



Developing composition pedagogical knowledge: Music teacher education students as online mentors

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Abstract

This article reports on a New Zealand initiative in online composition mentoring by music teacher education students. The initiative aimed to expand the students' concepts of what composition is, particularly in relation to technology-mediated contexts, and also develop their ability to produce worthwhile feedback about the creative work of school students. The online environment enabled flexible communication between school composition learners and the teacher education students.

Using primarily quantitative methods, previous North American research has established the viability of online mentoring for composition within teacher education courses. The New Zealand initiative was investigated as a way to provide further insight into the process using a specifically qualitative approach within a more contemporary technological context. Data derived from a small-scale study of three students suggested that the initiative had a positive effect on their development of skills, knowledge and interest to teach composition. Further qualitative inquiry will potentially establish the initiative as an essential component of music teacher education courses.

Introduction

Despite the inclusion of compositional experiences as a core component in the national music curriculum documents of many countries, a low level of the activity occurring in schools is commonly reported (Department of Education, Science and Training 2005; Flockton & Crooks 2005; Stephens 2003). The problem is often attributed to the lack of expertise among music teachers in implementing effective compositional learning programmes (Barnes 2001; Cohen 2002; Reese 2003).

A number of initiatives within preservice music teacher education courses have been undertaken in an attempt to address the problem. Some have involved music education students engaging in a programme of compositional activity as a way to increase their confidence and expertise as teachers of creative music making (Kennedy 2004; Morrison 2003). Others have specifically targeted the building of skills in composition mentoring and feedback (Reese 2000a, 2000b; Reese & Hickey 1999). These latter initiatives were characterised by the use of online technology as the means through which students developed their mentoring skills. The use of such emerging technology (as it was at the time) was a deliberate attempt to explore new models for working in music education.

This article reports on the process and outcomes of a New Zealand-based initiative that builds on the online mentoring studies identified above. An initial examination of those studies provides a context within which to then describe both the New Zealand (NZ) programme and the study of it. Following this, a discussion of findings leads to a conclusion about the possibilities for online mentoring initiatives within music teacher education courses.

Previous studies on online mentoring in composition

Reese conducted three studies (Reese 1999, 2000a, 2000b) into the feasibility of incorporating the role of online composition mentoring into coursework for music teacher education students. The studies were undertaken in response to US National Music Education Standards which had identified a growing need to prepare new teachers to teach composition including being able to provide constructive feedback about student work. There was also a need to ascertain the feasibility of incorporating online mentoring into already overcrowded music teacher education courses and to examine what gains in skills and



attitudes may be made by using the new technology to communicate with school students at a distance.

A programme called NETCOMM was established by Reese as a vehicle for his research. NETCOMM involved secondary school students composing music using MIDI sequencing software, then sending their MIDI file via the internet to a university music education student acting as a mentor who analysed the work and then provided online feedback to the school student. Some guided study of mentoring techniques and productive feedback was incorporated in the programme for the mentor.

Following a small-scale pilot study (Reese 1999), a second study (Reese 2000a) presented predominantly quantitative but also some qualitative data that indicated reasonable feasibility of the programme and a gain by mentors in their skills and attitudes to teach composition. A third study (Hickey & Reese 2001; Reese 2000b), utilising an experimental design, found that involvement in an online mentoring programme produced a moderate amount of effect on the quality of mentors' written responses to compositions when compared to responses from a control group that had not experienced such a programme.

In the light of the three studies, Reese (2000b) concluded that the online mentoring programme had potential but it needed more highly developed teaching methods for imparting mentoring skills, and more time allocation for the mentoring process. It is interesting to note that Reese has undertaken no further research in the field and that his ongoing students participated instead as co-mentors in the Vermont MIDI Project <www.vtmidi.org> (Reese, S. 2005, pers. comm. 2 March). This latter project, now in existence for twelve years, specifically encourages and supports students in composing through a community of online mentors. It is disappointing, however, that reporting on the work of the Vermont MIDI Project appears to have been confined to conference presentations about the project as a whole (MacLeod & Hamilton 2003), there being a notable absence of empirically-based studies that have been published in scholarly journals. Overall, there is very little research literature to be found on the topic of online composition mentoring.

