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Technologically mediated composition learning: Josh's story

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An innovative ICT project called Compose *has been implemented in some New Zealand primary schools in an effort to counteract the lack of classroom composition opportunities.* Compose *combines the use of music software and online learning with attempts to address barriers to primary classroom composition. This article illustrates, through personal narrative, how* Compose *made successful composition experiences possible for a student in a classroom where no such opportunities had previously existed. The project led to the student acquiring compositional skill and knowledge and a positive music self-concept. Though it is not possible to generalise from a single case study, the findings indicate that* Compose *could offer a potentially viable way to increase classroom composition learning opportunities.*

Introduction

In a number of countries there is evidence of insufficient opportunities in primary schools for students to engage in music composition (Barnes, 2001; Reese, 2001; Department of Education, Science and Training, 2005; Flockton & Crooks, 2005). There seems to be some consistency in possible reasons for this situation. Specifically, relevant issues that have been documented include low primary teacher confidence and competence in music (Young, 2001; Education Review Office, 2004; Department of Education, Science and Training, 2005), a lack of provision for specialist music classroom teachers (NZSME, 1999; Department of Education, Science and Training, 2005) and a lack of time in the primary school programme for music education (Barnes, 2001; Stevens, 2003; Doddington, 2004).

There exists in primary schools a number of children who find it difficult to engage with formal school learning. Some of these children become alienated from school because the learning environment is not able to support their particular learning requirements (Noble & Bradford, 2000; Wylie & Hipkins, 2006). There is a need to identify activities and strategies that might secure the attention of such students (Hoover & Patton, 1997). Evidence exists that the use of ICT can motivate reluctant and normal learners alike (Harris & Boyd, 1998; Passey & Rogers, 2004). The particular ability of ICT to provide access to online collaborative learning projects has been found to be effective in supporting student learning (Trewern & Fry, 2001; Mason, 2006).

ICT is also playing a role in engaging students in music composition activities. It is suggested that music software can make composition more accessible for young people (Hickey, 1997; Webster, 1998; Stauffer, 2001; Reynolds, 2002; Jennings, 2003; Ho, 2004) and that prior performance or notation skills are not necessarily indicative of software-based

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compositional achievement (Seddon & O'Neill, 2001). It is also suggested that students are empowered by the opportunity to express ideas in new ways made possible by music technology (Savage & Challis, 2002; Savage, 2005) and that the technology allows students to make music that is culturally relevant to them (Gall & Breeze, 2005; Pusey, 2005; Ashworth, 2007). There is evidence that meaningful web-based partnerships in music composition learning can exist for students (Beckstead, 1998; Reese, 2001; Ashworth, 2007; Vermont MIDI Project, <http://www.vtmidi.org>).

The educational issues and ICT developments identified above provide a context for this article which uses personal narrative to illustrate how the use of an online, computer-based, composition learning project, *Compose*, was able to support a young, apparently troublesome student to successfully create music in a classroom where there was no music education programme operating.

Use of narrative

The personal narratives presented in this paper are two-fold. They are the narrative of the participant researcher (myself) as well as the 'stories' provided by the student. Humans are inclined to use storytelling or narrative as a natural way to convey their experiences. Bruner (1986), amongst others, identifies narrative knowledge as a distinctive way of knowing, a legitimate way that humans construct reality about their world (p. 11). Verification or truth, as it is understood in the logical-scientific sense, is not an issue for narrative. Rather narrative is convincing through its 'lifelikeness' (p. 11), and its ability to establish 'verisimilitude' (p. 11), that is, be recognisable as 'true to conceivable experience' (p. 52).

