Running head: ADOLESCENT CRITERIA FOR EVALUATION OF MUSICAL COMPOSITIONS

The application of Q-methodology to the study of criteria used by adolescents in the evaluation of their musical compositions

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Abstract

This study employs Q-methodology to investigate the criteria adolescents use when evaluating their musical compositions. Thirty-two adolescents (aged 13-14 years) balanced for gender and prior experience of formal instrumental music tuition (FIMT) participated in a Q-sort procedure based on forty-six items. The items were formulated from four sources: specialist music teacher interviews, adolescent focus group discussions, music curriculum documents, and academic papers investigating the assessment of music composition. The resulting data was analysed using factor analysis. In Q-methodology, these factors represent groups of adolescents based on the criteria they considered important for evaluating their musical compositions. Three main groups of adolescents were associated with the majority of participants. The criteria found to be important to each group were interpreted as: (1) composing an appealing piece to a preconceived formula, (2) composing a novel, abstract and interesting piece, and (3) composing an inventive and imaginative piece to a preconceived formula. Comparisons between the criteria used by adolescents and the criteria regarded as important by music teachers are also examined, as well as differences between the adolescents' criteria based on their prior experience of FIMT. Suggestions for future research and the implications of the findings for music education are discussed.

The application of Q-methodology to the study of criteria used by adolescents in the evaluation of their musical compositions

Two previous studies have revealed that teacher evaluations of student compositions do not differentiate between the compositions produced by students with and without prior experience of formal instrumental music tuition (FIMT). However, students without FIMT tend to provide lower self-evaluations of their compositions than students with FIMT (Seddon & O'Neill, 2000; 2001). These results suggest that students may apply different criteria when evaluating their compositions and that their self-evaluations may be influenced by their prior musical experience. As such, this study aims to investigate the criteria adolescents regard as important for evaluating their compositions. Comparisons between the criteria used by adolescents and the criteria regarded as important by specialist music teachers are also examined, as well as differences between the adolescents' criteria based on their prior experience of FIMT.

Youth self-evaluations of compositions

Youth self-evaluations of compositions have received little attention by researchers. However, in wider educational research, the role of self-assessment is increasingly viewed as important. There is evidence that by 10 years of age children are capable of accurate self-assessment (Butler, 1990; Blatchford, 1992) and that self-assessment can reveal students' ideas about success and failure, which may influence their subsequent performance (e.g., Covington and Omelich, 1979; Paris and Newman, 1990). O'Neill and Sloboda (1997) demonstrated the importance of children's self-evaluations of their ability to complete a musical task successfully in determining their motivation and subsequent performance achievement. The researchers found that children who reported low confidence following failure at the

task experienced more performance deterioration than children who reported high post-failure confidence. It may be more difficult for children to maintain confidence during a musical task if they believe their poor performance may be attributed to a lack of ability because they lack formal musical training (e.g., see Vispoel and Austin, 1993; 1998).

One explanation for why young people without experience of FIMT provide lower self-evaluations of the compositions they produce (when compared with self-evaluations of compositions produced by young people with experience of FIMT) is they consider themselves less musically able than students with prior experience of FIMT (Seddon & O'Neill 2000; 2001). There is evidence to suggest that young children have very positive ability beliefs about instrumental music but that these beliefs show a marked decline following the transition to high school, and this downward trend continues throughout adolescence (Wigfield, et al., 1997). A recent study conducted in the United Kingdom found that the ability beliefs of young people who continued playing instruments following the transition to secondary school showed far less decline than the ability beliefs of those that gave up or never played an instrument (O'Neill, forthcoming). Starting an instrument younger, and having played an instrument for longer, appears to act as a protective factor in terms of continued interest and commitment toward the instrument at high school. If a child does not learn to play an instrument early on, then the increasing musical skills required to become involved in a musical group may limit an individual's opportunities for participation leading to more negative self-evaluations of their ability. It is therefore possible that young people with and without prior experience of FIMT employ different criteria when providing self-evaluations of their compositions.

Q-methodology

Q-methodology provides a systematic means by which 'subjectivity' (or a person's point of view) may be examined and understood. Although subjective opinions are typically improvable, through Q-methodology they may be shown to have structure and form, which can be revealed and made more intelligible (Mckeown and Thomas 1988). According to Stainton Rogers (1995), Q-methodology is a robust method that is more likely to produce useful results than a questionnaire for the study of finite diversity – where individuals are likely to apply the elements or criteria for a given topic in an independent but limited variety of alternative ways based on their shared understanding of the topic. It is therefore particularly well suited to the study of evaluation criteria used by individuals involved in similar educational experiences.