However, Reese's work produced some key points for discussion. First, quantitative methods were largely favoured as the means to measure the impact of online composition mentoring on teacher education students. While these methods produced some useful initial insights, it would have been useful to have a comprehensive, qualitative-based representation of students' *own* perceptions of the impact. In fact, Reese acknowledged his quantitative methods had some shortcomings when he admitted that the rating scale used for the measurement of the quality of mentor feedback in the third study produced some misunderstandings between judges and would need further clarification for any future use (Hickey & Reese 2001).

A second point for discussion appears in the typical character of the school students and schools that were part of Reese's NETCOMM project studies. The schools/teachers concerned had technical skills, resources and a composition curriculum in place. The students were at secondary level and were working on a series of composition tasks required of them in their school music classes. While this scenario appeared appropriate for Reese's studies, there is certainly a need to investigate online composition mentoring within contexts where schools, teachers and students do not have existing compositional skill, knowledge and experience.

A third point for discussion arises from the apparent nature of the composition activity being undertaken by the school students. In what was no doubt appropriate for the secondary students involved, most compositions appeared to be notation-based, utilised conventional composition strategies (e.g. motivic development, sequence) and employed MIDI-based software. However, more recent technological developments mean that school students now have easy access to audio input, a vast resource of existing loops/sound ideas and digital production tools (e.g. sound manipulation, effects), as part of their composition software. While they can still produce compositions using conventional strategies, an increasing



amount of the software has been specifically designed to also provide them with intuitive, non-linear, graphical, and pre-notational approaches to the composing process.¹ There is a need to investigate the placing of online composition mentoring/feedback within more contemporary technology-mediated compositional contexts.

The opportunity to develop the research initiated by Reese within an environment characterised by up-to-date technologies became possible at Victoria University, NZ in 2006.

Background to the current project

In company with other already identified music teacher educators, I identified a real need to include composition pedagogy as an important component of a music teacher education course. While students enrolled in these courses now tend to already possess some personal compositional experience acquired in their own schooling, it is typically minimal and narrowly contextualised in genre or style. In particular, knowledge and experience of current technology-based composition strategies are often lacking. There is much scope for expanding the conceptions held by many of these students about what composition is, and also for developing their ability to produce worthwhile feedback about school students' creative work. Moreover, the NZ national arts curriculum statement and qualification framework have both established composition as a core music activity in schools and music teacher education students are expected to be equipped with knowledge and skill to implement school compositional programmes for a variety of ages and experience.

How best to ensure that teacher education students gain such a knowledge of compositional pedagogy within an already overcrowded programme is an ongoing issue for those of us responsible for their courses. Like Reese, I see particular merit in the use of online computer technology to flexibly connect communities involved in compositional learning and teaching. Reese (2000b) identified that this is an authentic means of giving teacher education students ongoing exposure to school students involved in composing without the organisational difficulties of face-to-face interaction. Like other music teacher educators—e.g. Morrison (2003)—I also see experience with technology-based composition strategies as enhancing students' knowledge of future classroom composition possibilities. An opportunity to provide both of these aspects within a music teacher education course presented itself in the form of *Compose*, a web-based compositional learning and teaching programme for year 8 (12 year old) classes within their own primary schools.² Designed for the novice composer, it is a programme that intentionally aims to create a composition 'culture' in a school classroom where it previously did not exist due to lack of musical expertise.

Compose involves year 8 students exploring compositional techniques through a sequential and highly interactive programme of learning using the Apple music production software *Garageband*. As they work through and submit their composition exercises, the students are mentored asynchronously online by a music teacher/composer. Web-based interaction occurs through two 'vehicles'. One is the iDisk Apple server storage where students place their completed *Garageband* files in a folder which may be accessed by all *Compose* participants. The other is *Learn OnLine*, a Victoria University asynchronous, e-learning platform where students and teacher/mentors are grouped like a class with communication between all participants being fully supported. Schools and teacher/mentors can participate if they have access to current Apple computers (on which *Garageband* is loaded by default) and a broadband internet connection.

As both the developer of and a music teacher/composer involved with *Compose*, I have the right to grant others access to the *Compose* programme including those involved as co-

¹ Examples of such software include: Hyperscore <http://www.hyperscore.com/>, ACID Music Studio <http://www.sonycreativesoftware.com/products/product.asp?pid=443>, Garageband <http://www.apple.com/ilife/tutorials/garageband/index.html>, O-Generator <http://www.sibelius.com/products/index.html>, Groovy Music <http://www.sibelius.com/products/index.html>

² Primary level education in New Zealand is classified as years 1 – 8.



mentors. Based around this access, I developed a module of work entitled *Technology-mediated Composition* and implemented this within some of my music teacher education courses during 2006.