Educators have always made use of narrative knowledge, that is, the personal stories of teachers and learners, to inform their own practice in the classroom. Clandinin and Connelly (1998, 2000) have gone further, however, and validated narrative knowledge as a way to present educational inquiry. Shaped by John Dewey's writings on the nature of experience, and literature from the social sciences on the concept of narrative (Geertz, Coles, Bateson, cited in Clandinin and Connelly 2000: 19), Clandinin and Connelly hold experience and narrative as inter-connected:

> Education and educational studies are a form of experience . . . experience is what we study and we study it narratively because narrative thinking is a key form of experience and a key way of writing and thinking about it. (2000: 18)

For these writers, narrative, as a way of writing and thinking about experience, is held as equally relevant for the research participant as for the researcher:

> Narrative names the structured quality of experience to be studied, and it names the patterns of inquiry for its study. (1998: 155)

Chase (2005) endorses the idea that researchers can view themselves as narrators when presenting the ideas of the narratives they study, and proposes a typology of three voices (pp. 664–6) that narrative researchers can bring to this process. In using the 'authoritative' voice, the researcher presents a separate and different interpretation of the narrator's voice. In contrast, the 'supportive' voice highlights the narrator's voice and minimises the researcher's interpretive voice. The 'interactive' voice displays a major interconnection between the

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researcher's and narrator's voices with the researcher sharing his/her own experiences alongside those of the narrator's. She suggests that the typology offers a way to acknowledge the diversity of narrative researcher voices and recognises that researchers may employ each of them at different times.

The writings of Bruner (1986), Clandinin and Connelly (1998, 2000) and Chase (2005) have provided a licence for the particular way dual personal narratives are presented in this article. The music composition learning experiences of the student, as he saw them, were captured as stories or narratives through his email correspondences, an oral conversation and his musical compositions. In considering how best to represent these experiential stories in my researcher's text, I believed they stood well in their raw form, as a way to maintain credible 'lifelikeness' (Bruner, 1986: 11). However, as viable research, meanings needed to be made of the 'stories' in the form of research text. Given the level of involvement in this research as both the specialist composer/teacher in the *Compose* project and the researcher, I believed it was important for issues of credibility, to present my own involvement as transparently as possible. Hence in making meanings of the student's stories, I have also created my own narrative of the experience as a way of 'experiencing the experience' (Clandinin & Connelly, 1998: 160) and 'being in the text' (1998: 173). In that way I am predominantly aligning myself with Chase's (2005: 666) 'interactive' narrative researcher voice.

Intervention tool: *Compose*

Compose was designed as a potential way to bring about some change to the current low level of upper primary classroom composition activity in New Zealand (primary level education is classified in this country as years 1–8, i.e. ages 5–12). *Compose* combines a range of positive developments in computer technology, with specific attempts to address three identified barriers to classroom composition, namely, the lack of confidence and competence of many classroom generalist teachers to deliver music programmes, the low Government priority for the provision of specialist music teachers in primary schools, and a lack of allocated time for music education in the school programme.

The project is a three-way web-based partnership between a music specialist/composer (in this case, myself), a generalist teacher and his/her students in the classroom. At flexible times within a school day (and while other classroom learning activities are simultaneously occurring), students don headphones in front of a computer to explore compositional techniques, through a specialist-designed learning programme and the Apple Computer software *Garageband*. The specialist mentors students online and the generalist teacher facilitates the project in the classroom by managing access to computers. Web-based interaction occurs through two 'vehicles'. One is the iDisk Apple server storage where students place their completed *Garageband* files in a folder accessed by all *Compose* participants. The other is *Learn OnLine,* an asynchronous, e-learning platform where students and teachers are grouped like a class with communication between all participants fully supported.

Central to the notion of *Compose* is the establishment of a 'learner-centred' environment. Embracing Bransford *et al.*'s (2000) perception that such an environment pays 'careful attention to the knowledge, skills, attitudes and beliefs that learners bring

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to the educational setting' (2000: 133), *Compose* is intentionally based around the use of computer-based software and web-based learning as a way to connect with students' own pre-established propensity toward working with such digital technologies (Papert, 1994; Tapscott, 1998; Dye, 2005). The learner-centred focus in *Compose* means students work at their own pace on open-ended, creative tasks, nurtured by a personalised, online mentoring relationship. The individual, encouraging nature of the feedback offered to a student is intended to potentially develop self-esteem, motivation and commitment to composition learning.