Through the operational medium of a Q-sort the respondent is able to model his or her viewpoints on a matter of subjective importance. This 'modelling' is accomplished by asking the respondent to rank order a purposely sampled set of criteria (a Q-sample) based on a specific instruction (e.g., from 'those items with which you strongly agree' to 'those items with which you strongly disagree'). In practice, during a Q-sort respondents place cards with the items from the Q-sample printed on them on a response grid (see Figure 1). Once the respondents' viewpoints have been modelled through the Q-sort, they are coded to produce computational values and the data produced is analysed by intercorrelations with the coded Q-sorts as variables. This means that the persons (not traits or the items) are correlated. The next stage is to factor analyse the Person X Person correlation matrix. The resulting factors represent points of view and the strength of the relationship between those points of view and the respondents is indicated by the size of his or her loading on the factor (For example, see Table 2). The final step in data analysis involves calculating

factor scores for each item in the Q-sample in order to aid the understanding and interpretation of the factors. This is achieved by producing a factor array (a model Q-sort for each factor) allowing comparison of the placement of the items in the Q-sort across all the factors. Interpretation of a factor is based on the rank ordering of the criteria that was found to be associated with the factor. In the current study, support for the authors' interpretations was sought through an examination of the verbal statements made by respondents during interviews that took place immediately before and after the Q-sort task was completed.

Q-sample formulation

In order to produce items for the Q-sample that represent the full diversity of viewpoints about what are considered to be important criteria for the evaluation of adolescents' musical compositions it was necessary to draw on statements from several different sources. These statements were used to formulate the items for the Q-sort. Statements were gathered through interviews with experienced music teachers, focus group discussions with adolescents, and published documents.

Statements from five practising, experienced, specialist music teachers were provided during individual interviews. The teachers were asked to draw on their experience of students' compositions (Year 9, in the UK this is the 3rd year in Secondary school, pupils aged 13-14 years) and write down what they would expect to find in a 'good music composition'. Having written down the criteria they were then asked to rank order their statements in order of importance. The teachers were asked to explain their rationale for the criteria they considered important in the assessment of music composition.

Three separate adolescent focus group discussions were carried out to provide statements. Each focus group consisted of four adolescents from Year 9. Two of the

groups consisted of students without prior experience of FIMT and one group consisted of students with between 4-6 years prior experience of FIMT. All participants in the groups were asked to write down four words that described what a 'good composition' would contain. These words were subsequently used to initiate focus group discussion revealing what the adolescents meant by the words used and how they formed criteria for evaluating a good composition. The emerging criteria were recorded by the researcher (first author) and subsequently used in the formulation of the Q-items.

Statements were also extracted from published documents. Four documents available for consultation by music teachers were included: a) *Music: The National Curriculum for England* (1999), b) *Music Teacher's Guide: Excellence in Schools* (2000), c) *Consistency in Teacher Assessment: Exemplification of Standards* (1996), and d) *Music: Curriculum Bank Key Stage Two Scottish Levels* (1997). These documents were examined for specific statements in relation to guidance on the evaluation of composition. Since the introduction of music in the National Curriculum in England in 1992, composition is a compulsory music curriculum requirement in England. Teachers in English primary and secondary schools are therefore involved in initiating and evaluating composition activities. As such, these documents provide a framework for achieving the statutory requirements.

The evaluation of music composition has been the focus of research investigating the use of rating scales and consensual assessment procedures for evaluation. Much of this research has involved examining the criteria applied by individuals when evaluating musical compositions. Therefore, evaluation criteria contained in three academic papers were extracted and used in the formulation of the

Q-items: Webster & Hickey (1995); Hickey (2001); Hargreaves, Galton and Robinson (1996).

Statements from the four sources were collated and categorised using a procedure known as the constant comparative method (Glaser & Strauss, 1967; Lincoln & Guba, 1985). This method of analysis is based on 'grounded theory' (Glaser & Strauss, 1967) where categories emerge through a process of inductive reasoning rather than being specified in advance with the data being allocated into predetermined categories. The statements were sorted into categories in order to formulate items. This inductive process produced 46 items encapsulating the statements from all four sources, using language that could be readily understood by all participants involved with the Q-sort. Table 1 shows the relationships between the original sources and the 46 Q-items. It is interesting to note from the distribution of items the large number of 'constructive' items (based on teacher sources) compared to the relatively small number of 'creative' items (based on adolescent sources).

(Insert Table 1 here)

Research questions

The 46 items contained in the Q-sample were used to investigate the following research questions: (1) What criteria do adolescents think are important in their self-evaluations of musical compositions? (2) What (if any) are the differences between the criteria used by adolescents with or without prior experience of FIMT? (3) To what extent do adolescents and music educators value similar evaluation criteria?

