Recognizing creativity in the music classroom[1]

Abstract

This study examined trainee music teachers' judgements of the musical creativity of secondary age students. Nine pieces of music composed by Year 8 students (13 years of age) were evaluated by seventeen post-graduate, trainee teachers. These musical pieces were sorted into a diamond-shaped formation according to how creative they were perceived to be with the most creative pieces placed at the top and the least creative ones placed at the bottom of the diamond. This approach helped the trainee teachers achieve some agreement in their evaluation of the students' creativity. As well as a practical approach to recognizing musical creativity, the analysis of the trainees' responses led to the identification of some attributes, such as representing the stimulus idea well and making imaginative use of musical elements and musical devices, which can help teachers recognise, evaluate and promote children's creative responses in music.

Keywords

Creativity, music education, trainee teacher, musical composition, secondary school, assessment

Introduction

Some teachers will have reservations about judging the creativity of children's work. They may feel that it insults the process, it takes the joy out of creativity and, anyway, it is impossible to give grades for musical creativity (see e.g. Burnard and White, 2008; Sefton-Green, 2000). We have some sympathy with such views and, for that reason, avoid the term 'assessment'. Given that the music teacher is expected to foster creativity and nurture its development in students, we see it as recognizing and evaluating creativity to inform the teacher's planning and practice, not judging and labelling students. Thinking about a student's creative efforts is not a mechanistic process aimed at producing some measure but is about identifying how a student's world might be opened to new experiences and alternatives. We explore the recognition and evaluation of musical creativity from this perspective.

The creative act

[1] Kokotsaki, D. & Newton, D.P. (2014, in print). Recognizing creativity in the music classroom. *International Journal of Music Education*.

Carruthers (2002, p. 226) described the ability to create as 'one of the most striking features of the human species', showing itself in a creative explosion some 40,000 years ago and having evident survival value. UNESCO (2006) argues that all should have the opportunity to develop their creative potential and cultivate a sense of creativity and a fertile imagination, providing the opportunity for everyone to participate in cultural and artistic activity (Eisner, 2002; Lanier, 1975; Shillito et al. 2008). Creativity in the arts stems from learned and practised activities that are directed towards purposeful, expressive ends (Wright, 1990; Claxton, 2006). In the process of deliberate manipulation of the medium, something original and worthwhile may be produced (Dineen and Collins, 2005). This calls for choice and decisions, both on a micro and macro scale and not necessarily or entirely conscious or without constraint (Sternberg, 2006).

The creative process can be described as the thinking that takes place as a person is planning to construct a creative product. This is defined as an active, constructed and dynamic mental process which swings between convergent (factual) and divergent (imaginative) thinking (Webster, 1990, 2002). Creativity is closely related to the development of imagination (Higgins, 2008) and original thinking in order to generate a practical solution in response to a problem (Hargreaves, MacDonald & Miell, 2012). According to Odena and Welch (2009), creativity can be defined as 'imagination successfully manifested in any valued pursuit' (p.417).

Musical creativity

In her book Musical Creativities in Practice (2012), Burnard aims to challenge the historical conception of creativity as being the singular activity of the individual genius of the creator and provide a rationale for a pluralist conception of musical creativities that feature in the most dominant and ubiquitous contemporary music practices. This is in line with the more democratic conception of creativity according to which everyone can be creative in some area given the right conditions and support (NACCCE, 1999). This signifies a more 'systematic' view of creativity which, in contrast to the 'romantic' view of creativity being irrational and mysterious, sees creativity as a rational everyday occurrence that results from intense effort and persistence (Odena, 2012a). Creativity in music has been defined as a learnable and teachable high-level skill (Balkin, 1990) that can develop with learning, practice and experience (Koutsoupidou & Hargreaves, 2009). In the music classroom, children can produce creative work if teachers are able to nurture and support their creative thinking and encourage creative behaviour. In this case, Craft's (2001) 'little c' creativity can be a frequent occurrence in the music classroom where children are enabled to produce new and personal pieces of work. However, there are teachers that still believe that creativity is an innate characteristic, a natural gift that cannot be taught to all children (as, for example, Zbainos and Anastasopoulou, 2012, found in their study on teachers' creativity perceptions in Greek music education).

In a 'child-centred' education, there is an emphasis on the quality of personal challenge and the subjective experience of the learner (Sefton-Green, Thomson, Jones & Bresler, 2011) with a specific focus on improving the experience of children

(Marsh, 2010; see also the 'creative classroom' rhetoric as developed by Banaji, Burn & Buckingham, 2010). In England, the Plowden Report (CACE, 1967) helped transform the role of the music educator into a 'pupil facilitator' who enables the children to experience practical music making by being actively engaged in music rather than passively receiving theoretical and historical knowledge about music. The use of composition, pupil expression and pupil-led learning started being actively encouraged in English schools (Todd, 2012).

Musical creativity can be demonstrated through composition and improvisation which are regarded as the main activities for generating new ideas in music; however, music listening and performance have been considered as additional forms of creative behaviour (Koutsoupidou & Hargreaves, 2009; Dunn, 1997; Reimer, 1989). Musical creativity involves the generation of a musical product that is new for the person and appropriate for the musical context where it was produced. It is important, therefore, to strike a balance between accepting unique and original ideas with celebrating relevance and appropriateness according to the lesson objectives and the parameters of the activity (Beghetto, 2007; Odena, 2012a).

Musical products could be analysed on the basis of how musical elements or musical principles such as repetition, development and contrast, are used in an original way (Kratus, 1990). A key element of the creative product is that it cannot be predetermined by the teacher and, therefore, its exact nature can be largely unpredictable. This seems to contribute to the difficulty in assessing originality when referring to pupils' music making (NACCCE, 1999). A vital stage, however, after the completion of the musical product is the evaluation or reflection phase where the musical product is verified and assessed by both the teacher and the pupil who created the piece of work. The aim is that by reflecting on and evaluating the strengths and weaknesses of the musical product against the initial objectives, students can move to the next cycle of creating music with renewed knowledge and understanding, and make effective musical progress as a result. However, this final stage of evaluating and refining the creative musical product is sometimes overlooked in the secondary music classroom (Kokotsaki, 2011).

Creativity is not, of course, confined to the composer but extends to listeners who must construct personal meaning or significance from what they hear. Insights from reception and reader-response theorists strengthen the view that creativity in art and music does not only lie in making works but also in responding to the work of others (Rosenblatt, 1986; Gadamer, 2004; Elliott, 1972). In other words, the creativity of an idea or product is not evaluated by reference to its own qualities, but in terms of the effect it is able to produce in others who are exposed to it and are invited to make judgments about it (Csikszentmihalyi, 1996, 1998). Creativity, therefore, is a phenomenon that emerges and becomes 'embodied' (Banaji et al., 2010) through an interaction between producer and audience. According to this theory, creativity is a process that takes place outside the creative person and within a social system (Feldhusen & Goh, 1995).

