Computer based composition in the Primary School:
An investigation of children’s ‘creative’ responses using Dance eJay

LIZ MELLOR
York St John College (A College of the University of Leeds)
Background

Recent research has shown how various definitions of creativity have been applied to researching children’s composition strategies (Webster 1996, Folkestad 1998, Burnard 2000, Miell and MacDonald, 2000, Seddon and O’Neill 2000, Mellor 2000, 2001). Set within the context of teacher training and the increasing requirement to incorporate Information and Communications Technology (ICT) in subject teaching in the UK (DfEE 4/98, 1998), and set within a growing literature of the efficacy of using ICT to facilitate composition (Paterson and Odam, NAME 2000), teachers are required to identify how ICT will be used to meet teaching and learning objectives in music. The intention of the study is to find out how children approach composition using the CD Rom package Dance eJay and of its appropriate application in the primary school.

Methodology

The design of the study subscribes to a mixed method approach within a qualitative research paradigm in order to investigate how different sources of data could be triangulated to inform an understanding of ‘creative thinking skills’ within the composing process.

The first source of data derives from the transcriptions and coding of the onscreen ‘mouse’ manipulations recorded during the participants’ use of the CD Rom Dance eJay. This develops the work of Miell and MacDonald (2000) and Seddon and O’Neill (2000). The advantage of this methodology means that the children taking part in the research may be more at ease in the process of composition as they are not being observed or recorded by either a video recorder or a researcher.

The second source of data derives from the text analysis of Retrospective Verbal Protocols after Green (1996) and Richardson and Whitaker (1996). Following a pilot study it was found that the children were much more able to talk about their process of composition when prompted by watching the video of their own onscreen manipulations. I refined the design further by asking the children to ‘take hold’ of the video remote controller and to fast-forward/stop the video playback as they felt appropriate and significant and to say why.

The third source of data derives from Interviews following the technique of personal construct elicitation after Mellor (1999) and Burnard (2000). This interview technique invited the children to reflect on their own memorable experiences of music at home, with friends and family and in school.
Participants

The participants involved in the study were children in their final year of their primary schooling. The participants were aged between 10-11 years old. Each phase included four children with a mix of gender and experience of formal instrumental music training (FIMT). At this stage the study has included a total of eight participants.

Procedure

Each participant took part in:

- a short training session using Dance eJay. This was scripted to control for variation and ensure consistency across the sample,
- a Composition Task. This was set on an individual basis. Each participant was given fifteen minutes to complete the task. The instructions were ‘to compose a piece which sounds good to you’. All the onscreen manipulations were recorded on to floppy disc and recorded onto videotape using the Corio Scan Converter,
- a Retrospective Verbal Protocol (RVP). A script was developed in order ensure the children knew what was expected of them, to control for variation and to develop a consistency of approach in preparation for further investigations. All the participants’ RVPs were recorded onto videotape using a freestanding video camera positioned discretely in the room. Included in the frame was the participant, the television and the video of the playback of the onscreen manipulations
- an interview using the technique of critical incident charting.

Data Analysis

For the analysis of the onscreen manipulations a detailed written description of each video was made. A coding scheme was developed to provide an event analysis which included: (a) construction - this refers to how the soundblocks are selected and positioned and whether they are aurally referenced or not, (b) replay - this refers to whether the individual soundblocks are replayed, sections of the ‘mix’ are replayed or whether the whole mix is replayed from the beginning (global replay) or stopped, (c) editing - this refers to whether sound blocks are deleted, moved, inserted and overlaid (d) mouse movement – this refers to periods of mouse inactivity longer than 4 seconds and seemingly ‘random’ mouse movement which is longer than 4 seconds which is also coded (e) errors using programme -these refer to problems which the participants encounter using the programme and which result in mouse movement which is not part of the constructing process. For the analysis of the retrospective verbal protocols the text was analysed for themes which were subsequently coded. The interviews were transcribed as critical incident charts from which personal constructs could be elicited.
Results

For the purposes of this paper one example is cited from the data to show the triangulation and to illustrate issues which are emerging in the data as a whole. An example of the coded analysis of events of Kathryn’s onscreen mouse manipulations are set out as follows:

Event 3:SEL/AR
Selects and moves Voice:Calling love 1 to Track 1: 5.
Selects and listens to Voice:Calling love 1 to Track 1: 5
Event 4: RP/GL
Clicks rewind/beginning and play (listens) to end (global)
Event 5: ED/DSB
Selects and moves Voice:Callinglove 1 to central display to delete
Event 6: SEL/AR
Selects and listens to Voice :Taste love 2 in central display.
Selects and moves Voice :Taste love 2 to Track 1:5
Event 7:RP/GL
Clicks rewind/beginning and play (listens) to end (global)

The description and coding of the onscreen manipulations shows that the early part of Kathryn’s construction strategy was very systematic and ordered. It was characterised by selecting, moving and listening to the soundblocks. This was systematically followed by rewinding and replaying from the beginning to get a sense of the parts within the structure as a whole.