The *Technology-mediated Composition* module

The module's design, content and implementation were influenced by my personal experience as a music teacher educator and composer in combination with pertinent ideas from the music education literature. Included in it was a deliberate attempt to familiarise and/or extend students' knowledge of specifically technology-based strategies in composition and also to develop their skills to work with young, novice composers. These are both aspects in which many current students lack prior experience. The particular nature of the *Compose* programme, however, afforded the chance to reverse this. Central to the module was the flexible, online access to school novice composers and their compositions. The module consisted of the following sequential student activities:

1. Discussing of prior composing experiences and/or teaching of composition.
2. Discussing of what comprises an interesting, effective composition. Acknowledging different opinions. Discussing the nature of composition when digital music production software is utilised.
3. Discussing how school students develop compositional skills. Viewing and discussing lessons/tasks in *Compose* that sequentially encompass the use of musical elements and compositional strategies. Using *Garageband*, working through the lessons and producing a personal composition that displays use of compositional devices as well as features made possible by the software.
4. Exploring what is helpful feedback for novice composers and particularly what is helpful feedback for novice composers working within technology-mediated environments. Viewing composer/lecturer exemplars including how to work with problem compositions.
5. Becoming familiar with good feedback ideas / strategies identified by Reese (2003):
 - listening carefully before responding
 - acknowledging student's whole work and its overall expressive character
 - describing what has been heard both in terms of the piece overall and specific features
 - including definitions of compositional strategies used by students in language appropriate for student's age and experience
 - posing questions about the piece and the student's intentions
 - offering suggestions for changes, and
 - encouraging students to experiment further.
6. Receiving briefings about the musical experience and schooling age level of *Compose* participants, then accessing and analysing a *Compose* student's composition in terms of musical elements, compositional strategies and software features used. Writing draft feedback regarding a submitted composition to a student. Sharing and discussing the composition with others. Presenting feedback to the student in an online format.
7. Assuming the role of an online mentor with multiple *Compose* students (not allocated), but maintaining ongoing discussions with a particular student (if required) on successive drafts.

A module typically occupied seven and a half hours spread over six weeks in a forty-hour, twelve-week course. The time allocation for the module was considered appropriate to do the content justice, yet allowed for other important course content. Full lecturer contact was maintained throughout the module to ensure quality discussion, instruction and guidance. However, some students opted to provide additional mentoring in their own time. This was



easily facilitated due to the flexible, asynchronous nature of the *Compose* programme and the accessibility of online Apple computers on the University campus.

Research procedure

Of the three courses (17 students in total) in which the *Technology-mediated Composition* module was included, one comprised just three students. Each of these students presented a quite different profile of musical, and in particular compositional, prior experience. Nevertheless, their profiles in combination were considered representative of most of the student cohorts. As such it was considered that as a group, they presented an ideal opportunity to provide some potentially varied insights into the effect of online composition mentoring on their skills, knowledge and interest to teach composition. All three students agreed to be participants in the small-scale study that ensued.

At the time of the study, eighteen year 8 students, representing the entire cohort of that year group in each of two small country schools, were participating in *Compose* in their classrooms for a 20-week duration. They were novice composers who mostly had not experienced any formal music tuition but did have competent generic computer skills. Each agreed to their email and interview comments being used in the study. As an aside, it should be noted that research specifically into the workings of *Compose* and its school participants has been reported on in two separate publications.³

Research paradigm

A qualitative approach was chosen for the research study. This orientation grew out of a deliberate attempt to portray a different view of online composition mentoring by teacher education students from the predominantly quantitative findings encountered in existing literature (Reese 2000a, 2000b). The choice of a qualitative approach is well supported by trends in music education inquiry. The total domination of the positivist paradigm where music learning and teaching are measured in quantifiable terms has given way to a range of methodological approaches, with many music education researchers now favouring an interpretive approach to subject matter. An examination of the range of studies reported on in the latest version of the eminent publication, *The New Handbook of Research on Music Teaching and Learning* (Colwell & Richardson 2002), bears witness to this.

What does a qualitative mode of inquiry offer the field of music education? Bresler (1996) maintains that it is the key qualitative assumption through which reality is constructed by people interacting with their social worlds that makes the qualitative approach a desirable way to study something as practical as music education. The qualitative approach enables 'the study of music education in its natural contexts, drawing on participants' knowledge and experiences' (p.5). The positivist paradigm in contrast, 'reduces teaching and learning of music to simple variables' (p.5).