School children being creative in music

The dominant discourse that perpetuates the idea of composition being a fixed object only created by charismatic individuals has the power to condition how we think about things with negative repercussions in music education where parents, children or even teachers may still hold the wrong belief that creativity is a gift that only a few possess (Kokotsaki, 2013). Interestingly, creative behaviour seems to be correlated with levels of optimal experience, with a sense of satisfaction in individual and group work (MacDonald, Byrne & Carlton, 2006).

In England, school inspections are done by the Office for Standards in Education (Ofsted). The latest Ofsted inspection (2012) found that music provision was good or outstanding in 33 of the 90 primary schools inspected (37%) indicating lower standards of music teaching and learning in comparison both to overall school performance (Ofsted, 2011) and to the previous Ofsted music inspection (2009). The main finding of the inspection was the insufficient emphasis on active and creative music-making in many schools and the exaggerated use of verbal communication instead of a focus on musical sound. Composing work, for example, was good when music teaching made it possible for the students to give adequate time and thought to how they could shape their ideas. Poor creative responses, on the other hand, were often the result of poorly framed tasks or imprecise expectations.

This study aims to help address this difficulty in teaching composition. It intends to contribute to a better understanding of creativity as evidenced in the musical compositions of secondary age students in order for teachers to be able to recognise, evaluate and further enhance students' creative development.

Recognizing musical creativity in the classroom

Psychologists have devised various tests to identify those who have a creative disposition (e.g. Alenizi, 2008; Torrance, 1974) or those who have creative potential in music in particular (Webster, 1994) but they tell a teacher little about the quality of a particular piece of student's work in a given subject. Amabile (1983a,b, 1996), however, describes an assessment by consensus in which experts in a field rate a product according to their personal notions of creativity rather than using any given objective criteria. Amabile argues that 'a product or response is creative to the extent that appropriate observers independently agree it is creative' (1983a, p. 31) assuming that there are degrees of creativity which can be identified by appropriate observers. One of the strengths of the consensual assessment technique is that it imitates the manner in which creativity is assessed in the 'real world' (Baer & McKool, 2009). Furthermore, the high inter-judge reliability of experts' consensual assessment reported in relevant studies (Brinkman, 1999, for example, was able to obtain inter-judge reliabilities of more than 0.80 on a 0 to 1 scale) indicates that it is a robust and reliable technique for grading creative works in music (Byrne, MacDonald & Carlton, 2003; Webster & Hickey, 1995) and has been found to have good discriminant validity (Baer & McKool, 2009).

Cropley (2001) concluded that this intuitive assessment is relatively easy and there can be a high level of agreement amongst the judges. Hickey (2001), for instance, asked 17 practising music teachers to rate 9 and 10-year-old children's musical

compositions relative to one another rather than against any objective criteria, and found the agreement between their ratings to be 0.91. Another study where three experienced music teachers rated 34 compositions of third grade students found high and significant reliability coefficients ranging from .48 to .83 on 11 of the 13 dimensions rated (Toups, 2008). This suggests that teachers can recognize creative work according to their own understanding of creativity when they see it because of their expert knowledge and experience in the classroom.

There is, however, a difficulty with this in practice. These judges have expertise in music and experience has taught them the likely capabilities of the students. They are, to a large extent, 'insiders' in that their expertise and experience makes them familiar with musical creativity as it might be in the students' world. Judges who are not teachers and have no expertise in music are, essentially, outsiders. This could considerably lessen their ability to recognise, assess or otherwise evaluate students' attempts at creativity. Trainee music teachers usually have some expertise in music but are likely to lack knowledge of the norms of creative composition, performance and listening in the classroom. This places them somewhere along the insider-outsider continuum so their intuitive assessment may not be as good as that of practising music teachers. Should this be so, teacher trainers in universities and schools need to be aware of it so they can provide appropriate experience, help trainees reflect on it, provide opportunities for recognizing musical creativity and help the trainee use what they find in their teaching.

This study was to test trainee music teachers' ability to judge the musical creativity of students. It is predicted that the level of consensus amongst them would be at an intermediate level – it would not be low because of their expertise in music but it would not be as high as found by Hickey (2001) because of their lack of experience of students' norms of achievement.

Method

Materials

Creativity involves both a product and the process of producing it and there is debate about which to assess (e.g. Houtz & Krug, 1995). For a teacher looking for clues about someone's creativity in order to help them expand their abilities, both can be useful sources. Furthermore, there is evidence of a fairly strong agreement between judgments of the creativity evident in the product and in the process (Hennessey, 1994).

Nine pieces of music composed by Year 8 students (13 years of age) were used in this study (see attached audio files nos. 1-9). The students were asked to combine sounds for a one-minute piece of music using the music editing software Music Maker. In other words, the creative product in this case was a domain-specific musical composition (Kaufman, Plucker & Baer, 2008). In selecting this task, Amabile's

(1996) three requirements have been addressed. Firstly, this task led to a clear product that was made available to appropriate judges for assessment. Secondly, the task was open-ended and divergent enough to allow flexibility and novelty in responses as, on the basis of the audio building-block principle, students could choose over three thousand sounds and loops for their creative work. Thirdly, the Year 8 students selected to take part in the study had a uniform level of musical ability as none of them were involved in music making outside school.

Students were given the choice of three pictures as visual stimuli, each depicting three musical elements. Forming composition activities around a motivator, such as a mood, artwork, photography, story, poem or event to help students focus their thoughts is considered good practice in the literature (Balkin, 1985; Ginnocchio, 2003). Students then had to focus on sourcing and combining sounds which related to and represented the musical elements of one of three pictures:

Picture 1: Sunrise (slow tempo/low pitch/long duration)
Picture 2: Fighter jet (fast tempo/high pitch/loud dynamics)
Picture 3: Snail (slow tempo/long duration/quiet)

Five of the nine pieces of music that were used in the study represented the fighter jet, three represented the sunset and one represented the snail - 1: fighter jet (audio file 1), 2: fighter jet (audio file 2), 3:sunset (audio file 3), 4: sunset (audio file 4), 5: snail (audio file 5), 6: fighter jet (audio file 6), 7: fighter jet (audio file 7), 8: fighter jet (audio file 8), 9: sunset (audio file 9).

Sample and Ethical Considerations

The sample consisted of seventeen trainee teachers from two different academic years (10 trainee teachers from 2010-11 and 7 from 2011-12) who were following a one year teacher training course (Post-Graduate Certificate in Education) in secondary music teaching at the University of Durham following their first degree. The age of participants ranged from 21 to 28 years and they were mostly (11 student teachers, 65%) from a classical musical background with six student teachers coming from music departments which emphasised popular musical styles.

