Models of Teaching, Magazines and Music Machines: Alternative approaches to electronic music education in Melbourne

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This article presents a history of alternative electronic music education in Melbourne, Australia. It documents early examples of experimentation with non-traditional classes and programmes in tertiary institutions and subsequently the emergence, over several decades, of alternative teaching and learning in community centres, nightclubs, retail stores, message boards and magazines. The article uses Scheffler's Models of Teaching to provide a framework to document the differing pedagogical approaches, and draws upon archival material, interviews, essays and first-hand experiences to explain how Melbourne's rich history has informed and influenced today's learning practices. It posits that the adaptable, dynamic and flexible practices found in Melbourne's electronic music education were the result of influences from key educators, the needs of the communities that enabled them and the adaptation to cultural and technological changes.

1. INTRODUCTION

This article discusses the history of alternative electronic music education in Melbourne. While the earliest examples departed from the conventions of Western musical education from within traditional secondary and tertiary institutions, subsequent programmes, especially since the 1970s, were driven by artists, artist-led collectives, community groups, music retailers and others who created music teaching and learning opportunities in parallel. This paper uses Israel Scheffler's Models of Education as a framework to identify the pedagogical approaches that these different educators have taken. Scheffler proposes three models of education: the impression model, the insight model and the rule model to support engagement and respect of the students' judgement (Scheffler 2010). The models are rational and aimed at 'decision making in the realm of practice' (Arnstine and Arnstine 1993: 28). The models highlight different approaches to teaching and learning. They are not designed to describe education in detail but rather to orient it through an understanding of the various approaches (Scheffler 2010).

This article chronologically documents the alternative teaching and knowledge-sharing practices used by influential artists and music educators who have shaped the music education landscape in Melbourne from the mid-1960s to today. This chronology includes Keith Humble's role at the University of Melbourne (UoM), Geoffrey D'Ombrain's approach to secondary teaching in the late 1960s, the rise of short courses and community access in the mid-1970s, artist-led approaches such as *NMA Magazine* from 1982 to 1992, the growth of electronic dance music (EDM) in Melbourne throughout the 1990s and into the 2000s, the role of learning in nightclubs and retail spaces, the place of Melbourne Electronic Sound Studio (MESS) in Melbourne's learning landscape since 2016, the role of the internet since the 1990s and especially today, and how diversity and inclusivity have impacted the development of community-focused education. By traversing these events, we document the key contributing factors in the development of alternative music education: the expansion of learning beyond the classroom; moving beyond traditional music theory; the role of economic factors; the role of artist communities; and the ability of artists and communities to adapt quickly to technological and cultural changes.

2. EARLY EXAMPLES OF ALTERNATIVE MUSIC AND EDUCATION

Despite its geographical and cultural isolation from other global music hubs, Australia and the city of Melbourne can lay claim to some of the earliest examples of experimental and electronic music in the world. Henry Tate and Jack Ellitt developed new musical languages, Tate's based on Australian bird calls (Tate 1917, 1924), and Ellitt utilising film stock in

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the 1930s (Burt 2013; Green n.d.). In Melbourne, Percy Grainger was developing his Free Music Machine experiments in the 1940s and 1950s (Fleckney 2018: 48; Harley and Murphie 2008: 94–6) while one of the first computers in the world, CSIRAC, was used to program music at UoM from 1955 (Doornbusch 2005: xi).[1] Grainger was 'by far the most significant of early Australian music experimentalists' (Whiteoak 1999: 234). His compositions of 'beatless music', consisting of gliding tones, covering every 'microtonal interval' (Fox 2002: 21), led to the design, though largely unsuccessful (Green n.d.), of several purpose-built instruments (Hugill 2015: 244–51).The establishment of the Grainger Museum in 1939 at UoM may be regarded as detrimental to the development of educational programmes in Melbourne. Grainger discounted non-European music and directed the focus of Australian musicians to an 'intense participation in the all-important developments of experimental music in the white man's world' (Grainger 1955). As Scheffler (2010) states, one of the core tenets of teaching is to engage and respect the students' judgement during the process of their learning; Grainger's racism runs counter to this.

These early examples of experimental and electronic music laid the foundation for music educators such as Humble and D'Ombrain.

2.1. Humble and D'Ombrain

In this section we posit that early approaches to electronic music education in Melbourne, such as those by Keith Humble and Geoffrey D'Ombrain, can be categorised as Scheffler's impression model (2010).[2] The impression model describes that 'learning involves the input by experience of simple ideas of sensation and reflection, which are clustered, related, generalized, and retained by the mind' (Scheffler 2010: 84). The impression model views learning as the storing, sorting and reflecting upon the various experiences that a student receives, with the 'richness and variety' (Scheffler 2010: 84) of the experiences being an important consideration.