Method

Participants

Thirty-two adolescents from Year 9 (aged 13-14 years) with mixed academic ability were selected from two Cheshire secondary schools. The participants were balanced according to gender and prior experience of FIMT as follows: 16 participants (Males=8, Females=8) had between 2-4 years prior experience of FIMT and 16 participants (Males=8, Females=8) had no prior experience of FIMT.

Procedure

It was explained to the participants that the researcher was interested in finding out what students their age thought made a good composition. To avoid any possible confusion over the word 'composition' it was explained that a 'composition' is the music they make up from their own ideas (using musical instruments or electronic keyboards with or without a computer) either on their own or with other students. The Q-sort procedure was conducted with participants on an individual basis in a room designated for use by the researcher. The researcher obtained permission from each participant to tape record their responses and assured them they could terminate the procedure at anytime.

The procedure began with the researcher asking the participant 'Can you tell me in your own words what you think goes towards making a good composition'. The participant was then asked to look at the Q-items, which were printed on 46 separate cards to facilitate the Q-sort, and sort them into three piles. The cards were sorted according to whether participant thought the items were really important in making a good composition, not really important in making a good composition, or items that the participant was unsure about in terms of their importance in making a good

composition. Having sorted the cards into the three piles, the participant was then instructed to 'Place the cards containing the items you think are really important in making a good composition on the right hand side of the grid (the most important go on +4)' (see Figure 1). 'Place the cards containing the items you think are not really important in making a good composition on the left hand side of the grid (the least important go on -4)'. 'Place the cards containing the items that you are unsure about how important they are in making a good composition nearer the centre of the grid'.

Insert Figure 1 here

Participants were told 'There is no right or wrong way of arranging the cards; we want to know what you really think. Just place the cards where you think they should go'. A demonstration was given by the researcher on how to place the cards in the different areas of the grid. Blank cards were used for the demonstration so as not to influence the decision making process. The participants were allowed to move the cards around until completely satisfied they had placed them where they felt they should be.

Once the Q-sort was completed the participant was asked to explain why they placed individual items at the extremes of the grid (+4, +3, +2, / -4, -3, -2) also why they placed items in the centre (0) of the grid. The participants' explanations were tape recorded and transcribed for use in the analysis process. If the participant did not understand any of the items he/she was advised to place such items in the zero section of the grid. After the Q- sort was completed the placement of the Q-items on the grid were recorded on prepared sheets duplicating the grid by writing in the number from each Q-item card.

Factor Scores

The 32 completed Q-sorts were coded in order to produce computational values to use in further stages of analysis. The Q-sorts were then analysed using factor analysis. In Q-methodology it is the participants that are correlated and factored, not traits or tests. Table 2 shows the eight centroid factors that were rotated to simple structure (varimax criterion) following Q-methodology conventions (see Mckeown and Thomas, 1988). For any result to be established from the Q-sort data at least one Q-sort had to load significantly and eight factors were established according to this requirement (at the 0.5 level) which shall be referred to as Factors A-H.

Insert Table 2 here

Four of the 32 participants failed to register in the factor analysis at above the 0.5 level. Table 2 shows the significant loadings for the remaining 28 participants.

Following the procedure defined by Brown (1980) factor weights were computed (using the following formula $w = f/1-f^2$ where f is the factor loading and w its weight) to establish the differences in the participant's loadings and therefore their proximity to Factors A-H. A factor array was calculated for each of the eight established factors. This enabled all of the Q-sorts of each significantly loading participant to be merged, resulting in one 'model Q-sort' for each factor. The 'model Q-sorts' for factors A, B, and C contained the majority of participants.

Factor Interpretation

By examining how each item scores in the eight factors, it can be determined how items differ between factors to assist in the interpretation. Such items have been extracted and interpretations for the main factors A-C (and F) are presented. Support

for the interpretations in the form of extracts from participants' pre and post Q-sort interviews are also presented.

Factor A: Composing an appealing piece to a preconceived formula

As can be seen from Table 2, the Q-Sorts of participants 1, 18, 21, 9, 2 and 3, define this factor. The items placed on the 'positive' side of the model Q-sort for this factor indicated that 'composing an appealing piece to a preconceived formula' was considered important to these participants. Table 3 shows the positive and negative placement of items for factor A relative to the placement of these items in other factors.