Participants' anonymity has been preserved in the presentation of the findings. The study has adhered to all ethical obligations as suggested by Rubin and Rubin (1995) and overseen by the University. Participants were asked for permission to record and they were informed about the intended use and purposes of the research. They were also ensured that their participation was fully voluntary and that anonymity would be preserved.

Procedure and Data Analysis

Trainee teachers were asked to sort the compositions according to the degree of creativity each one showed. Experience had shown that ranking nine items according to perceived creativity can be difficult and time-consuming (Newton, 2010). Accordingly, these were to be ranked into a diamond formation (Figure 1). This comprised the 'most creative' at the apex (number 1 in Figure 1: Top) and the 'least

creative' at the bottom (number 9: Bottom). Under the most creative were placed the next two of lesser creativity (numbers 2 and 3: Upper). Under that, the next three pieces were placed (numbers 4, 5 and 6: Medium). Under these three and above the least creative were placed the final two pieces (numbers 7 and 8: Lower). Allocation of pieces to the diamond was done independently, intuitively and without instruction on how creativity in music might be construed. After completing the diamond, the trainees supplied written reasons for their judgments. The trainees were then to repeat the allocation working in pairs. One trainee was randomly omitted at this stage so that the 16 trainees would form 8 pairs.

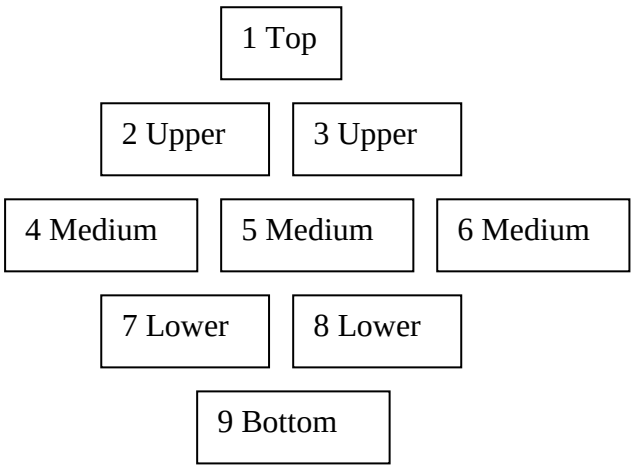

Figure 1: Diamond ranking activity

Diamond ranking is a recognised thinking skills tool which has been used in classrooms to help students reflect on and elucidate their perceptions, feelings and thoughts on a particular topic (Rockett & Percival, 2002). In addition to its pedagogical value, it is a powerful research tool as it can stimulate thinking and discussion around a theme or idea (for examples of research studies that have used diamond ranking see Clark, 2009; Woolner et al, 2010). Its strength lies on participants being required to make explicit their thinking on the hierarchical position of a number of items and also on encouraging the process of negotiation and consensus-seeking when discussing the ranking. In addition, it is economic in its administration but flexible enough to capture the complexity of teachers' views (Wall et al., 2011) on evaluating creativity in this case.

The data were analysed in the following three ways. Firstly, the level of agreement among the participants was calculated using the Kendal coefficient of concordance for the trainees singly and when working in pairs. Secondly, the position on the diamond of each of the nine musical extracts as ranked by the trainee teachers individually and in pairs was indicated in a number of tables. These provided a visual representation of which musical extracts were perceived as being more or less creative by the participants. The written reasons that the trainees provided after completing the diamond were then analysed to elucidate their views on the creative quality of these extracts. These responses were subject to in-depth qualitative analysis based on the phenomenographical research method (Marton & Booth, 1997). After the initial coding process, 'categories of description' (Marton, 1981) emerged which represented analytically the different judgements that participants made about the presented musical extracts.

Results

Tables 1 and 2 show the position on the diamond of each of the nine musical extracts as ranked, firstly, by the sixteen participants individually and then in pairs (sixteen participants formed eight pairs with one participant not taking part in pair work). For the individuals and at the top position, the most creative extracts are numbers 4 (audio file 4), 5 (audio file 5) and 1 (audio file 1). This is strengthened if the top and upper positions are both considered as being indicative of the most creative extracts. As shown in Table 3, number 4 occurs in the top position 6 times for the individuals and 3 times for the pairs, number 5 occurs in the top position 4 times for the individuals and 2 times for the pairs and number 1 has been placed at the apex of the diamond 3 times by the individuals and 3 times by the pairs. When the top and upper positions are considered together, the three musical extracts emerge even more clearly as the most creative of all as perceived by the study's participants (number 4:12 times, number 5:15 times and number 1:10 times).

	Musical Extracts								
Diamond Ranking Position	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Top	***		*	******	****	**			*
Upper	*******	**	**	******	**********	**	***		*
Medium	*******	*******	******	***	*	**********	*******	**	*****
Lower	**	*****	****		*	***	*******	*******	*******
Bottom		**	****	*				********	**

Table 1: Ranking by the 16 individuals (each asterisk '*' represents each individual response on the diamond)

	Musical Extracts								
Diamond Ranking Position	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Top	***			***	**				

Upper	**		*	****	*****	***	*		
Medium	***	*****	***	*	*	****	**		****
Lower		**	****		*		****	***	*
Bottom		*						****	**

Table 2: Ranking by the 8 pairs (each asterisk '*' represents each paired response on the diamond)

	Top Position		**Top and Upper Positions**	
Number	Individuals	Pairs	Individuals	Pairs
4	6	3	12	7
5	4	2	15	7
1	3	3	10	5

Table 3: The three most creative extracts as ranked by individuals and pairs

The least creative extracts:

	Bottom Position		**Bottom & Lower Positions**	
Number	Individuals	Pairs	Individuals	Pairs
2	2	1	7	3
3	4	-	8	4
8	8	4	15	7
9	2	2	9	3

Table 4: The four least creative extracts as ranked by individuals and pairs

The least creative extract was perceived to be number 8 (audio file 8) which was placed at the bottom position 8 times by the individual participants and 15 times when the bottom and lower positions were considered together (Table 4). When the musical extracts were considered in pairs, number 8 was again perceived as being the least creative (it was placed 4 times at the bottom and 7 times at the bottom and lower positions). This was followed by extracts 2 (audio file 2), 3 (audio file 3) and 9 (audio file 9) which were overall very close in their ranking position.

Inter-judge reliability

When trainees evaluated the musical pieces singly, the agreement between their ratings was 0.44 (Table 5). It was observed, however, that the evaluation of judges 8 and 13 deviated markedly from the other trainee teachers' evaluation. When these were removed from the analysis, the inter-judge reliability increased (0.51 when number 13 was removed, and 0.55 when numbers 13 and 8 were removed). A plausible explanation for this higher agreement is that these two trainees had more limited experience working in schools with children (either teaching or observing music lessons) prior to the start of the PGCE course. The difference in their

judgements could have reflected a less developed ability to evaluate students' creative work. When trainees evaluated students' creative work in pairs, their judgements reached a higher agreement of 0.60.