Humble used a range of approaches to reach a wider community of learners, which focused on positive experiences of music rather than an academic approach (Whiteoak 1989). In 1966, he established two adventurous projects for performance and education in electronic and experimental music, both operating inside the Grainger Museum at UoM: the Electronic Workshop, and the Society for the Private Performance of New Music (SPPNM) (Whiteoak 1989: 23); the latter invited external participants and performers. Humble pursued an educational approach that went beyond the classroom and into the community (Whiteoak 1989: 23), which was a new approach in Australia at the time. His programmes looked to incorporate the available teaching resources in a direct manner. This included reaching out directly to faculty students, as well as Saturday morning programmes for children (Humble 1969). In 1971 he organised 'The State of the Art of Electronic Music in Australia' conference; this was the first time many Australian composers had been exposed to electronic music (Burt 1997). Humble's impact was significant at this early stage, and his legacy extended for decades beyond (François 1995; Whiteoak 1995).

In 1969, Geoffrey D'Ombrain published *Music Now: A Discovery Course for Secondary Students*, a resource that encouraged participation in music education among younger learners. In this, D'Ombrain encouraged students to develop compositional techniques that looked beyond traditional music theory: using found objects; exploring the relationship between sound design and composition; and examining the potential of sound making devices (D'Ombrain 1969: 27). Retrospectively, these methods can be interpreted as embracing the impression model, exposing students to new musical sensations through exposure to unfamiliar music, improvisation, group play and compositional work (D'Ombrain 1974); and then encouraging the students to reflect upon what they created and heard. D'Ombrain later discussed how secondary students enjoyed making their own electronic instruments and performing musique concrète (D'Ombrain 1998). Burke (2014) reported an increase in students wishing to take Year 12 music classes after participating in creative music education of this kind.

The introduction of electronic music techniques in the school curriculum was not without its difficulties. D'Ombrain shared some of the challenges at Humble's 'The State of the Art of Electronic Music in Australia' conference: trained musicians did not readily accept electronic music; tape machines and oscillators were not ideal for the classroom situation; and not all schools had the space to conduct these experimental experiences (D'Ombrain 1971). At the same conference, French composer Jean-Charles François lamented the absence of staffed electronic studios and research programmes dedicated to music education, proclaiming that 'in the universities there is a complete lack of concern in musical problems' (François 1971: 18).

These difficulties show that the electronic music community had issues with acceptance; that the secondary and tertiary education system still had

[1]Originally designed and built in Sydney and named CSIR Mk1 in the late 1940s, this 'was not only the first computer in Australia, it was one of the very first in the world' (McCann and Thorne 2000: v).

[2]It is unclear whether these educators were aware of Scheffler's models, which were originally published in the 1960s.

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work to do regarding facilities, resources, and research to teach electronic music-making; and that the teaching had to adapt to the less-than-ideal conditions they faced.

2.2. The rise of short courses and community access

This impression model approach to education expanded further in the 1970s with the growth of community-based education, and as synthesisers developed rapidly during this time with an estimated 375 manufacturers (Holmes 2012: 472), electronic musical instruments became more affordable and were installed in classrooms. Though as Knowles (2008b) reported, most of these initiatives were artist-led and ad hoc.

With Humble's education programme situated at UoM and D'Ombrain working with secondary schools, institutions such as the Council of Adult Education (CAE) identified opportunities for short form teaching in electronic music. One such course was instructed by German avant-garde composer Felix Werder, which featured '*big Moogs* and the EMS VCS3' (Fleckney 2018: 48).

Propelled by the growing affordability of synthesisers, new electronic music courses and community studios emerged elsewhere too (Knowles 2008a: 37). These new programmes echoed Humble's approach of incorporating available resources and D'Ombrain's use of cheap or found objects. Examples include the 1978 Summer School in Electronic Music run by Ron Nagorcka, an electronic music studio set up by Melbourne's New Music Centre (1972–4), the Clifton Hill Community Music Centre (CHCMC) co-founded by Ron Nagorcka and Warren Burt (discussed in the next section), and other artist-run performing venues and organisations. The arrival of these short courses mirrored a wider educational and attitudinal shift in electronic music education in the 1970s: most schools had small synthesisers; music institutions were equipped with VCS3s (Crawford 2014); and by the end of the 1970s 'almost every academic music institution, and some visual arts schools, had an electronic music studio of some description' (Burt 1997: 195).

Seizing opportunities overlooked by larger universities, these alternative institutes demonstrated an ability to develop electronic music courses quickly, based on affordable synthesisers and with a limited budget. The task of building electronic music studios and programmes within universities proved more costly, and the pursuit was met with resistance. Humble documents his difficulties establishing studios at UoM and later at La Trobe University, seeking to educate administrators that these studios required financial resources some 150 times greater than what had been originally budgeted (Whiteoak 1989: 25). This unmet need for resources contributed to 'the state of inertia in tertiary institutions' (Fox 2002: 22).

Echoing the sentiments of the traditional tertiary learning environments, secondary schools soon experienced a diminished interest in electronic music. The initial enthusiasm was short-lived, with electronic music lessons being dismissed as experimental and expendable. Accordingly, there was no progress in developing an electronic music course in the school system (Crawford 2014). Outside of schools, music programmes received less funding than the other arts (Linz 1995), and successful funding was sporadic. The lack of systematic support resulted in music practitioners being reliant on artist-run networks and initiatives. Another outcome of this situation was that formal documentation of curriculum and teaching practices was scarce (Knowles 2008b).