Of importance in *Compose* also is the notion that students are entitled to have access to compositional learning not currently happening in their classrooms. *Compose*, therefore, deliberately makes use of intuitive music software that allows musical concepts to be easily accessible, visually and aurally, without the need for much prior musical knowledge, performance skill or understanding of music notation. Adhering to a constructivist learning model, the spiral, sequential programme encourages 'learning by doing'. The programme consists of an initial five lessons that gradually familiarise a participant with the compositional features of *Garageband*. A single piece of music is developed by the student over the five lessons. A second set of four lessons progressively enhances a participant's knowledge and use of both the elements of music (beat, rhythm, tempo, pitch, timbre, dynamics) and compositional devices (such as motif, sequence, structure, texture) that are then used to complete short, open-ended compositional tasks. The first set of lessons is presented through a written worksheet format which the students have alongside them as they work through *Garageband.* The second set of lessons is provided through a combination of *Garageband* files containing both spoken explanations and audio examples, and a written worksheet.

Compose culminates in a major compositional task, entitled *Clubs*. Designed to embody increasingly respected principles for 'meaningful learning' (Jonassen & Strobel, 2006) and maximise the chance for 'engaged learning' (Hung & Khine, 2006), *Clubs* is an open-ended, authentic, ICT-based, creative problem-solving activity that requires collaboration to be successful. As such, it also adheres to the need to provide appropriate compositional contexts in which young people can identify themselves as composers (Burnard, 2000). The task involves students creating their own compositions to contribute to a recorded musical setting of the recent award-winning New Zealand children's book, *Clubs a Lolly Leopold Story* (De Goldi & Colley, 2004). It is a humorous story of how children form clubs at primary school and one girl's (Lolly Leopold) response to these clubs. The student composers are given the specific task of musically portraying each of the clubs. Their recorded compositions are then placed alongside music especially created by me as the specialist composer/teacher involved in the project. A school receives a CD version of *Clubs* that features its own students' compositions and my work with the option to create a stage production using the CD.

Research design

Compose has been implemented in a number of primary schools' year 8 classrooms as a research project. One of the key purposes of the study was to examine the effect of *Compose* on increasing compositional learning opportunities in these classrooms. The question was

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asked – what, if any, were the compositional learning and attitude benefits for students involved in *Compose*? In an attempt to answer this question, a range of quantitative and qualitative data was gathered – student pre/post project questionnaires, student pre/post project music technology/composition vocabulary tests, email communications, student compositions, interviews, and observations. It was possible to compile data for each student participant as a case study record. One case study provides the basis of this article and unfolds some insights into the research question.

In this report, the case study is presented through the student's personal narrative elicited through email communications, interview and compositions. The student narrative is interwoven with my own participant (*Compose* specialist composer/teacher) researcher narrative elicited through observation and interpretation of the student's written interactions and compositions.

The student agreed to be the subject of this article and also granted permission for reproduction of all personal communications used.

Josh's story

One morning, not long after a group of year 8 (12-year-old) students had begun working on *Compose*, I received an email message. It was the first contact I had received from any member of the group and it read:

> ok cool i just finish my first lesson cool aye i followed the intrshions it fun lol hey check the idisk i gave you my project from Josh.

The message came as a surprise. Of all the students, Josh (a pseudonym) had seemed the least likely to have promptly engaged in the first lesson and completed the required task. I eagerly downloaded his piece and found it to contain all aspects of the intended learning. Moreover, it was convincing and interesting to listen to.

Josh's school

Music education at Josh's school was quite typical of all those involved in the study. There was no music programme operating in the year 8 classroom, only year-level, mass-singing. Josh's generalist teacher identified herself as being 'musically illiterate', lacking competence and confidence to implement a balanced classroom music programme. She had never attempted composition activities of any sort in her teaching.

While the state of music education at the school was disappointing, the same could not be said for the school's computer technology. There were large numbers of current eMac computers, a school network and fast broadband internet connection. Multiple laptops with wireless internet facilities were also easily accessible to students.

Josh at the beginning of the project

Josh chose to be a participant in *Compose*. I first met him, along with the other participating students, when I came to his school to administer pre-project questionnaires and a music/computer vocabulary test. He was shy and wore the hood of his sweatshirt over

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his head most of the time. Despite participation being his choice, he expressed uncertainty about doing the project, particularly because it involved using Apple Macintosh (Mac) computers rather than his familiar PC.

Josh initially struggled to understand the layout and instructions of the vocabulary test. While nearly all other students settled quickly to completing the task, Josh needed several reassurances he was approaching it correctly. He achieved a score, however, slightly above the mean.