In keeping with Bresler's view, it was considered most desirable for this study to portray the multiple perspectives and experiences of the students involved rather than to quantify the products of their activity. As such the study also endeavoured to typify Merriam's (1998) concept of the commonly-used 'basic study' model in educational research where the investigator simply seeks to 'discover and understand a phenomenon, a process, or the perspectives and worldviews of the people involved' (p.11) in order to contribute useful new insights into educational practice.

³ Bolton, J. 2006, 'Web-based composition: Removing barriers to increase composition opportunities in upper primary classrooms', in *Proceedings of the 27th International Society for Music Education World Conference*, July 2006, Kuala Lumpur, pp. 146-163.

Bolton, J. 2007, 'Engaged and delightful learning: An online classroom music project', *Computers in New Zealand Schools*, vol. 19, no. 2, pp.16-22.



Method

The study sought to examine the effect of a module focussed around online composition mentoring and technology-based composition strategies on the skills, knowledge and interest of three teacher education students (hereafter referred to as 'mentors') to teach composition. The use of just three mentor study participants was considered appropriate for an initial contribution to what would be an ongoing collection of qualitative information about the module. A combination of the following comprised the data which were organised and analysed through a researcher-designed category scheme:

- mentors' email communications with school students,
- school students' interview and email comments about the mentors and their feedback, and
- open-ended responses written post-module by mentors regarding their perceptions of the module's effect.

The first two sources of raw data were organised into segments identified as being about the development of feedback *skills* (as defined in no. 5 of the *Technology-mediated Composition module* above). The third source of raw data was organised into segments identified as being about the development of compositional teaching *knowledge* (defined as recognition of strategies and tools for teaching composition) or compositional teaching *interest* (defined as expression of motivation, enjoyment or confidence). Each of the three aspects—skills, knowledge, interest—provided the themes for presentation of the findings.

Participants

Prior to beginning the module, the three mentors—Tony, Emma and John (participants have been assigned pseudonyms)—had varied backgrounds in musical experience in general and composition in particular. What they had in common was no prior experience in teaching composition or in constructing useful feedback.

Tony

Tony is a piano performance graduate. He studied composition as part of a senior secondary school music course, using predominantly notation-based software. He helped other students in his school class with the software. His own first school compositions were largely derived from piano music that he was playing. He then progressed to creating orchestral ensembles despite having little initial knowledge of the instruments involved. Tony had not gone on to any tertiary level composition work. He expressed a clear preference for melodically-based composition and admitted focusing on the melody whenever he listened to music. He liked software-based pieces to look orderly and to be structured within bars. He began the module with no experience of music production software such as *Garageband*.

Emma

Emma had completed the minimum requirement in composition for a senior secondary school music qualification, preferring instead to make performance voice work her major study. She believed that she was not taught any composition skills and instead muddled her way through requirements at the last minute. She had not made use of music software to any extent. Emma had not pursued composition at tertiary level but rather had majored in music appreciation. She thought that she understood some basic underlying principles of composition but was rather nervous about the prospect of teaching it. Emma thought that she might be more inclined to be enthusiastic about composition teaching through using computer music software with students. She had witnessed the attraction of such software for students in the classroom.

John

John is an early music harpist. This shaped the way in which he preferred to work in all music aspects in his life. He favoured improvising over chord patterns and sequences rather than creating structured compositions and made use of notation-based software when written versions were required. He had no experience of music production software such as *Garageband*. John had attempted a few compositions based on the early music repertoire he



played. He had studied some composition at university but had not been encouraged by the process which had been very different from his preferred early music performance work. He focused on chords and harmony in music listening and appreciated music that was metrically flexible. Having completed one teaching practicum, he was trying to come to terms with the reality of working with large numbers of students in music classes who had little or no music theory knowledge.

Presentation of data

Skills

The email responses of the mentors to the year 8 (12 year old) school students were examined in terms of whether they displayed characteristics of good feedback explored in the composition pedagogy module (see no. 5 in the module description above). The following examples of Emma's responses were typical of her efforts:

Hi S

I'm Emma and I'm one of Jan's students that is helping to give feedback to you guys on your compositions. I heard your lesson 5 composition and was very impressed with your overall song. You have incorporated some really interesting ideas into it which seem to work well.