2.3. Artist-led approaches

The CHCMC was established in 1976 by Nagorcka and Burt. Nagorcka had 'witnessed the bitter infighting and factionalism' (Althoff 1989) at other musical centres, and these experiences shaped the CHCMC's three guiding principles. The principles were, first, the removal of economics from the musical equation, which was seen as fundamental in setting up an 'alternative set of values' (Althoff 1989: 39). Second, there were no restrictions in terms of access to the space, musical style or content. Third, the Centre was run anarchically, and adaptability to changing needs was intrinsic to its operation (Althoff 1989).

As a community hub, the CHCMC facilitated accessibility and knowledge-sharing for aspiring makers and performers. Anyone was encouraged to perform and make music using cheap and ready-made technologies, such as cassettes, toy instruments and super-8 film (Australian Centre for Contemporary Art 2019). The Centre was an important part of Melbourne's music history, with many of Melbourne's experimental and electronic music artists collaborating, participating and performing there. The Centre was integral to a community of artists, bands and record labels, and many of its members remain active today in music education and production (Listening to Archive n.d.).

While the CHCMC was disbanded in 1983–4, many of its participants such as Warren Burt, Ernie Althoff, David Chesworth, Philip Brophy, Ros Bandt and Ron Nagorcka became contributors to *NMA Magazine*, which along with its audio accompaniment, *NMA Tapes*, was published from 1982 to 1992. The publication reads in equal parts as a how-to guide, compositional manifesto and academic journal. Editor and online archivist Rainer Linz outlines the underlying pedagogical approach: it was created for

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'a community of composers and musicians involved in experimental activity, as well as for the audiences of this work' and in doing so attempted to provide an opportunity for discourse. The inclusion of a cassette featuring music by the contributors sought to '[create] a relationship between the musical work and a written elaboration of it', establishing an important formal link between theory and practice (Linz 1995).

This move into self-driven explorative learning could be categorised as the insight model, with the magazine and tapes acting as the teacher's voice, guiding the student to new electronic worlds. In the insight model, 'The teacher's words, in particular, prompt the student to search for realities not already known by him [them]' (Scheffler 2010: 86). The insight models encouraged teachers to be important in the students search for knowledge and also to realise that 'teaching is consummated in the students own insight' (Scheffler 2010: 88).

NMA Magazine and its knowledge-sharing community was not completely detached from Melbourne's tertiary institutions, however; there is evidence that alternative education and experimental communities continued to intersect or run in parallel with university programmes. For example, Mark Pollard was featured in *NMA Magazine* 2 (Pollard 1983). He had studied in the music programme established by Humble at La Trobe University and went on to become the head of interactive composition at the Melbourne Conservatorium of Music.

Also appearing in *NMA Magazine* is an early work by Ernie Althoff, 'Music Machines' (Althoff 1983) (Figure 1).

Working outside the classroom, but with an approach that is both creative and educational, Althoff's printed instructions encourage potential electronic musicians to take learning into their own hands. In Althoff's view, '[that] page, and the ideas, are imbued with a certain amount of inexperienced innocence, coupled with a goodly amount of happy enthusiasm'.[3] Although Althoff's instructions are elaborate, they deliver a degree of technical know-how while also encouraging the subversion of traditional musical conventions. This is indicative of the adaptable, DIY approaches used at CHCMC and earlier by D'Ombrain, especially regarding using everyday objects.

Much like the CHCMC before it, *NMA Magazine* was not only pursuing an educational objective, but also defining values such as DIY approaches, using found objects and adaptability. Althoff's methods could also be viewed as the rule model, where the goal is not only to teach music-making, but also to instil in learners the culture of the music-makers. The rule model suggests that teaching 'should be geared not simply to the transfer of information nor even to the development of insight, but to the inculcation of principled judgment and conduct, the building of autonomous and rational character which underlies the enterprises of science, morality and culture' (Scheffler 2010: 90). This model suggests that teaching should go beyond information transfer and insight development to teach cultural values (Scheffler 2010). This model places a strong emphasis on principles and looks to 'develop character in the broadest sense' (Scheffler 2010: 90). Within music communities the values of the communities may be seen as of equivalent importance as the musical practices.

The values of the CHCMC and *NMA Magazine* resonated with those of community music. In community music there is a keen focus on the informal versus the formal, play versus purpose, and participation versus consumption; with community music focused strongly on 'access, diversity, and social transformation' (Coffman 2013: 274). The impact of these interactions and this learning environment potentially resonates far beyond the classroom. Althoff's enthusiasm for sharing and participatory learning can be linked to his experiences as a student instructed by Ron Nagorcka. In performance works he provoked a rethink on traditional roles and relationships: 'encourag[ing] audiences to abandon their prescribed roles, to ask questions, comment, and interrupt, and help make his concerts relaxed and convivial events' (Jenkins 2001). Althoff's methods show that the rule-based model not only teaches knowledge, but also cultural and behavioural approaches that can be instilled in the learner. He had experienced a nurturing, participatory learning environment and deployed methods allowing audiences to experience the same.