	Kendal coefficient of concordance
Evaluation by trainees singly (N=17)	0.44 (p=0.0000)
Evaluation by trainees singly after removing number 13 (N=16)	0.51 (p=0.0000)
Evaluation by trainees singly after removing number 13 and 8 (N=15)	0.55 (p=0.0000)
Evaluation by trainees in pairs (N=8)	0.60 (p=0.0001)

Table 5: Inter-judge reliability of trainees' evaluation singly and in pairs
(The Kendal coefficient is a measure of agreement on a 0 to 1 scale; for those interested in statistics, all correlations were highly significant and unlikely to occur by chance alone (Cohen & Holliday, 1982).)

Analysis of the Qualitative Data

The written reasons that the trainees provided after completing the diamond were then analysed to shed some light on the rationale for their judgments. These responses were classified into codes which formed part of the analytic framework shown in Figure 2.

Extracts of high perceived creativity

When examined against this framework, the three most creative extracts seemed to share some common characteristics: 1) they represented the idea depicted in the picture well, 2) appropriate sounds were used, 3) there was a range of musical elements and musical devices used well, 4) some showed imagination, originality and variety.

1. Represented the idea

Extract 1 was often described as representing a fighter jet well, extract 4 was evocative of a relaxing sunset on a beach and extract 5 was reflective of the slow, simple and repetitive movement of a snail as illustrated by the quotations in Table 6.

Table 6: Representing the idea (high perceived creativity) – Example quotations

Extract 1	'Low rumble sounds like jets'
	'Represented a jet well, including movement and sounds'
Extract 4	'Very evocative'
	'Captures theme of sunset dying away'
Extract 5	'Simple and slow; very much like a snail'
	'Slow and labouring'
	'Plodding; representative of snail; quite repetitive'

2. Appropriate sounds

For all three extracts, trainees mentioned that the sounds used were appropriate, that they were used, in other words, effectively, to portray the right mood and idea represented in the picture (Table 7). This was mentioned three times for extract 1, two times for extract 4 and five times for extract 5.

Table 7: Appropriate sounds (high perceived creativity) – Example quotations

Extract 1	'Fast, rumbling; good choice of sounds'
Extract 4	'Good use of sounds'
Extract 5	'Effective use of ambient sounds'

3. Musical elements and musical devices

The three most creative extracts were also perceived to be rich in the effective use of musical elements and musical devices. As shown in Table 14, the good use of musical elements such as texture, melodic material, dynamics, structure, tempo and rhythm, and timbre contributed to some extracts being perceived as more creative than others. Likewise, there was a tendency for these extracts to be richer in certain musical devices, such as the appropriate use of repetition, development of ideas, sound effects and the good use of instruments (Table 8).

Table 8: Musical elements and musical devices (high perceived creativity) – Example quotations

Extract 1	'Good use of building textures and dynamics'
	'Effective use of sound effects and some use of different textures'
	'Clear sections of the piece'
Extract 4	'Effective interesting structure; layered instruments'
	'Creative use of rhythm'
	'Relaxed texture; guitar sound; understands the layering'
	'Good use of melodic material'
Extract 5	'Interesting use of broken chords'
	'Excellent timbre: slow & labouring'
	'Imaginative use of tempo; nice harp glisses at end'

4. Imagination, originality and variety

The words imagination and originality were not used often but extract 5 was described as imaginative and original by two trainees. It was also mentioned that extracts 1 and 4 showed some variety (Table 9).

Table 9: Imagination, originality and variety (high perceived creativity) – Example quotations

Extract 1	'Varied dynamics used'
Extract 4	'Much more variety'
Extract 5	'Imaginative use of tempo nice harp glisses at end'
	'Well representing the snail – original sounds (including silence)'

Extracts of low perceived creativity

Extracts 8, 9, 2 and 3 were perceived by the study participants as being of low creativity. When examined against the framework in Figure 2, trainees' judgements were somewhat mixed but they shared some common features overall: 1) they largely did not represent the idea depicted in the picture well, 2) it was not deemed that appropriate sounds were used, 3) musical elements and devices were largely missing or not used well, and 4) they were short in length (extracts 8, 9 and 2) and lacked variety.

1. Represented the idea

As shown in Table 10, extracts 8 and 2 do not represent the picture idea well as the responses were all negative. For extract 9, the responses were mixed whereas extract 3 was largely perceived as representing the idea well.

Table 10: Representing the idea (low perceived creativity) – Example quotations

Extract 8	'Not evocative of a jet plane'
Extract 2	'Hadn't considered the sound of the jet plane'
Extract 9	'African drumming – followed by dance beat – not really reflective of sunset'
	'Immediately conjured up an image of a party on a beach at sunset'
Extract 3	'Sound of the sea, African drumming for beach'

2. Appropriate sounds

For these four extracts, the use of appropriate sounds was either not mentioned (extracts 9 and 2), or mentioned occasionally (twice for extract 8), or explicitly referred to as not having been used effectively for extract 3 (Table 11).

Table 11: Appropriate sounds (low perceived creativity) – Example quotations

Extract 8	'Good sounds for fighter jet. Aggressive feel'
Extract 3	'Not appropriate sounds'

3. Musical elements and musical devices

In comparison to the most creative extracts, the appropriate use of musical elements was mentioned much less for the four least creative extracts. Whereas the good use of musical elements was mentioned 25 times for the creative ones, it was only 11 times

that reference to musical elements was made for the least creative ones. Similarly, the good use of instruments was mentioned only once and some sound effects were mentioned for extract 3. In addition, in contrast to repetition used effectively for extract 5 where it added to the slow, repetitive and simple movement of the snail, repetition was inappropriately used in extracts 8, 2 and 3 because it led to lack of variety and a monotonous sound. Interestingly, a unique feature of all four less creative extracts was their limited structure which lacked the appropriate development of ideas (see Table 12).

Table 12: Musical elements and musical devices (low perceived creativity) – Example quotations

Extract 8	'Very repetitive, nothing changes'
	'Very simple and undeveloped'
Extract 9	'Good opening, not great ideas'
Extract 2	'Very repetitive – no sections'
	'Would have liked to see it expanded'
	'Lack of development of ideas'
Extract 3	'A bit repetitive, only two sounds'
	'Quite limited and a little too repetitive'
	'Simple texture

4. Imagination, originality and variety

Lack of imagination was mentioned three times for extracts 8, 2 and 3 (see Table 13). Most importantly though, what strongly characterised the least creative extracts was their inappropriate length (extracts 8, 9 and 2 were 'too short') and lacked variety (especially extracts 8 and 3).