I really like the opening bars. They are very effective because you layer the different instruments in a creative way. I also liked the timbres (sounds) that you used throughout the song.

One thing I would work on is trying to differ the volume and pan in areas in some different tracks. Go back to the lesson 5 worksheet if you are unsure about doing that. If not ask a mate that is able to show you. If you are still unsure then get back to me and I'll try and give you some help.

Well done for your efforts!

Emma

Hi A

I really like your attempt in creating a 'beat-box' composition. One of the most effective things I noted in your compositions was the use of your voice in the 'on the mic' loop. It was strong, clear and made me laugh how it continued to go on in such an original way. The other aspect that was really great was your scratch loop. That was a cool sound that you made using your voice. Isn't it great how we can make so many different and interesting sounds using our voice! Well done. I look forward to hearing your next submissions.

Emma

Emma's responses displayed many of the 'good feedback' characteristics. She acknowledged the whole composition and described aspects that she particularly noticed. She offered specific suggestions for change and was very encouraging of further experimentation. Emma wrote in a style that was appropriate for the student's age and experience. The main aspect missing was the posing of questions about the piece and the student's intentions. It was apparent from Emma's comments that she had become familiar with aspects of composition that are particularly relevant when music production software is utilised (i.e. use of loops, layering, use of volume and pan, sound source choices).

Typical of Tony's feedback was the following initial response and then further response to a student working on a musical setting of a scene from a book. The task asked for use of existing loops and original audio ideas to be incorporated into the composition. The student had commented that he did not like the idea of adding any further sounds:

Hello J

My name is Tony, one of Jan's team doing feedback.

I loved what you did with the piece and I think you should be pleased with it. I really liked how you put things together and how you deal with the transitions between different sounds.

You shouldn't need to find further sounds. I think you can build up from what you already have, especially if you don't like other sounds. You can use different combinations of the sounds you already have, mix and match which sound better for you. You should be aiming for the piece to be about twice as long, which I think shouldn't be a problem if you mix and match existing ideas.

You also need to have some input sounds of your own through audio. I'm sure you know that the recording can be sound effects, sounds from objects and not necessarily a singing voice.

Keep the lovely ideas, try the new suggestions and send us what you can do with it.

Have fun.

Hello J

I listened to your improved version of your composition. Nicely done!

I loved how you extended your idea that way – using a different layout with the same sounds really kept the



piece's similar atmosphere but added some variety.

What I'd really love you to do now is – if you haven't thought about it yet – is have more of your own audio input. I know the piece sounds great by itself right now, but do aim to do more with your composition.

Once again great to hear your piece.

Like Emma, Tony acknowledged the whole piece and was complimentary about the efforts of the young composer. He described specific features heard and offered suggestions for changes, encouraging further experimentation. He maintained a high degree of continuity between his various responses and suggestions for the piece. Despite adopting a fairly 'directive' style in putting his suggestions, Tony did imply respect for the students' own concept of the piece, but fell short of offering the student, through questioning, the chance to justify his ideas. Although adopting a different writing style to Emma's approach, Tony's choice of level was still appropriate for the student's age. Like Emma, Tony conveyed a sense of familiarity with the music production software context of the composition. In his case, there were references to the possibilities of audio input in both responses.

Different in style again from Emma's and Tony's comments were the following typical responses to students from John:

Hi B

An awesome soundscape, though it's a pity that there isn't much of your own original music in there. I really like the way that the piece works on the whole. However, I am not so sure about your ending. I think you might want to add something to the 'oud' part at the end. Just feels like there is something missing.

John

Hi P

John here. I've just listened to your song. Some very cool ideas but there are a few things that I think could be reconsidered or justified.

An awesome start and finish to the piece but I wonder about the middle of the piece, particularly your percussion frenzy. I just wonder if there is a way you might want to try and link it to the start and finish so it sounds like a more complete piece.

John

Hi L

Wow! Some cool work! It's sounding great and has the potential for expansion. However I'd like to see some more original input into the piece.

I'd be interested to see what you could do with adding to the atmosphere at the end of the track. I wonder whether you might want to taper the atmosphere sound down to nothing a bit quicker, and keep the string idea running for a little bit longer so the piece sounds like it finishes rather than being cut short.