As we have documented, Humble's efforts to move electronic music education outside of the classroom and D'Ombrain's departure from traditional music theory approaches encouraged artists and communities to seize opportunities to develop their own educational spaces with their own values. The creation of these spaces coincided with the increased availability of synthesisers and cheap equipment on which to learn, teach, create and experiment with electronic music. These communities demonstrated an ability to develop low-cost electronic music courses which tertiary institutes could not replicate. The differing pedagogical models used reflect these changes, with the early educators such as Humble using an impression model approach. Later with Althoff there was a move to the insight model and as communities such as CHCMC developed, the rule model, with its incorporation of principles, was more favoured.

[3]E. Althoff, personal email correspondence, 2023.

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Figure 1. Ernie Althoff's 'Music Machines' from *NMA Magazine* (Althoff 1983: 12). Reproduced with permission.

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3. ELECTRONIC DANCE MUSIC AND THE GROWTH OF THE INTERNET

In the early 1990s, as the popularity of EDM increased in Australia and especially in Melbourne, there was an explosion of artist networks (Harley and Murphie 2008) that led to new opportunities for community education. These opportunities manifested online among Melburnians in parallel with the burgeoning role played by the internet during that period. Internet usage allowed for new global communications (Bandt 1997) that crystallised through message boards and forums that pre-dated social media but shared a similar degree of interactivity. Online USENET newsgroups such as alt.rave (n.d.) allowed for the sharing of information, a wider discourse on electronic music production, and the local expansion of global EDM cultures, often with participants accessing newsgroups through their university accounts.

In addition to USENET, Melbourne-based electronic musicians shared information globally through LISTSERVs. These were managed email lists to which participants subscribed and could message all members. One such list that remains active today is Analogue Heaven, established in 1992 by Todd Sines 'for people interested in playing, collecting, modifying, and designing analog musical equipment' (Synth DIY Wiki 2022).

This online space contributed to a community infrastructure that is characteristic of Scheffler's rule model. Not only did these networks seek to deliver an education in aspects of electronic music, but through their community channels they also sought to instil the ideals of conduct within these new spaces.

3.1. Artist-led learning in nightclubs

Less formal programmes for electronic dance music education in Melbourne also found homes in new physical spaces: nightclubs, community hubs and music stores. An example of this is the nightclub Revolver Upstairs, which opened in 1997 and still operates six nights a week at the centre of Melbourne's nightlife culture. Below it was a music equipment store, with adjoining rehearsal rooms and a recording studio. With support from the proprietors, Finbar O'Hanlon established the Digital Audio Training School (DATS), offering a range of short courses in recording and electronic music-making. DATS utilised its position as an active hub for bands and DJs to offer workshops from visiting international artists who played at Revolver.

Leveraging their public profiles as artists at the time, Ollie Olsen and David Haberfeld offered short courses in electronic music production and performance at DATS; students attended to gain insight on how the artists composed and performed. Ollie Olsen was a prolific Melbourne electronic artist and a past student of Felix Werder's CAE course (Fleckney 2018: 48), who eventually worked with Michael Hutchence (of Australian band INXS) on the project MaxQ and other projects in the following decades. With an approach akin to the impression model, his course covered sound design methods and subtractive synthesis.

David Haberfeld,[4] also known as Honeysmack, delivered another electronic music short course in the DATS space. His course, 'An Introduction to Dance Music Techniques', made use of the impression and rule-based models and covered subtractive and FM synthesis along with sampling techniques, with examples of recorded music played for reference. Haberfeld would set up his Honeysmack live rig to demonstrate how synthesis approaches could be applied (Haberfeld 2021).

While he also demonstrated equipment for Yamaha, Akai and Roland during the late 1990s, both at Revolver Upstairs and throughout music stores across Melbourne, Haberfeld sought to share information on how new tools could be used, and how new users could participate in music-making, rather than sell products. Through the demonstration of use-cases, fellow artists could understand how they might deploy these new instruments and methods.

Unlike the aggressive 1970s sales techniques for the Minimoog described by Pinch (2003), which included equipment loans and the establishment of finance options in an effort to convince users that these new instruments were essential to their success, by the 1990s the market and marketing for electronic music instruments had developed considerably. While Haberfeld's demonstrations could be seen as part of the manufacturer's marketing activities, they were more devoted to raising awareness of new instruments and their uses rather than direct sales. In the opinion of the authors, this is like the current approach of companies such as Ableton, who share knowledge with initiatives such as the Loop events and online music resources such as the Learning Music website,[5] and who support local user groups and certified training programmes rather than pursuing direct sales. These activities can be seen as raising awareness and developing community around a product, which may be part of a longer-term marketing strategy.

While these activities represent a departure from the values prioritised by Althoff and other CHCMC participants, such as using affordable and accessible musical instruments and free performances, and explicit resistance of a transactional relationship between artist and audience (Althoff 1989), Melbourne's music

[4]Haberfeld is a co-author of this article.

[5]https://learningmusic.ableton.com/ (accessed 1 December 2023).

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instrument retailers and CHCMC did share a continuation of pedagogical approaches first advanced by D'Ombrain in the 1960s and 1970s. This approach encouraged music-makers to embrace whatever timbres and tones that could be coaxed from the available tools as a foundational step towards new compositions (D'Ombrain 1969: 27). By the 1990s, the available tools had become mass-produced and ubiquitous in Melbourne music stores. These tools were seen 'as close to toys as they were to musical instruments' (Brewster and Broughton 2014: 326–9). For many educators and enthusiasts, this represented a democratisation of music production practices (Lavengood 2022), and they afforded users an interactivity and immediacy that was different from traditional instruments. These new mass-produced toy-like music machines enabled music-making without formal musical training in a similar fashion to Althoff's deployment of household objects for 'Music Machines' (Althoff 1983). New music was able to be created on these machines almost as easily as turning on a fan or placing a rattle on a tilted record player (see Figure 1).