Table 13: Imagination, originality and variety – Example quotations

Extract 8	'Short – monotonous'
	'Same chord all the way through – same rhythm too'
Extract 9	'Very brief'
	'Not a lot going on'
Extract 2	'Short'
	'Rather unimaginative'
Extract 3	'Same drum pattern throughout'
	'Repetitive rhythm, nothing changes'

The remaining two extracts (6 and 7, audio files 6 and 7 respectively) seemed to lie in the middle of the most and least creative so they can be described as being of 'medium' creativity. The responses for these two were mixed. Extract 6, for example, was perceived as representing the idea well and having appropriate sounds. In addition, a range of musical elements and sound effects were used but it lacked the appropriate development of ideas and sufficient variety. Similarly, extract 7 had appropriate sounds but did not represent the idea well, was more limited in the use of musical elements but instruments were used well, was perceived as being original and imaginative but lacked variety.

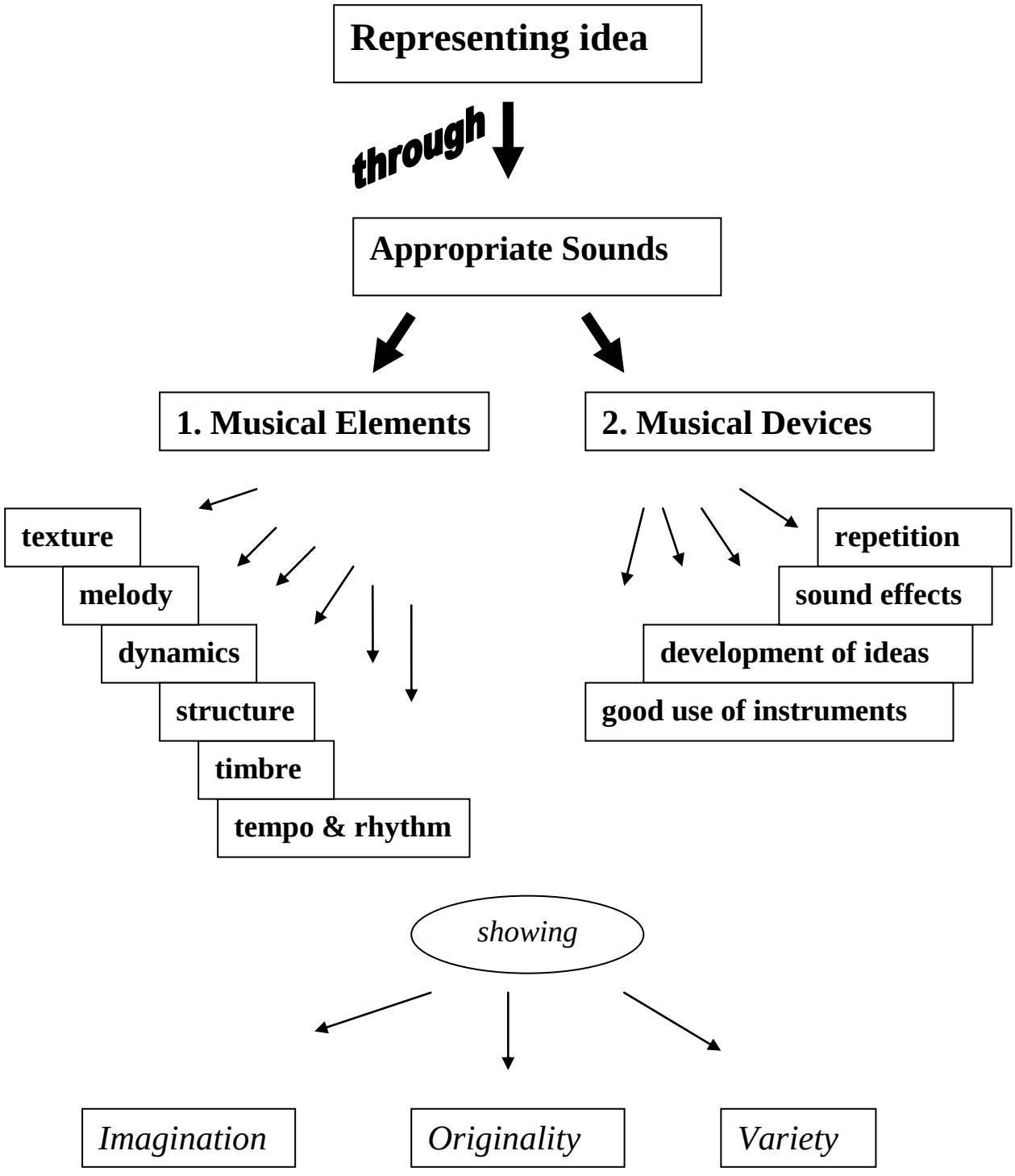
Representing idea
through
Appropriate Sounds
1. Musical Elements
2. Musical Devices
texture
melody
dynamics
structure
timbre
tempo & rhythm
repetition
sound effects
development of ideas
good use of instruments
showing
Imagination
Originality
Variety

Figure 2: The analytic framework describing participants' qualitative responses

Table 14: Number of participants' responses in each category (a √ indicates a positive response and an X indicates a negative response; an empty box indicates a lack of reference to the relevant category for each particular extract

Categories of responses	***Musical Extracts***								
	1	**4**	**5**	**8**	**9**	**2**	**3**	**6**	**7**
Representing idea	√√√	√√√√√√	√√√√√	XX	√√√ XXXX	XXXX	√√√√√ X	√√√	XX
Appropriate sounds	√√√	√√	√√√√	√√			X	√√√√	√√
MUSICAL ELEMENTS									
texture	√√ X	√√√√	√√	X	√√	√√	√	√√	√
melody		√				√	X	√	
dynamics	√√								
structure & layering	√√ X	√√√		X		XX		√	
tempo & rhythm		√√√	√√√			√√	√√√	√	XXX
timbre			√						
MUSICAL DEVICES									
Repetition	√√√		√√√	√		√√√	√√√√√√√	√√	√
Development of ideas	√	√√√		XX	XX	XXX	X	X	
Sound effects	√√√		√√√				√√√		√
Good use of instruments	√√	√√	√			√			√√√
Imagination			√	X		X	X		√
Originality			√						√
Variety	√ X	√		XXXXXXXX Short: √√√√	√ X Short: √√	Short: √√√	XXXXXXXX	X	√ X

Discussion and Conclusion

These trainee music teachers' ability to evaluate students' creative work was significant but not as high as expert judges' evaluation described earlier in Hickey's (2001) study. This finding confirms our expectation that trainee teachers are placed somewhere along the insider-outsider continuum as they have expertise in music but they are in the process of acquiring experience and improving their knowledge of the norms of creative composition in the secondary music classroom.