He needed similar guidance to complete the questionnaire. This questionnaire sought information about his experience in music, in composing and in the use of computers. Josh rated his general music knowledge and skill as low. His responses also indicated a low self-concept in relation to composing with computers, with the 'I couldn't do very much' rating consistently chosen. Josh did, however, present a different picture about his experience with computers in general. He considered he had 'a lot' of skill on computers. He enjoyed computer activities, and spent significant time on a computer out of school hours.

As part of my visit that day, I chatted with the principal of the school. We discussed some more details about the project and then he wished me luck in working with two of the students participating in the project. He identified one of these students as Josh whom he considered one of the most behaviourally and academically challenging students in the whole school. With body and facial gestures that suggested some exasperation, he described physically violent behaviour and verbal abuse displayed by Josh. This included occasionally running away from class.

Josh's classroom teacher provided similar information. She added that he would often become defeatist when presented with work. 'Can't' and 'don't know' were familiar words expressed by Josh. However, she suggested there was a glimmer of hope. She had taken the most unusual step of drawing a bell curve and showing Josh where he fitted in recently completed national standardised comprehension and maths testing. She described him as dumbfounded when he saw that he sat in the middle part of the curve. He said, 'No-one has ever told me that before'. Since then she had detected a hint of improvement in Josh's behaviour and attitude.

Josh's progression through Compose

It had taken Josh just over a week to complete his first lesson and send the email to notify me of his achievement. He received immediate positive feedback from me to which he replied,

> Thanks I told you I rule and im starting step 2 now. . .yea I am the first person to finish it im proud lol from Josh

I waited in anticipation for his next communication. It came a week later in the form of an email query:

> hey Jan im having a bit of trubble with step 2 it says choose > edit > select all. Hold down option and drag. . .that is a bit hard I don't know what you mean. Its just that bit though all the rest is kool it is a lot of fun koool lol.

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Josh's optimism for the project work was encouraging. So was his initiative to indicate a difficulty with an instruction. I immediately responded, rewording the explanation and suggesting he try the new instructions with someone else alongside.

A few days later, a response from Josh thanked me for the help and notified me he had placed lesson 2 in the iDisk folder. His growing sense of success was evident in the latter part of the email message:

> hey I told my mum/dad and family they think its great we have our own password and a site to go on its so much fun doing this program and I learn a lot of composing music I have never done composing music before but I think im doing qutie good well I hope I am I got to go now bye biiiiiii.

Josh's second compositional effort was another interesting little piece that once again contained all the learning points covered so far. It showed evidence of discerning musical decisions in terms of the choice and combination of timbres, the manipulation and alteration of rhythm loops, and the addition of appropriately chosen bass and harmony loops that worked well with the rhythmic feel. A colleague of mine had overheard the piece and was spontaneously complimentary about its character. My feedback to Josh detailed all the effective aspects, including my colleague's response, and left him in no doubt about the success of his work to date. He replied:

> oh did you reli like it that just cheered me up thanks and even your worker liked it that makes it reli special thank you for that nice comment now I cant wait until I see the 3 step well bi for now.

The next lessons (or as Josh called them, 'steps') required students to build on the piece they had begun in lesson 2. They were scaffolded through adding personally created ideas rather than working with the loops provided. The ideas were to be inputted via MIDI using a music keyboard and via audio using the internally built computer microphone. Students were required to make some mixing decisions about each track in their piece and also add some finishing touches to the piece overall. Volume shaping, pan (stereo position) and effects were all introduced as possible techniques.

Josh sent the piece from lesson 5 well in advance of all other students. The piece consisted of nine different parts/tracks. Six of the tracks contained pre-existing loops that he chose, then combined and manipulated in various ways, including transposing down a semitone the pitched loops that had first appeared in his lesson 2 piece.

The other three tracks contained Josh's own original ideas. Each was quite different. The piano had a punctuating crotchet chordal motif while the flute part was a melodic, demi- and semiquaver ascending/descending motif with volume changes. The voice track contained his own spoken rhythmic phrase which he transformed into an unrecognisable sound with added effects, including pan changes.