These artist-led classes and workshops, while predominantly using the impression model in their approach to teaching, are also characteristic of Scheffler's rule-based model. The artists would demonstrate how to use equipment and provide students with impressions to reflect upon and use in their own practice. In addition to demonstrating equipment and its uses, the artist could be seen as a demonstrator of principles and values of the electronic dance music community.

3.2. Education in retail spaces

As the EDM scene grew locally and globally, these workshops were further supported by international touring acts who shared their knowledge, insights and principles as they interacted with local artist communities in spaces outside nightclubs (Callander 2022).

By the late 1990s, Melbourne was considered a 'world class' 'techno city' for its strong support for dance music events (Fleckney 2018: 240–2). Echoing what had occurred earlier at DATS, international acts often appeared at the city's thriving dance music specialist stores for intimate gatherings as a promotional precursor to large-scale rave events. At this time the record stores were hubs for social interaction as much as trade, and retailers exchanged resources with event promoters to leverage artist exposure against educational opportunities. Aspiring music-makers and fans attended intimate events to scrutinise the artist's instrument configurations and performance techniques. One such example was UK techno artist Michael Forshaw's in-store appearance at Sanity Dance Arena in September 2002, this interaction extended to a generous informal demonstration of the newly released software, Ableton Live (Callander 2022: 57).

Despite the closure of many Melbourne record stores in the following decade,[6] community interaction that centres around retail hubs continues today in the city's dance-oriented music equipment stores. The popularity of EDM in Melbourne and the prevalence of retailers catering specifically to DJs also led to expanded access to tools and methods for experimental makers. Warren Burt, co-founder of the aforementioned CHCMC, remarked that 'the best new equipment store I've found in Melbourne is Store DJ, which has a good selection, good prices and a knowledgeable staff. Where [John] Cage and friends appropriated their gear from science and the military,[7] I now find I'm appropriating some of my resources from the dance-music industry' (Burt 2013).

Store DJ also hosts artist-led workshops, much like events held previously at record stores and DATS. These workshops are often facilitated, sponsored, or wholly organised by hardware manufacturers or distributors. Supporting the retail spaces, distributors and brands not only help to promote and sell their products, but also educate and inform people. As previously discussed, these demonstrations provide music-makers with an opportunity to interact, exchange and critique the specific equipment, and further enable the audience to redirect marketing activities for their own educational purposes. An example of this was the Ableton Push workshops hosted by Mike Callander[8] at Store DJ to coincide with the 2015 revision of Ableton's hardware device. While Ableton organised the workshop, the lesson plan was left open; again, we posit that the approach of Ableton is to foster a community of practice rather than to pursue direct sales through these activities. The workshop was primarily attended by existing users of the Push hardware seeking free advice on connectivity with other devices and general technical support. Much like the activities at DATS, these activities may be considered marketing through raising product awareness and building a community of active users.

Additionally, music retailers, distributors and brands often employ electronic dance music artists as sales staff because they embrace new technologies and are well placed to transfer information to prospective customers. These customers see practical value in having direct access to these artists through whom they can seek guidance. This can be categorised

[6]In recent years, Melbourne record stores dedicated to dance music vinyl have thrived.

[7]An example of Cage's appropriation was his use of throat microphones, a particularly difficult piece of equipment to use that was created by the military to solve communication issues faced by pilots.

[8]Callander is a co-author of this article.

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as Scheffler's rule-based model where known artists are seen to embody knowledge and a standard for good practice.

3.3. MESS

The observation that much of the preceding occurred ad hoc (Knowles 2008b) and that gaps in learning were not filled by tertiary institutions inspired the formation of MESS. Founded by Robin Fox and Byron Scullin in 2016 and funded by membership fees, donations and government grants, MESS is better resourced than many community efforts. Rare instruments for which MESS is custodian are made accessible to members and non-members for a modest subscription fee. Its unique collection of electronic instruments (MESS n.d.a, n.d.b) functions more as a library than a museum (Paulsen 2017) with visitors able to book, use and record any of the instruments currently available.

In addition to its membership offerings, MESS caters to the diverse community of Melbourne electronic music-makers by offering education, events and workshops from local and international artists. The broader community is regularly invited to visit the space for free open days, while ticketed learning events and performances are offered to Indigenous Australians without charge or at a significant discount. For longer courses where costs are higher, MESS allocates several fully funded scholarship places; in the case of 'Foundations in Electronic Sound Production', one in every six places was offered without charge.

Operating on a not-for-profit basis, MESS leads by example in Melbourne as an organisation committed to inclusivity. Its projects and short courses are tailored to specific groups: 'Synths for women +/ non-binary people +/ trans people Workshop' is designed for and delivered by people of marginalised genders; 'Mobile MESS' sees instruments transported to temporary learning spaces in regional Victoria; and occasional artist-focused workshops leverage the city's diverse pool of industry talent.[9] An example of the latter is 'Beat Making Workshop with Apple Juice Kid', also known as Stephen Levitin, an American producer who founded Beat Making Lab, a programme that has taught hip hop and electronic music production to communities in Fiji, Haiti and DR Congo.

