tide of change? Anecdotally many guitar teachers from data source one admit to using online guitar education material for their own personal development. However, many seem to be afraid that their students would discover online learning opportunities and abandon the traditional one-on-one teaching model. A few teachers have embraced the online video resource and are beginning to explore the flipped approach (Grant, 2013) similar to the approach of the online education portal Kahn Academy. These guitar teachers ask their students to watch a selected video at home and in the following face-to-face lesson offer constructive feedback and then discuss and further develop outcomes learned in the online lesson. To empower instrumental teachers to better understand and use this method pedagogical practices relevant to the flipped approach need to be delivered in instrumental teacher training.

Another metaphorical tide influencing the development of local music communities is that of musical enculturation. Global access to a community of practice has the potential to develop a musical mono-culture based on the strongest presence. This has been identified as problematic in some countries where western music has caused unwanted enculturation (Otchere, 2015). At the very least an awareness of this phenomenon should be imparted to pre-service guitar tutors.

This research suggests that the phenomenon of online guitar tuition, and online resources for guitar education have made some progress toward pedagogical viability. However, there is still a long way to go. Further research needs to be conducted into how guitar teachers should be educated to evaluate and make the most of the plethora of online resources. Data from both sets reinforce the importance of feedback, constructive criticism and reward in music education. Not knowing how well one is progressing or if one is developing bad technical habits are typical concerns for online learners. The finer points of technique, tone and delicate expressive nuances are not easily observable via online video exchanges and learners may miss important subtleties in this scenario. In his discussion on online music education Neeley states 'You are your own best teacher, if you see something in

your playing or in your musicianship that you don't like, that is probably something that you are going to target and try and get better at' (Neeley, 2017, 2:14-2:23). Identifying such shortcomings is an important role for instrumental tutors and directing students to use online resources allows more teaching time to be dedicated to these corrective issues. This is the basis of the flipped approach. This research has unearthed some good news for guitar educators and there is an emerging consensus among the community that online 'self-learning' needs to be supported by a physically present experienced and qualified teacher (Crowley, 2017). Although many online learners enjoy the freedom of developing at their own pace many others found they progressed better when they had a structured and scheduled program to learn within.

One criticism of internet based self-teaching is a lack of accountability. As a response to this guitar teachers within data set one offered an explanation of how to keep their role valuable. Further to regular check-ins during face to face lessons, another method of addressing accountability is to enrol the student into formal examinations and/or provide performance opportunities through their school, or local concerts, giving students chronological targets for development. The data corpus indicated the role of the instrumental teacher is evolving from one of an imparter of knowledge to one more like a musical "concierge". In this role the teacher informs the student of the options available to them and steers them to those best suited to the individual's needs and, most importantly, offers critical feedback on the student's progress.

Conclusion

This article has investigated the phenomenon of online guitar resources from the perspective of training pre-service guitar tutors to engage with these. Data was collected during the first six months of 2017 from within the phenomenon in the form of textual discourse located in online guitar information websites and relevant academic discourse.

The plethora of online guitar lessons and resources available is both beneficial and problematic. While the benefits of diversity of choice for the aspiring guitarist are obvious, there is also the problem of addressing quality control of those same choices. It would seem unwise for the education of pre-service guitar teachers to ignore the internet, the online global guitar community and the influence this has on students. However, it is unclear how the teacher-student, one-on-one model will continue to evolve and remain relevant in response to this phenomenon. It is inevitable that learners will wade into the waters of the incoming tide of online guitar education. In this instance, the teacher can help the student navigate the waters in order to avoid drowning and to find the best pedagogical value. Another role of the instrumental teacher, that has always been there but now is more prominent, is to be the first port of call in the student's artist network providing personal feedback and assisting the student in finding their own unique voice and place in the guitar community.

Australian guitar teachers can be trained to direct their students to influential Australian participants in the online global CoP in an effort to include local cultural influence. It is anticipated that this would have a trickle-down effect across the generations as each guitar student begins to influence the local and online guitar communities through their involvement. It is envisaged that this would strengthen the Australian cultural footprint in the global guitar community. It is hereby proposed that this is an important aspect of guitar teacher education and if it is overlooked could have devastating and long-lasting effects on the Australian guitar community and the global value of an Australian guitar voice.

This transformation in the role of twenty first century guitar teachers needs to be reflected in their training. In a recent presentation discussing the launch of a new Certificate

IV in Studio teaching being offered in 2018 by Avondale Conservatorium, Ricci made no mention of online resources and training teachers how to manage them (Ricci, 2017). This prompts an urgent call for research on this topic, with a particular focus on how training of pre-service instrumental teachers can influence the development of Australian voice in the global guitar community rather than becoming merely a dialectal accent in the global mono-culture of CPM guitar.

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