Josh's lesson 5 piece displayed use of a wide range of tools available in *Garageband* to combine pre-existing loops with personally inputted ideas. It was inventive, quirky and held the attention of listeners. He was proud of his piece and delighted with the response to it. What the piece lacked at this stage was a sense of larger-scale form or structure and the use of a range of contrasts in texture. The second set of four lessons which Josh was about

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to embark upon included exploration of such compositional strategies. I looked forward to hearing how he might incorporate the new knowledge in his future compositions!

The opportunity came in the culminating task of the *Compose* project. Josh was very enthusiastic about the *Clubs* task and agreed to compose the music to portray the Lego club. Part way through I received this email message:

> my clubs work is good and hey can u get me a scream piz and a bang because in the book the lego club likes building the things then blowing them up and sending them sky high.

He and I subsequently communicated about how he could create these images musically and combine them with some existing sound effects. His resulting composition was dramatic, conveying the images of the story with a range of timbres and his own inputted sounds. It was characterised by interesting variations in texture and was structured with a sense of introduction, development and ending. It took its place convincingly within the overall recorded *Clubs* composition. He and the other student composers from his school met me in a sound studio to assist in the production of their *Clubs* CD. He was very pleased with the result and proud of the fact his school had decided to take up the option of staging a production using the CD.

Josh's sense of success was to grow further still. I received the following email during the rehearsal stages of the production:

> hey jan i got a really cool job on the play i composed the music you no that and i did that thing that was at the studio and it contraolls the volum and that is my job to do the sound job from josh write baclk soon.

As I had not replied to his email immediately (i.e. within 20 hours!), I subsequently received this email message:

> hey jan write back i wan to see what you think of my job in the play ok.

You can probably imagine the pleasure and encouragement I then immediately conveyed to Josh about his success.

A conversation

In identifying features of Josh's journey through *Compose*, I became keen to find out about his own perceptions of his experience overall, as a way to validate existing observations. Josh agreed to a conversation in person. The discussion not only strengthened impressions already identified but also illuminated additional aspects.

Composition process and product

The attention to detail about sound, evident in Josh's compositions, was described by him at one point in our conversation:

> You got to like the sound and then work with it . . . i did a lot of experimenting like I added a piece, didn't like it, took it out, cut it a little bit, made it a little bit shorter, made it longer . . . I use my own voice like in the helium voice, use the special settings

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> to make it sound better . . . You have to change your settings. I changed settings with the loop and I learnt to make a sound myself like a chord.

It would appear that Josh's manipulation of sound was based on clear ideas of what he wanted. What is evident also is that he made considerable use of 'tools' within the *Garageband* software to achieve his desired sound.

As well as insights into his composition process, Josh offered some comments on what a finished composition product had meant to him. In describing his composition contribution to *Clubs*, he identified it as:

> a goal to get something good . . . quite freaky actually that people were going to hear my music.

He went on to say:

> I never made good music like that before . . . it was my first time of having something actually done well. Normally I leave things to the last minute and I don't get them done. Homework's just not my thing. Normally I wouldn't get it finished but because it was on something I liked, I got to work on the computer and I actually knew what I was doing.

Josh appeared to 'arrive' at the *Clubs* task with the sense that he could achieve an effective composition based on his developed composition knowledge and skill. Acknowledged success with previous tasks in *Compose* had reinforced his confidence. In addition, the nature of the *Clubs* task clearly appealed to him.

Computer-based music learning a source of motivation

In the above discussion, Josh mentioned the use of the computer within the *Clubs* task. In fact, the central role of the computer within *Compose*, was constantly referred to by Josh throughout our conversation. What became evident was just how motivating a combination of music and computers was for Josh. The following section of our conversation suggests this:

> I stayed there for lunchtimes and I sat there reading the instructions. And I sat there in my time when we were having fun on computers, when we're allowed to play games, I was reading instructions learning what to do and I found it quite interesting.

This led on to the following discussion:

Ja: You were really good at following instructions and ideas. Why do you think you did this well?
Jo. They were easy to read and stuff . . . made it easy with little pictures.
Ja. How do you go in other class work when you have something you've got to read ?
Jo. I don't read. I never have. [said quietly].
Ja. I wonder why you were so good at working through *Compose* then?
Jo. Oh I like working with music [said demonstratively] . . . I like working with it cause it's on the computer. It's something I **can** [his emphasis] work with and I know what I'm doing with it. So it made it a lot easier.