A recent MESS course offering is 'Warren Burt's Electrosphere'.[10] In many ways this course exemplifies the organisation and its ethos as both educator and employer. First, it demonstrates a readiness to expand into online course delivery for greater accessibility. Second, in marketing the course, MESS acknowledges the history of alternative music education in Melbourne. Social media posts promoting the course revealed Burt's previous commitment to informal teaching, including an experimental electronic course that ran 'out of his flat in Elwood in the mid 1990's'.[11] Third, the course explicitly articulates the teacher's approach as distinct, and attributes marketable value to that distinction: 'Burt uses positive feedback techniques to develop students' talent and expand their viewpoints on creativity and listening'.[12] Finally, 'Warren Burt's Electrosphere' engages an educator in his mid-seventies, not only celebrating his lengthy contribution to the city's alternative and experimental music communities, but also providing him work. In his keynote at the International Computer Music Conference in 2013, Burt voiced concerns about the lack of employment opportunities in tertiary music programmes (Burt 2013). While short courses offered by MESS and others cannot entirely solve the tertiary employment problem, they demonstrate how other educators have seized opportunities and fill gaps that are overlooked or underutilised by tertiary education providers.

MESS exemplifies the integration of cultural values, accessibility, inclusivity and a not-for-profit approach alongside providing alternative venues for learning and music-making while using alternative modes of delivering education. MESS, akin to Humble, embraces community access and outreach using a variety of activities. MESS has no restrictions on access, music style and content made by its users, which echo CHCMC's principles. The workshops and classes centre around music production using a variety of music machines and are reminiscent of earlier artist-led approaches.

3.4. The role of the internet

Alongside the growth in community education, the online space continues to flourish; now there are many new ways that people can make, perform and be engaged in music (Partti and Karlsen 2010). Since the middle of the twentieth century, knowledge of electronic music-making practices has been shared through differing approaches. These have been adapted and shaped by the context of the teacher and learner. While the popularity of USENET as a communication channel faded by the late 1990s, website-based community forums such as inthemix.com.au and melbournebeats.com grew in their place. These forums provided a platform for discussion, promotion and learning. In parallel, the increased availability of

[9]https://mess.foundation/school/ (accessed 1 December 2023).

[10]https://mess.foundation/electrosphere-23/ (access 1 December 2023).

[11]Robin Fox Facebook post, 11 April 2023.

[12]Melbourne Electronic Sound Studio Facebook post, 11 April 2023.

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personal computers and DAW setups (Bell 2018) catalysed growth in online communities devoted to software. These forums allowed Melbourne-based producers not only to participate in global knowledge-sharing, but also to organise and meet offline locally at events such as Ableton User Group Melbourne, Outpost, aLive.11, Mimic Mass, Factory Live, Melbourne and musician-led short courses run at the arck (Local Events n.d.).

Outpost was hosted over several years at various club spaces in Melbourne, inviting Ableton Live users to bring their laptops, learn and jam. The activities were as much a learning experience for organisers as they were for participants, as they experimented with various approaches for large-scale laptop improvisational performances. Ableton User Group Melbourne (AUGM), previously hosted via web forums and a meet-up website, recently moved its online community to the Discord social platform. These online activities are supported by AUGM-organised monthly gatherings at the Melbourne Arts Centre, where invited artists walk through their production process, showing how they used the software to make their tracks and what other effects and settings were used, and answer specific questions from attendees. Alongside these walkthroughs, there is an opportunity for AUGM attendees to have their tracks played on the Arts Centre sound system and receive feedback from that month's artists and other attendees. The exercise is framed supportively, reviewers are asked to give constructive feedback about what they liked and what they would change, and to explain why.

With the increase in access to music technology (Bell 2018), these ad hoc artist-led initiatives also became spaces where the EDM enthusiasts could share their experiences and knowledge. The internet also became a space for artists to promote themselves and their techniques, and by doing so to become recognised both locally and internationally. One example of this is UoM graduate Ryan Powderly. Powderly rose to prominence during Melbourne's lengthy Covid-19 lockdowns, when he posted a series of inventive videos about sampling called 'household techno' on Instagram. The reach of Powderly's work led to various roles as an educator, including sampling workshops at Melbourne's Art Centre and as a facilitator for workshops with visiting international artists in a format similar to those offered at DATS and Store DJ (Arts Centre Melbourne n.d.). Powderly's 'household techno' approach is akin to the accessible and affordable participatory spirit of Althoff's 'Music Machines' (Althoff 1983) and the immediacy and accessibility afforded by his choice of instruments. It also echoes D'Ombrain's approach in its prioritisation of timbre and rhythm over Western traditions for melody and harmony.