John

John tended to be more direct than the others in his 'personal take' on some aspects of a composition but still incorporated encouragement in his writing. He acknowledged the overall work and its character. He omitted descriptions of particular features preferring to get immediately into offering suggestions for changes to specific parts. John described ideas in language appropriate for the students' ages and experience, avoiding complex musical terminology. Like Tony, he just fell short of posing questions to ascertain student intentions but he did promote further experimentation. Although less apparent than in Emma's and Tony's cases, John still conveyed a sense that he had become familiar with strategies made possible by a music production software context when he referred to 'taper the atmosphere sound down'.

The nature of the responses presented above points to some development of skill by all three mentors to offer constructive, appropriately-levelled feedback to young novice composers working in a music production software context. The sense that the feedback had been useful was conveyed by the school students themselves. Their comments were consistently positive about their mentors. Some of the students specifically spoke of help with ideas:

Their feedback was very helpful because our song was very short and we didn't have much music at first.

There were email replies like the following from students expressing gratitude and a sense that ideas were being thought about:



Hey, thanks for the help on my two pieces of music and I will take the info on board. Thanks again.

and the sense of encouragement was also appreciated by others:

hay, fanks for da feedback. Im glad u lyk mi song ae!

Others liked the idea that the mentors conveyed a sense of closeness to their own ages and experience levels:

Their feedback was helpful because they weren't as experienced as the main mentor and were more on the same level.

Some of the stuff they said was easier to respond to, you know they used slang.

A sense of empathy and safety was clearly felt by one student:

The feedback was helpful and I did feel safe talking to people that I didn't even know because they didn't ask me any weird questions.

Knowledge

A perception of progress in becoming more knowledgeable about teaching composition was reported by all three mentors in post-module, open-ended written responses. John explained that the module had:

...added to my understanding of ideas for teaching composition by focussing on pre-recorded materials, working with manipulating ideas and careful use of cut and paste. It has opened up my mind towards technology composition rather than purely instrumental-type work

Emma described her newly-acquired awareness of various strategies that made composing a positive experience for students:

I saw the tasks as well structured and one of the most important elements in the project's success. I have seen and learnt that students have their own thoughts about their compositions. Although I gave feedback, I liked how the students then got to reassess as to whether or not they wished to act upon the suggestions. I will ensure the use of technology in my composition teaching as I have seen how students can participate fully, even without great music knowledge or ability. Also I have noticed that students really enjoy doing this type of composing and have produced some fantastic work in a limited space of time. It is a way to get them into composing.

Emma continued her comments about the benefits of using technology within composition teaching:

A program like *Garageband* has been very useful as the mentor/teacher has the ability to see exactly what has been done by the students.

Emma also identified a gain in knowledge about the compositional process and a sense that she needed to trust her own capabilities:

I have developed my knowledge to analyse rhythm, pitch, volume, panning, texture/layers and melody. I have had to develop my own perspective using my own intuition.

Tony described a change in viewpoint about what skills students needed for composing:

This was my first time to get to use such a program as *Garageband* which proved to be a very different and interesting program for students to explore music in. With the new knowledge of how students create their works, I can now change my view that 'teaching theory is prerequisite of composing' and take a different point of view.

Like Emma, Tony identified a developing awareness of the value of communication with students about their compositions:



The actual communication with the students was very valuable, very precious to see how we both value each other's comments and ideas.

Interest

All three mentors expressed a development of their interest to teach composition in their post-module open-ended written responses. Each perceived the development in quite different ways.

Tony identified that a renewed personal interest in composition had now led to an impetus to teach it:

It [online mentoring] has increased my dried interests in composing/arranging after listening to what the young ones can achieve. I am interested in teaching it now.

John, on the other hand, liked the idea of working with students in the ways made possible by the software which he clearly saw as different from other compositional approaches he might be using:

I am interested in teaching composition now for just the opportunity to work with materials in a different way, focussing on combining and creating from existing sound cells.

Quite different again was Emma's expressed interest which was particularly about a perception of new confidence in teaching composition. She also suggested that she may get more involved in the activity herself:

I have discovered that I do not need to be a composer myself to be able to teach students the basic skills involved/needed. I can see I can teach composition to students in an electronic way.

I am more likely to compose myself using software like *Garageband* because I find it to be enjoyable.

Discussion

Many international music curricula have established composition as a core activity in school music education. Equipping music teacher education students with skills, knowledge and interest to meet the expectations of these curricula is an ongoing issue. Some initiatives have attempted to develop these students' abilities to offer constructive feedback about compositions in the context of online composition mentoring programmes. A New Zealand example of this type of initiative has been described above, including some initial research undertaken to ascertain its impact.