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The apparent ease that Josh felt in working with computers was in one sense not at all surprising. Pre-*Compose*, he had indicated he spent significant time on a computer out of school hours. A discussion confirmed he had his own laptop at home and broadband internet access which he used for email communication and numerous web-based activities, including shopping.

What seemed to be different though was his considerable engagement in a school-based project on computers. He had indicated pre-project that he did not do a lot with computers at school and was anxious about embarking on a project based on Apple computers that were less familiar to him. What was also different was his new-found confidence with making music with computers. Pre-project he had rated himself as having low self-concept in relation to this activity.

Appeal of online learning with specialist mentor

As well as being enthusiastic about working on composition with computers, Josh expressed delight in the online aspect of the learning. His following comments give some insight to this:

> That was awesome how we got ourselves a Learn OnLine. I still use it at home every day . . . it was awesome. We just had to drag our things in. we didn't have to go through like anything hard . . . that Learn OnLine thing was real cool . . . giving my music to someone else that I really don't know, only from name and stuff. It's quite fun actually. They get to know you.

The last statement prompted some further inquiry about how he perceived my role as an online teacher/specialist:

> You were really awesome, available. You actually reasoned with us to help us out. Man it was real fun actually. We could just email you and you were there and on the case and you can talk to us, help us out what to do . . . I think it was on page 4 or something I got a bit confused . . . and then I emailed you and you told me what to do. So then I was fine with that.

Impact on other aspects of schooling

It appeared that *Compose* used a learning style that particularly suited Josh. He had enjoyed the nature of our online learning/teaching interaction and had been able to establish a meaningful two-way relationship. It was interesting to find that his involvement in *Compose* had implications for other aspects of his school life:

Ja. Did doing well in Compose benefit you in your other subjects or in your classroom behaviour?

Jo. Yeah. Other teachers start trying to help you out and stuff. It made you feel a little bit happier . . . you try your best to be like good and then you get more turns on Garageband. Mrs A [classroom teacher] had a say in it as well like when I was bad she could say I was not doing it.

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Intention to continue composing and other music learning

Towards the end of our conversation, Josh expressed his future plans for himself and music:

> I actually really enjoyed it with myself, that I can actually compose music and I'll do more of it in my later life. I am getting myself an Apple computer and I wouldn't have got myself an Apple if I'd never started this project . . . I'm going to apply for music next year [at secondary school]. I'm going to keep continuing. Make more CDs and stuff.

Discussion

It is never possible to generalise from the results of a single intervention. However it is possible to discuss the perceived impact of *Compose* on Josh and suggest some implications of the findings.

Josh was a participant in a study that examined the effect of *Compose* on increasing compositional learning opportunities in upper primary classrooms. The question was asked – what, if any, were the compositional learning and attitude benefits for students involved in *Compose*? In relation to this question, Josh's story revealed:

- Acquisition of compositional skill and knowledge.
- Ability to create increasingly innovative, interesting, and effective pieces.
- Development of a positive self-concept about ability to compose.
- Enjoyment of the project's particular approach to compositional learning.

These all occurred despite a pre-project image of Josh as a student who often displayed dysfunctional classroom behaviours, learning difficulties and low self esteem. How might this have happened?

Some current researchers in the field of e-learning have explored the notion of 'delightful' learning (Ramondt & Chapman, 1998; Mason, 2006). In particular, Mason (2006) found that primary school students undertaking an online programme of learning experienced delight from 'three main aspects of the programme: from the use of ICTs themselves, from the social aspects of the learning and from the authentic, learner-centered focus of the activities' (p. 35). Delight was evidenced in terms of 'synonyms . . . such as joy or pleasure, as well as indicators of motivation, engagement, sustained focus and interest' (p. 38).

Observations of Josh's journey through *Compose* concur with Mason's findings. A sense of pleasure was evident in his email writings; he showed perseverance with working through instructions to complete tasks and maintained a keen interest throughout the project. Somewhat similar to the features of the online programme of learning in the Mason study, *Compose* placed emphasis on computer technology use, on fostering a two-way, online relationship, and on offering a self-paced learning process with personalised activities. These aspects appeared to foster Josh's delight.