The increase in internet bandwidth allowed artists and enthusiasts such as Powderly to share their knowledge on video and social media platforms. Instagram and YouTube became a space to hear, see, experience and learn a plethora of electronic dance music equipment and software. Online communities could leverage YouTube as a hosting platform. Online music communities became places of informal music learning; by discussing and sharing musical experiences, video sharing sites such as YouTube play an important role in these communities (Waldron 2013). The ease of use of these video sharing websites allows 'people to see, hear and thus more easily understand and connect what musicians are doing when they perform empowers learner agency' (Waldron 2013: 260). In these instances, online music communities facilitate both impression- and insight-based models of learning. As members continue their participation in these communities and interact with each other, the conduct of these communities in pursuit of a shared purpose (Dickinson 2002) and through joint activities (Gee 2001) allows for learning through the rule model. An important takeaway from Waldron's study is that 'Internet learning was seen as an important addition to playing music with friends and/or a teacher'. In addition to the learning outcomes, these online music communities can address 'cultural and social outcomes' (Coffman 2013: 274).

Much like the demonstrations in stores, popular Melbourne-based artists demonstrate and review new instruments on YouTube and Instagram. Some of these artists are given instruments by the manufacturers. As with the Ableton Push demonstration, the manufacturers usually have no say over the reviews or the contents of the demonstrations. These online demonstrations can be seen as both educational for users and marketing for the manufacturers, as they show new use cases for users and raise awareness of new products.

The role of internet forums has allowed new voices to be heard, and new communities to develop and grow. Marginalised communities developed their own learning spaces, outside the rapidly commercialised and predominately white male EDM scene (Bloom 2013; Barnes 2020; Sound School n.d.). These new spaces of inclusion can be categorised as rule based, as they share their own rules of culture and conduct alongside electronic music-making practices.

3.5. Efforts towards diversity and inclusivity

In recent years, Australia's music community has engaged in reflection and debate on matters of gender inclusion, diversity and accessibility. Industry participants have been encouraged to rethink the cultural

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and industrial biases on which the music industries are built (Strong 2019).

In terms of industrial labour in EDM globally, Barnes (2020) identifies that over 80 per cent of artists booked for mainstream dance music festivals were male, with 76 per cent of them being white (see also Gadir 2017, 2023 for gender inequality in other cities). Reports show that Melbourne displays these disparities in terms of gender and race for people making music and for opportunities to perform (Cooper 2017; Strong and Cannizzo 2017). The lack of diversity and shortage of opportunities for marginalised groups has been a catalyst for community action.

Notable examples of recent projects to address issues of diversity and inclusivity in Melbourne include 'DJ 101 with DJ Sarah' and 'WIP Project'. Sarah Morgan, the creator and convenor of 'DJ 101' and co-founder of 'WIP Project', has become a key figure in Melbourne's dance music community and a voice for equality. 'DJ 101' is a programme for female-identifying, trans and non-binary artists to learn fundamental DJ skills and gain access to the music industry (Always Live – DJ 101 2022). In addition to teaching practical DJ skills, learners are also supported through organised DJ opportunities and peer networks. 'DJ 101' could be categorised as a combination of the impression and rule models: the skills, techniques and craft of DJing are shared by a prominent identity in a format similar to artist-led offerings at DATS and in retail stores, while values of inclusivity and equality are fostered through the focus on marginalised communities.

Co-founded with Florence Brown, Morgan's 'WIP Project' is an online database of female, non-binary and gender non-conforming people at various stages in their musical careers (WIP Project 2023). The project pursues gender equality and better representation of minorities in all facets of the industry – bookers, managers and support staff as much as performers – and is recognised among industry peers for its significant contribution to the city of Melbourne's resources. Though not strictly designed to be educational, its informative potential is significant. In the first instance, it addresses a common response from bookers and promoters who, when the gender diversity of their programming is scrutinised, ask 'where can I find a list of suitable candidates to fill these roles?' 'WIP Project' responds directly and pragmatically by providing a comprehensive talent database that compiles biographies, press shots, links to creative work and contact information. By informing and empowering music industry participants to address difficult questions with straightforward answers, the 'WIP Project' can be categorized as a rule-based approach.

Other examples of inclusive education, knowledge-sharing and events include Cool Room and Melbourne Sound School. Cool Room has run safe, inclusive events since 2015. While the organisers have focused primarily on events, they have also organised several learning panels, bringing the skills and knowledge of various overseas and local artists into community conversations (Cool Room × Discwoman 2019). Created in response to the lack of opportunities for marginalised groups, Melbourne Sound School[13] founded by Bridget Chappell is a community-based school aimed at upskilling and celebrating music-making among marginalised people. It provides a range of community-focused musical educational programmes. Working alongside local councils, youth groups and various community hubs, in 2018 Sound School delivered 'high quality accessible electronic music education' to over 60 workshops (Sound School n.d.).

Playback is another artist-led community that offers artists the opportunity to hear their productions on a club sound system, whilst receiving feedback on their work in a supportive and educational environment. The Playback events prioritise music from first nations, people of colour, gender diverse artists, queer artists, trans artists and others under-represented in the musical community (PlaybackYourTracks 2023). The event organisers invite a panel of established artists to give their feedback on the tracks played and invite further feedback from attendees via online forms. Much like the approach at CHCMC, there are no barriers to style or content and all people are welcome.