The study was small-scale and exploratory in nature and as such the outcomes cannot be generalised in any way. Bearing in mind such limitations, the evidence showed that the initiative had a positive effect on three mentors' development of skills, knowledge and interest to teach composition. They were each able to offer appropriate compositional feedback to young novice composers, an activity in which they previously had had no such experience. They each appeared to increase their understanding of what the compositional process can involve, particularly in relation to their future work as teachers in schools. They also each developed interest to pursue compositional activities with their future students.

These outcomes were not all new revelations. This New Zealand initiative had intentionally built on some of the features of the previous online mentoring studies of Reese (1999, 2000a, 2000b) that had already established that it was possible to improve mentors' skills and attitudes through an online mentoring process. However, the New Zealand initiative had also deliberately set out to have specific points of difference from the Reese studies as a way to offer a varied and more contemporary perspective on the process.

One of the points of difference was the use of an exclusively qualitative approach to the gathering and presentation of data as a way to represent a more individual mentor-oriented perspective on the process. The presentation of three participants' quite varied perspectives provided insights into how mentors develop knowledge about composition pedagogy, without



the need for quantification of their work.

Another point of difference was the access to young novice composers who had no specialised help in their classrooms and relied completely on the guidance of the mentors. This created a need for the mentors to be particularly appropriate in their communications, a skill that all three had had no prior opportunity to develop in terms of composition. In particular, they needed to develop ways to express ideas largely free of the music-specific jargon that they personally may normally use. The positive comments from the school students suggested that the mentors had indeed developed an ability to be helpful, appropriate and empathetic in their feedback to young novice composers.

The third point of difference occurred through the focus on current music production software as the context for the composition activity. This focus was a deliberate attempt to expand the mentors' concept of what is composition and to allow them to experience technology-based strategies less familiar to themselves but that are now potentially very accessible in classroom composition programmes. All three mentors conveyed new understanding of the nature of such strategies and were able to incorporate some of their new knowledge within their feedback. They could clearly see the potential for using such strategies within their future composition teaching programmes.

The apparent gains to the mentors reinforce the potential viability of an online context to assist in developing composition pedagogical knowledge. The context ensured that mentors had ongoing flexible access to school students without the organisational difficulties of establishing multiple face-to-face interactions within an already overcrowded course. The 'real' situation appeared to create momentum and motivation for the mentors to engage as well as they could with the school students. Comments by mentors and students suggested a mutually beneficial learning relationship had developed.

Although the study outcomes were particularly positive in nature, these should be tempered with the acknowledgement of some unresolved issues associated with the study. There were occasional organisational/technical problems such as having insufficient compositions provided by the *Compose* students so that feedback could be undertaken at the one time. Mentors sometimes found themselves waiting for compositions to become available and hence got less mentoring practice than perhaps they could have. Also, mentors wanting to continue their work away from the university campus could not do so unless they had access to *Garageband* software on an Apple computer. In terms of study design, the use of just three participants limited the opportunity to represent the experiences of all mentors, some of whom have been frustrated with utilising computer technology and the online environment, and/or have lacked willingness to truly engage in new learning initiatives. These aspects can have an impact on the extent of their success with online mentoring.

Future online mentoring initiatives and research opportunities

As a result of his studies, Reese (2000b) concluded that there needed to be more development of pedagogical methods brought to teaching of mentoring skills. The *Technology-mediated Composition* module is an example of one such development that was able to be conducted with a realistic time allocation within an overall music teacher education course. Its initial focus on building knowledge about both technology-based composition strategies and quality composition feedback, combined with the opportunity to subsequently mentor online novice student composers, led to some successful experiences. It is important, however, to acknowledge that this finding was the outcome of an initial, small-scale, exploratory study and further investigations of implementations of the module with different students are needed to establish the viability or otherwise of such an initiative in music teacher education courses. Future studies should include a larger number of participants to establish a broader picture of mentors' perspectives, and should also consider more fully the perspectives of the school students involved. Furthermore, a comparative study between groups undertaking the module and others experiencing different composition pedagogical learning could offer further insight into the extent of the module's effectiveness. Should the module eventually be deemed viable, a new generation of music teachers may well become



more equipped to establish more relevant and effective compositional programmes of learning in their classrooms.

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