While Josh's pleasure was evident in his journey through the project, so was his growing ability in composition. Josh's pieces were characterised by increasing substance, structure, and creative musical thinking. It appeared that despite previously limited musical experience, he was able to demonstrate musical knowledge and imaginative musical

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thinking through the use of music software, a finding that concurs with studies of children making music on a computer by Gall and Breeze (2005), Seddon and O'Neill (2001), Reynolds (2002) and Stauffer (2001). Repeated successful experiences appeared to develop Josh's feelings of success as a composer and his values for composing, a phenomenon similarly noted by Stauffer (2001). *Compose*'s personalised learning approach, featuring 'learning by doing' activities at a student's own pace and individual mentorship appeared to be a particularly effective way of unfolding compositional learning for Josh. So too, evidently, was the inclusion of a culminating, realistic compositional task that required creative problem-solving as well as collaboration with a professional composer. The apparent success for Josh of *Compose*'s particular style of both personalised and collaborative music learning resonates with similar experiences in the UK-based Musical Futures project (<www.musicalfutures.org.uk>). The latter project is currently influential in developing new ways to engage young people in musical activities.

The success Josh experienced could well be attributable to many of the specific characteristics of *Compose*. What seems to be central in both Josh's success and *Compose* though, is the computer environment. The possibility that such an environment can be a major contributor to motivating children's creative music output is not without precedence. In a study of two boys working on a computer-based music compositional learning programme, Hickey (1997) found that both boys surpassed any previous expectations of musical talent. They had been portrayed as students who demonstrated behavioural problems in their music classrooms, displaying neither creative nor general music ability. Yet within the computer-learning environment, both boys produced work which contained imaginative, creative musical thinking. Hickey proposed that the computer learning environment might reveal musical potential that would not otherwise be revealed and suggested that further research was needed to consider the impact of this possibility on general classroom music education.

Perhaps the story of Josh's journey through *Compose* goes some way to heeding Hickey's call. There is little doubt that Josh's story concurs with aspects of Hickey's findings. In addition, it is the story of a student working successfully on a computer-based compositional project that was specifically designed to run with other learning activities occurring simultaneously inside a general classroom environment. Furthermore, it offers the additional perspective of another aspect of a computer-learning environment – the impact of online mentoring on a student. However, Josh's story is indeed the story of just one student and as already acknowledged it is not appropriate to offer generalisations based on a single phenomenon. In light of this fact, further opportunities need to be sought to report on additional research that considers the potential of *Compose* to increase composition opportunities for multiple students in primary classrooms.

In the latter part of Josh's story, it became evident that the advantages he had gained from *Compose* appeared to have gone beyond the compositional learning and attitude benefits already identified to a gain in more general music interest and also extra-musical benefits. These outcomes were not originally the focus of *Compose*. There already exists a range of anecdotal evidence, advocacy statements and studies describing the positive effects of music education in general (and particularly performance/instrumental work) on student self-esteem (Reynolds, 1995; MENC, 2002; Scripp, 2002). What could be worthy of future focus is the much less reported wider musical and personal benefits a student potentially

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gains from successful involvement in specifically computer-based, composition-oriented activities.

Conclusion

Personal narrative has been used as a way to illustrate how one upper primary aged student acquired compositional skill and knowledge and a positive compositional self-concept. For this student, classroom music learning occurred despite his own teacher's acknowledged lack of musical confidence and competence, and a lack of any regular classroom music education programme in place. This learning also occurred despite the student's apparently previous reluctance to engage with most school work.

The learning happened through a project called *Compose*, which was implemented in the primary classroom as a way to offer previously unavailable composition learning opportunities. The key feature of *Compose* that appeared to make the learning possible was the use of computer technology that provided access to both appropriate music software and a web-based learning partnership.

The model of *Compose* may have potential to overcome barriers to composition learning in our upper-primary classrooms and provide opportunities for successful compositional experiences for our students. As music educators and researchers we need to be aware of technologies that increasingly make networked collaborative partnerships possible and continue to investigate models like *Compose* that make use of such technologies. In that way we are contributing towards the rich music education opportunities our children deserve.

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