In addition to these artist-led approaches, various local councils around Melbourne offer young people the opportunity to learn basic DAW software and how to build synthesisers, as well as other community music-making activities in spaces such as local libraries. Some spaces include maker centres that allow community members to hire synthesisers, digital recorders and other equipment. This range of equipment is further supported by several in-library recording studios that can be booked as needed. Other state government-funded initiatives, such as FReeZA, look to put young people at the centre of their music activity planning, development, and delivery (Admin n.d.).

3.6. Tertiary decline

While informal education and knowledge-sharing in music have happened outside Melbourne's universities since at least the 1970s, the larger institutions remain comparatively slow to adapt to technological and

[13]https://www.melbournesoundschool.org/ (accessed 20 October 2023).

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theoretical developments. Increasingly, institutions have cut back or terminated music technology programmes (Burt 2013), and their decommissioned studios presented opportunities for more agile educators to acquire rare equipment and other resources at little or no cost. Some of the collection at MESS was salvaged from abandoned programmes at tertiary institutions such as La Trobe (Carey 2019; Dwyer 2018).

While several Melburnian universities continue to offer music education, most retain a focus on music theory rather than encouraging innovation and experimentation with music technology in the fashion of Humble, D'Ombrain, Nagorcka and Althoff. This article echoes the frustrations of D'Ombrain, Humble and François first raised at the National Seminar on 'The State of the Art of Electronic Music in Australia' in 1971; progress in this area remains a matter of intent as much as finance.

In this article we have shown that flexible programmes outside the university sector have been more successful in keeping pace with new music-making technologies. Greater investment by universities in new music methods and technologies might achieve little, however, in addressing the industrial needs of an ever-changing music scene in Melbourne and Australia. Klein and Walton (2023) report a growing disparity 'in the representation of employability skills within the curriculum studied'. Courses and learning activities no longer mirror industry practices (Strong, Brunt, Cannizzo, Montano, Rogers and Shill 2019). Career pathways for musicians are relatively piecemeal, with musicians looking at becoming employable rather than employed (Bridgstock 2005). Music graduates are now more likely to work as sole operators or as freelancers and require an ever-increasing reliance on entrepreneurship and risk taking (Strong et al. 2019). There is a contrasting relationship between music-makers and the academic world (Fox 2002), and universities are no longer seen to be driving innovation in music scenes (Knowles 2008a). This sentiment is indicative of a global trend with 'innovative, compelling and startling work being produced' by musicians who have come from non-traditional educational pathways (Digital Musics Jury 2001; see also Haworth 2016).

4. CONCLUSIONS

In this article we have documented a history of electronic music education in Melbourne. We have shown that there is a rich culture of learning outside of traditional academic spaces, as highlighted by Humble's community music education, the approaches used by Nagorcka and Burt and others at CHCMC, and the nightclub and retail store-based education of the 1990s. This learning culture is strongly connected to Melbourne's electronic music history, with original artists and educators such as Althoff, Burt and D'Ombrain still active today and the influence of CHCMC and *NMA Magazine* still resonant. Today's programmes, such as those offered by MESS, 'DJ 101', AUGM and Playback encourage and facilitate inclusivity across a range of local sites and online spaces.

We have shown that Melbourne's learning culture is driven by the needs of the community, changes in technology and changes in culture. This learning culture is adaptable and opportunistic. Today, affordable music technologies and the proliferation of social media channels means there are more opportunities for people to learn and be informed. Artists and practitioners, all at different stages of their career, can connect directly with their audience to share and interact. Although this information is globally available to everyone with internet access, the need for localised education, further social connection and feedback falls to physical spaces and local interactions.

As we have documented, in Melbourne, music retailers and their staff, community groups and spaces, artist-led collectives, ad hoc artist networks and others have identified gaps that traditional education providers have ignored. They are seizing these opportunities to deliver a range of learning activities that are diverse in content and pedagogy; and in doing so have become alternative electronic music educators.

We have used Scheffler's Models of Education (2010) as a framework to provide insight into the differing pedagogical models used by these alterative electronic music educators. We have shown that the pedagogical approaches documented in this article address the practical, the inspirational, the insightful and the cultural aspects of these electronic music communities and spaces. The early educators encouraged students to reflect on new musical experiences. Later, other educators provided pathways for students to develop their own insights, and as electronic music communities developed, the principles of these communities became part of the students' education.

As we have demonstrated, education, community building, inclusivity and raising awareness are important activities, valued not only by educators, students and musicians, but also by instrument and music software manufacturers. Manufacturers are embracing these activities as part of their marketing, and through that process offer free educational resources and activities to the wider music community.

We acknowledge that this history we present is incomplete. Further research is needed to gain a more in-depth understanding of Melbourne's rich electronic music education. Further field work is required for

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deeper engagement with past and current artists, a wider range of more diverse communities, and other educators, to better complete this picture.

Melbourne's electronic music communities are using online and face-to-face spaces to come together, learn and inspire each other. Education is no longer restricted to the classroom, today it is far more diverse: it is on your phone, in your browser, in the music store, in your local library, at the club and part of the music festival. It is no longer delivered solely by academics and lecturers, but by artists, your peers, your friends, your community and even marketing departments. We foresee the future of electronic music education in Melbourne becoming more accessible, diverse and inclusive.

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