The analysis of her RVP suggests that she may have brought some ideas to the process of composing before she started:

“I also wanted to put some like drums in first, then some singing and then some more softer sounds to finish it off so that it isn’t just the same thing all the way through.”

Statements from her critical incident chart are presented as follows:

“I’ve done Grades 1-4 and I’m doing Grade 5 on my violin. I was really nervous when I did Grade 1 but now I don’t feel nervous anymore because I’ve got used to it.”

“I’ve just started playing the piano. My teacher’s fun. She is my choir teacher. She is not really strict. She’s only strict when you don’t practice.”

“My favourite piece is xxxxxxxx . It’s a Romantic piece for the violin. I like it because my Dad used to play it. It is nice to play. It’s just a memory for him but it’s a delight for me. It makes me shiver.”
“My Dad’s a professional viola and violin player. He used to teach. It made it a bit easier to know that he can play in orchestras.”

From this we learn that Kathryn has had formal instrumental music tuition (FIMT) and from an analysis of this data we see the elicitation of constructs to include her value for the experience of playing/singing in concerts, the role of her father as a musician, her aesthetic response to a piece of music, the value of lessons which are ‘fun’ and the role of practice.

By looking at the way the data interrelates it might be suggested that through Kathryn’s musical background which is rooted in performance, she brings to the process of composition a sense of what a piece of music should be and a sense of how it might be practised. From the coded analysis of the manipulations presented here, it is clear that she presents a very structured approach and systematically selects and rejects soundblocks into the ‘mix’ on the basis of aural reference. In addition these are always aurally referenced within the shape and structure of the piece as a whole. As such her composition process might be considered to mirror her practice strategy. It would appear that the first part of her composing strategy is concerned with ‘constructing’ a composition with careful and detailed choices of the soundblocks.

This is substantiated by her own comments in the retrospective verbal protocol:
“…then I tried some bass in it to see if it would go in <> some singing, but it didn’t really fit in because it just sounded wrong … so I just tried some <a different sound> <>I tried to repeat it, <repeat that that bit …it sounded quite effective >…… but it didn’t work.”

[‘<>’ refers to the music replay from the video transcription of the retrospective verbal protocol]

However, as the analysis of the data procedes, it is possible to gain an insight into her process of composition when her strategy changes. This is best illustrated by looking at a screen print from the data (Fig. 1). This example captures the point where Kathryn selects Drum: Snare Fill 11 and moves the soundblock to Track 5:9. It is the first time she positions a repeated soundblock/Snare Fill onto the mix, leaving a gap on Track 5: 5-8.

Cf. Figure 1

Her corresponding RVP gives us an insight into her compositional process at this point:
“Then I thought I’d put some more snare drums in because it sounded really good there [refers to Track4: 1] so I thought I’d repeat it a bit <> I played that …< I thought they fitted in with that [points to screen Track 1: 9]. It got louder at the end
and then quieter again [points to screen Track1: 13] and I thought that was (gestures – affirmation) >”

In the questions at the end of the RVP session she reveals that this was her favourite part of her composition.

Discussion

The results of the study show how the methodology (after Seddon and O’Neill, 2000) can be applied within a different context to capture individual composing strategies. The extended design of the study reveals the pupil’s perspective within the process and contributes another ‘layer of understanding’ especially where changes in strategies occur. As the above example suggests, the change of strategy and the musical outcome was particularly significant for Kathryn not only in terms of the structure of the piece as a whole, but also because it was her favourite aesthetic ‘musical moment’. It can be argued that the methodology provides a tool to pinpoint when creative thinking skills in composition occur. The data in the initial phase corroborates a view that children with prior experience of instrumental tuition may bring a preconceived schema to the composing process which is characterised by traditional notions of form and structure (Webster, 1996). This is an area for further investigation.

This study has raised many issues beyond the scope of this paper. >From an educational perspective, the research contributes to an understanding of how the process of ‘mixing’, which involves selecting, listening, editing and constructing can develop ‘composing skills’. From a methodological perspective, the research demonstrates that technology facilitates both the recording of data and provides a way of helping children to talk about their own composing processes. It shows that children can identify significant moments in the process of composition where critical decisions are made. The RVPs provide evidence to suggest how and why these decisions are made and whether they can be considered to be examples of creative musical thinking.
Address for correspondence
York St John College
Lord Mayor’s Walk
YORK Y031 7EX
North Yorkshire, UK
email: l.mellor@yorksj.ac.uk
References