The findings of this study suggest that to evaluate creativity in music, it is not the mere presence of these attributes that makes a piece more or less creative, but their richness and quantity. So it is in their complexity (including quantity and quality) that the piece may be perceived to be more or less creative. For instance, it is not sufficient for a musical piece to represent the stimulus idea well, but it is also important to have made imaginative use of musical elements and musical devices in order to produce appropriate sounds for the piece to be judged as being creative. It is the quality and the interaction of these attributes that will help teachers and students evaluate the creativity of a musical product and understand the reasons behind this judgment. Furthermore, it seems easier to recognize the most creative extracts and the least creative ones. But it is more difficult to recognize the ones in the middle. However, an awareness of the attributes that make a piece more creative can certainly give teachers the language to communicate their objectives about creativity to the students. As a result, students will be encouraged to engage more thoughtfully with the creative process and make more intentional use of their imagination in the pursuit of a creative goal.

The diamond ranking of the musical compositions was done intuitively and according to holistic notions of creativity. First, the trainees coped with the diamond method well and relatively quickly and we can recommend it both for research and classroom practice. Of course, the notion of musical creativity may be divided into various attributes. O'Quin and Besemer (1999) describe these as novelty, appropriateness (what Siegesmund (1998) has called a 'rightness of fit' in artistic fields) and elegance. Amabile's consensual assessment technique allowed the trainees in this study to reflect on and judge students' compositions which were produced in a 'real-world' context. Due to the open-ended nature of the evaluation task, trainees were able to come up with meaningful written reasons for their judgments. This technique can be usefully employed in similar studies to intuitively judge creativity but also to help with the formulation of a set of meaningful characteristics which can help teachers and students recognise and evaluate creativity.

Knowing appropriate assessment criteria can help teachers to summatively assess students' creative progress in music in the first instance. Most importantly, however, teachers' summative judgements can then be used to provide appropriate formative interventions in students' work (Black et al., 2004; Burnard, 2012) while opening up a dialogue about composing in the music classroom. The measurement of creativity is fundamental in order to provide teachers and students with a common language to discuss aspects of creativity. A shared understanding of assessment criteria can

encourage students to develop their appraising and critical thinking skills by progressively making richer evaluative comments about their own and other students' compositions (Major, 2007). Teachers can thus find a way to nurture talk about composing work in the classroom and assist students in making further progress through supportive and quality feedback (Leung, Wan & Lee, 2009). Explicit discussion of what teachers and children consider to be creative will help improve teachers' ability to teach for creative music composition. This is imperative for the following reasons provided by Odam (2000). Firstly, composition is a powerful form of self-expression and it should continue to be firmly embedded in music education practices. Secondly, students enjoy composing activities and look forward to their music lessons when composing is taught well. If composing tasks can provide an appropriate balance between being challenging but achievable, students may experience feelings of flow and increased enjoyment of creative music activities (MacDonald et al., 2006). However, composing is often not taught appropriately as, for example, when students are not given enough thinking and reflection time, when tasks are not clearly framed (Ofsted, 2012) or when National Curriculum levels are inappropriately used to assess individual pieces of work, e.g. at Key Stage 3 (Fautley & Savage, 2011).

Knowing the assessment criteria can be empowering for students as it will help them understand what they aim to achieve in their creative work. Having an understanding of how a composition can sound better and richer if appropriate attention is paid to its component parts, can enhance students' mental engagement during the creative process and assist the final revision stage where students can recognise the positive aspects of their compositions and also make suggestions on how to improve their work. This is different to having too many strict task directions that can restrict students' creativity as it can cause them to treat composition tasks as 'assignments' rather than creative projects (Strand, 2005). On the contrary, this process is liberating and can enhance understanding as it is open enough to allow students to produce novel and original pieces of work while helping them understand how their work can be of better quality and appropriate to the task.

It should be added that, while creativity is valued in many areas of the world, it is not uniformly so. Cultures vary and with that comes variation in what is perceived to be desirable behaviours. Niu (2009), for instance, contrasts the West's emphasis on individualism with the East's preference for the collective; Sofowara (2007) points to some African cultures' expectation of passivity in the classroom. On this basis, UNESCO's view of creativity is a Western one and could give the impression that other views are somehow deficient when the value, purpose and expression of creativity are different (Kaufman & Sternberg, 2006). A QCA (Qualifications and Curriculum Authority) report in England, however, drew on information from 19 educational systems across the world and found that these countries shared the belief that creativity is important and that pupils should be encouraged to develop their creativity in schools (Sharp & Le Métais, 2000). In music education, there is an increasing role for information and communications technology as a means of enhancing children's creative musical processes in the classroom (Fautley, 2004; Ward, 2009).

The role of the teacher in recognising children's creative abilities and fostering the conditions where these can be realised is crucial (for a review of key research and practices of creativity in music education between ages 12 and 18, see Odena, 2012b). The most important enablers of creativity in the music classroom is, firstly, the teacher's strong belief in children's creative potential and overt recognition of their creative acts (Barnes, 2009), and, secondly, a supportive climate where 'short, frequent, supported, invited experiences' (Jones & Robson, 2008) can encourage ownership and help build confidence and competence. Last but not least, active mental engagement with the creative process is vital (Kokotsaki, 2011). This is described as a dynamic process where students are engaged in exploring options, asking the teacher questions, asking for directions in an attempt to create a clear picture of the outcome and then work towards reaching that goal through a final process of decision making. The ability to be involved in thoughtful planning in the process of creating a novel and coherent whole is considered to be the highest order thinking skill in Bloom's revised taxonomy of educational objectives (Krathwohl, 2002).

This research study contributed to the scarce body of relevant studies that look at the practice and implications of creativity assessment research and theory for daily classroom life. The findings will be useful for teacher training programs and need to be explicitly addressed so that trainees can be encouraged to reflect on what constitutes creativity in musical composition and use this knowledge to provide students with constructive feedback to improve their work. The approach can also be of practical value in the classroom. The focus of this study was on evaluating and recognising the final musical product. However, it is also useful to look at the process to build a fuller picture of a student's creative abilities and needs in music. In the classroom, teachers would see for themselves the process that students use to arrive in the product. Careful observation of the creative process could be useful for providing guidance to the student (see, for example, Newton, 2012). It is important, therefore, to consider both musical processes and products, an area worthy of further investigation. Undoubtedly, teachers should aim to instil in students a creative attitude to all music making through the development of their imagination and activities that encourage meaningful exploration of sound.

REFERENCES

Alenizi, M. (2008). Assessment of creativity in education. Available at: http://www.coe.uga.edu/~gclinton/enclaves/images/systemscreativity.jpg (accessed 10 November 2010).

Amabile, T. M. (1982). Social psychology of creativity: A consensual assessment technique. Journal of Personality and Social Psychology, *43* (5), 997-1013.

Amabile, T.M. (1983a). *The social psychology of creativity.* New York: Springer-Verlag.

Amabile, T.M. (1983b). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social* Psychology, 45(2), 357–76.

Amabile, T.M. (1996). *Creativity in context.* Boulder: Westview Press.

Baer, J. & McKool, S.S. (2009). Assessing creativity using the consensual assessment technique. In C.S. Schreiner (Ed.), *Handbook of research on assessment technologies, methods, and applications in higher education* (pp. 65-77). Pennsylvania: IGI Global.

Balkin, A. (1985). The creative music classroom: Laboratory for creativity in life. *Music Educators Journal, 71*(5), 42-46.

Banaji, S., Burn, A. & Buckingham, D. (2010). *The rhetorics of creativity: a review of the literature* (2nd Ed.). London: Creative Partnerships, Arts Council England.

Beghetto, R.A. (2007). Does creativity have a place in classroom discussions? Prospective teachers' response preferences. *Thinking Skills and Creativity*, *2*, 1-9.

Besemer, S.P., and O'Quin, K. (1987). Creative product analysis. In S.G. Isaksen (Ed.), *Frontiers of creativity research* (pp. 341–57). Buffalo: Bearly.

Besemer. S.P., and O'Quin, K. (1999). Confirming the three-factor creative product analysis matrix model in an American sample. *Creativity Research Journal, 12*(4), 287–96.

Black, P., Harrison, C., Lee, C., Marshall, B. & Wiliam, D. (2004). Working inside the black box. *Phi Delta Kappan, 86* **(**1), 8-21.

Brinkman, D. J. (1999), Problem finding, creativity style and the musical compositions of high school students. *The Journal of Creative Behavior, 33,* 62–68.

Burnard, P. (2012). *Musical creativities in practice*. Oxford: Oxford University Press.

Burnard, P. and White, J. (2008). Creativity and performativity: counterpoints in British and Australian education. *British Educational Research Journal*, 34(5), 667-82.

Byrne, C., MacDonald, R. & Carlton, L. (2003). Assessing creativity in musical compositions: flow as an assessment tool. *British Journal of Music Education*, *20*(3), 277-290.

Carruthers, P. (2002). Human creativity. *British Journal of the Philosophy of Science*, *53*, 225-249.

Central Advisory Council for Education (1967). *Children and their Primary Schools* ('The Plowden Report'), London: HMSO.

Clark, J. (2009). Exploring the use of Diamond Ranking activities as a visual methods research tool. Proceedings of the 1st International Visual Methods Conference, University of Leeds, 15-17 September.

Claxton, G. (2006). Thinking at the edge: soft creativity. *Cambridge Journal of Education*, *36*(3), 351-62.

Cohen, L. & Holliday, M. (1982) *Statistics for Social Scientists.* London: Harper & Row.

Craft, A. (2001). Little c creativity. In A. Craft, B. Jeffrey & M. Leibling (Eds.), *Creativity in Education* (pp.45-61). London: Continuum.

Cropley, A.J. (2001). *Creativity in education and learning.* London: RoutledgeFalmer.

de la Harpe, B., and J.F. Peterson, (2008). A model for holistic studio assessment in the creative disciplines. Proceedings of the 2009 ATN Assessment Conference, Adelaide, Australia.

Csikszentmihalyi, M. (1996). *Creativity: flow and the psychology of discovery and invention* (1st Ed.). New York: HarperCollins.

Csikszentmihalyi, M. (1998). Creativity and genius: a systems perspective. In A. Steptoe (Ed.), *Genius and mind: studies of creativity and temperament* (pp.39-64). New York: Oxford University Press.

Dineen, R. and Collins, E. (2005). Killing the goose: conflicts between pedagogy and politics in the delivery of a creative education. *Journal of Art and Design Education*, *24*(1), 43-51.

Dunn, R.E. (1997). Creative thinking and music listening. *Research Studies in Music Education*, *8*, 42-55.

Eisner, E. (2002). *The arts and the creation of mind.* New Haven: Yale University Press.

Elliott, R. (1972). *Aesthetic theory and the experience of art*. Reprinted in Osborne, H. (Ed.), *Aesthetics* (pp. 145-157). Oxford: Oxford University Press (First published 1971).

Fautley, M. (2004). Teacher intervention strategies in the composing processes of lower secondary school students. *International Journal of Music Education, 22*(3), 201-218.

Fautley, M. & Savage, J. (2011). Assessment of composing in the lower secondary school in the English National Curriculum. *British Journal of Music Education, 28*(1), 51-67.

Feldhusen, J.F. & Goh, B.E. (1995). Assessing and accessing creativity: an integrative review of theory, research, and development. *Creativity Research Journal, 8*(3), 231-247.

Fleming, M. (2008). *Arts in education and creativity: a review of the literature*. London: Arts Council for England.

Gadamer, H. (2004). *Truth and method*. London: Continuum.

Ginocchio, J. (2003). Making composition work in your music program. *Music Educators Journal, 90*(1), 51-55.

Hargreaves, D.J., MacDonald, R. & Miell, D. (2012). Explaining musical imaginations: creativity, performance, and perception. In D. Hargreaves, D. Miell & R. MacDonald (Eds), *Musical imaginations: multidisciplinary perspectives on creativity, performance, and perception* (pp. 1-14). Oxford: Oxford University Press.

Hickey, M. (2001). An application of Amabile's consensual assessment technique for rating the creativity of children's musical composition. *Journal of Research in Music Education, 49* (3), 234–44.

Higgins, L. (2008). The creative music workshop: event, facilitation, gift. *International Journal of Music Education, 26*(4).

Houtz, J.C., and D. Krug. 1995. Assessment of creativity. *Educational Psychology Review* 7(3), 269–300.

Jones, P. & Robson, C. (2008). *Teaching music in primary schools*. Exeter: Learning Matters.

Kaufman, C.J., Plucker, J.A. & Baer, J. (2008). *Essentials of creativity assessment*. New Jersey: John Wiley & Sons.

Kokotsaki, D. (2011). Student-teachers' conceptions of creativity in the secondary music classroom. *Thinking Skills & Creativity, 6*(2), 100-113.

Kokotsaki, D. (2013, December). Review of the book *Musical creativities in* practice, by P. Burnard. *Thinking Skills and Creativity, 10,* 1-2. Available at: http://dx.doi.org/10.1016/j.tsc.2013.05.001

Koutsoupidou, T. & Hargreaves, D.J. (2009). An experimental study of the effects of improvisation on the development of children's creative thinking in music. *Psychology of Music, 37*(3), 251-278.

Krathwohl, D.R. (2002). A revision of Bloom's taxonomy: an overview. *Theory into Practice, 41*(4), 212-218.

Lanier, V. (1975). Objectives of art education. *Peabody Journal of Education, 52*(3), 180-6.

Leung, C.C., Wan, Y.Y. & Lee, A. (2009). Assessment of undergraduate students' music compositions. *International Journal of Music Education, 27*(3), 250-268.

MacDonald, R., Byrne, C. & Carlton, L. (2006). Creativity and flow in musical composition: an empirical investigation. *Psychology of Music, 34*, 292-306.

Major, A. (2007). Talking about composing in secondary school music lessons. *British Journal of Music Education, 24*(2), 165-178.

Marsh, J. (2010). *Childhood, culture and creativity: a literature review*. Newcastle upon Tyne: Creativity, Culture and Education.

Marton, F. (1981). Phenomenography: describing conceptions of the world around us. *Instructional Science, 10* (2), 177-200

Marton, F. & Booth, S. (1997). *Learning and awareness*. Hillsdale, NJ: Lawrence Erlbaum.

NACCCE (National Advisory Committee on Creative and Cultural Education), (1999). *All our futures: Creativity, culture and education.* London: DfEE.

Newton, D.P. (2010). Assessing the creativity of scientific explanations in elementary science: an insider-outsider view of intuitive assessment in the hypothesis space. *Research in Science and Technological Education*, 28(3), 187-201.

Newton, D.P. (2012). Recognising creativity. In L. Newton (Ed.), *Creativity for a New Curriculum: 5-11* (pp. 108-119). London and New York: Routledge.

Niu, W. (2009). Development of creativity research in Chinese societies. In J.C. Kaufman & R.J. Sternberg (Eds), *The International Handbook of Creativity* (pp. 374-394). New York: Cambridge University Press.

Sefton-Green, J. (2000). From creativity to cultural production: Shared perspectives. In J. Sefton-Green and R. Sinker (Eds.), *Evaluating creativity* (pp. 216–32). London: Routledge.

Odam, G. (2000). Teaching composing in secondary schools: the creative dream. *British Journal of Music Education, 17*(2), 109-127.

Odena, O. (2012a). Perspectives on musical creativity: where next? In O. Odena (Ed.), *Musical creativity: insights from music education research* (pp. 201-214). Surrey: Ashgate.

Odena, O. & Welch, G. (2009). A generative model of teachers' thinking on musical creativity. *Psychology of Music, 37*(4), 416-442.

Odena, O. (2012b). Creativity in the secondary music classroom. In G.E. McPherson & G.F. Welch (Eds), *The Oxford handbook of music education (Vol. 1),* (pp.512-528). New York: Oxford University Press.

Office for Standards in Education (Ofsted), (2009). *Making more of music: an evaluation of music in schools 2005-08* (No. 080235). London: Ofsted.

Office for Standards in Education (Ofsted), (2011). *The annual report of Her Majesty's chief inspector for education, children's services and skills*. London: Ofsted.

Office for Standards in Education (Ofsted), (2012). *Music in schools: wider still, and wider*. London: Ofsted.

Reimer, B. (1989). *A philosophy of music education* (2nd Ed.). Englewood Cliffs, NJ: Prentice-Hall.

Rockett, M. and Percival, S. (2002). *Thinking for learning.* Stafford: Network Educational Press.

Rosenblatt, L. (1986). The aesthetic transaction. *Journal of Aesthetic Education, 20*(4), 122-128.

Rubin, H.J. & Rubin, I.S. (1995). *Qualitative interviewing: the art of the hearing data*. Thousand Oaks: Sage.

Sefton-Green, J., Thomson, P., Jones, K. & Bresler, L. (2011). *The Routledge international handbook of creative learning*. London & New York: Routledge.

Sharp, C. & Le Métais, J. (2000). *The arts, creativity and cultural education: an international perspective.* London: Qualifications and Curriculum Authority.

Shillito, S., Beswick, K. and Baguley, M. (2008). The aims of art education. *Australian Online Journal of Arts Education*, 4(1), 1-16.

Siegesmund, R. (1998). Why do we teach art today? *Studies in Art Education, 39*(3), 197-214.

Sofowara, O.A. (2007). The use of educational cartoons and comics in enhancing creativity in primary school students in Ile-ife, Osun State, Nigeria. *Journal of Applied Sciences Research, 3*, 913-920.

Sternberg, R.J. (2006). The nature of creativity. *Creativity Research Journal*, *18*(1), 87-98.

Strand, K. (2005). Nurturing young composers: Exploring the relationship between instruction and transfer in 9-12 year-old students. *Bulletin of the Council for Research in Music Education, 165*, 17-36.

Todd, J.S. (2012). *Musical progression in the English primary school: what is it, what does it look like and how do teachers realise it?* Unpublished doctoral dissertation, Durham University.

Torrance, E.E. (1974) *Torrance tests of creative thinking*, New Jersey: Princeton.

Toups, K.E. (2008). The consensual assessment technique as a measure of creativity in children's musical compositions motivated by visual and verbal stimuli. Unpublished Master of Music dissertation, Louisiana State University.

Worthington, M. and Carruthers, E. (2003). Research uncovers children's creative mathematical thinking. *Primary Mathematics*, *7*(3): 21-25.

UNESCO (United Nations Educational, Scientific and Cultural Organization) (2006). *Road Maps for Arts Education*, Lisbon: UNESCO.

Wall, K., Higgins, S., Hall, E. & Woolner, P. (2011). That's not quite the way we see it': the epistemological challenge of visual data. Paper presented at AERA, 2011.

Ward, C.J. (2009). Musical exploration using ICT in the middle and secondary school classroom. *International Journal of Music Education*, *27*(2), 154-168.

Ward, S.C. (2011). Creativity is our hope: global perspectives on creativity in primary education. In L.D. Newton (Ed.), *Creativity and problem solving across the primary curriculum* (pp.). Abingdon: Routledge.

Webster, P.R. (1990). Creativity as creative thinking. *Music Educators Journal*, *76*(9), 22-28.

Webster, P. (1994). Measure of Creative Thinking in Music-II (MCTM-II). Administrative Guidelines. Unpublished manuscript, Northwestern University, Evanston, IL.

Webster, P. (2002). Creative thinking in music: advancing a model. In T. Sullivan & L. Willingham (Eds.), *Creativity and Music Education*. Canadian Music Educators' Association.

Webster, P. & Hickey, M. (1995). Rating scales and their use in assessing children's compositions. *The Quarterly Journal of Music Teaching and Learning*, *6*(4), 28-44.

Woolner, P., Clark, J., Hall, E.., Tiplady, L., Thomas, U. & Wall, K. (2010). Pictures are necessary but not sufficient: using a range of visual methods to engage users about school design. *Learning Environment Research*, *13*, 1-22.

Wright, J. (1990). The artist, the art teacher, and misplaced faith: creativity and art education. *Art Education, 43*(6), 50 – 57.

Zbainos, D. & Anastasopoulou, A. (2012). Creativity in Greek music curricula and pedagogy: an investigation of Greek music teachers' perceptions. *Creative Education, 3*(1), 55-60.