Insert Table 3 here

Factor A emphasises issues of musical appeal rather than issues of originality. The items that most clearly separate Factor A from all other Factors are (02) 'catchy and memorable tune' and (5) 'has sounds that create a mood'. Item (02) typifies and is a central requirement for a successful 'pop' tune. The adolescents' perception of the importance of a catchy memorable tune and working to a formula was apparent in comments made during their pre and post Q-sort interviews. The following examples serve as illustrations:

'You've got to have a general idea of what your aim is. Like what kind of music you're aiming for almost what kind of audience it's aimed at and stuff like that. If you're like aiming for the slightly younger audiences I mean, you need a catchy melody and that's it.' (Male, FIMT, pre Q-sort).

'A good like melody, and sort of like backings that like keeps you all in time, like if you have the drums like keeping beats and stuff erm…like all in the same key so you weren't playing in different keys. Erm…repeats like at the end of bars like choruses, and linked to the piano and lyrics are there. Can't really think of anything else. (Female, FIMT, pre Q-sort)

'It's just like once you hear it once you can hear it if you think alright, I remember that tune sort of thing. I might go and buy it or I'll listen to it again. I like that sort of so it's important to have a catchy memorable tune sort of thing so you can remember it next time.' (Male, Non-FIMT, post Q-sort).

The importance of applying a preconceived formula rather than aiming for originality in composition is indicated by the relatively low (+1) placement of item 06 'is original (not copied)' in the model Q-sort for Factor A and was also supported by a post Q-sort interview response:

'Well something original might appeal to some people but not to others so it's not really important whether it's kind of original or not because there's quite a lot songs that are around now that have been copied but they've been made like different so they're more appealing to our sort of age group, so I don't think it is really important whether it is original or not.' (Female, FIMT, post Q-sort)

The importance of mood in Factor A is indicated by the placement of item 05 'has sounds that create a mood' in the model Q-sort (+4) higher than in any other factor and was supported by responses to the importance of this item in the post Q-sort interviews, for example:

'...it does like reflect on your mood really and err...if you actually got a song that will actually make you feel something that's very good. I think that's very important.' (Male FIMT, post Q-sort)

'...then sounds that create a mood so that when people listen, some people listen to like kind of operas 'cos it relaxes them and other people listen to Rock because it gets them in the right mood so I think that's quite important.' (Female FIMT, post Q-sort)

Evidence that Factor A does not focus on issues central to perceived teachers' consensual assessments of music composition was revealed in the negative placement of items: (18) 'is pleasing to your teacher', (20) 'is complicated' & (9) 'is for an occasion'. Examination of participants' post Q-sort interviews supported this interpretation:

'I don't think you've got to do it to please a teacher. It's what you really think about it so I think and it doesn't have to be complicated it can be simple or anything as long as you think it sounds good.' (Male Non-FIMT, post Q-sort)

'Yeah you don't have to be complicated it can be really simple, really simple and it can be dead interesting sort of thing you don't know. Is for an occasion well I don't think that's important sort of thing with a sound sort of thing it's more a mood sort of thing rather than a birthday or something like that.' (Male Non-FIMT, post Q-sort)

Factor B: Composing a novel, abstract and interesting piece

As can be seen from Table 2, the Q-Sorts of participants 4, 32, 13, 11, 14 and 16, define Factor B. The items placed on the 'positive' side of the model Q-sort for this factor reveal 'composing a novel, abstract and interesting piece' to be important to these participants. This interpretation is supported by their placement of items, (04) 'is worth hearing again', (13) 'sounds the way you wanted it to', (07) 'has a mixture of sounds', (08) 'is inventive and imaginative', (11) 'is surprising/unexpected' and (12) 'is interesting' in the model Q-sort (see Table 4).

Insert Table 4 here

Factor B (in common with Factor A) has items: (04) 'is worth hearing again' and (13) 'sounds the way you wanted it to' placed in high positive positions in the model Q-sort for this factor. However, it differs from Factor A in the remaining four items: (07) 'has a mixture of sounds', (08) 'is inventive and imaginative', (11) 'is surprising/unexpected' and (12) 'is interesting'. These items indicate a focus on valuing an experimental and abstract approach to composition. An examination of the model Q-sort for Factor B supports this interpretation through the relatively high positive positioning (+2) of items: (06) 'is original (not copied)', (10) 'is different and unusual' and (44) 'uses different sounds'. The item that most clearly separates Factor B from all other factors is item (11) 'is surprising/unexpected' further emphasising the preference for the experimental nature of composition. Support for this interpretation was also found in comments made by adolescent participants during their pre and post Q-sort interviews, for example:

'Well it's got to be you know obviously very interesting and imaginative and of it's own kind it's got to create a mood so that the audience you know can really get into

the piece that you are playing which is obviously very important.' (Female FIMT, post Q-sort)

'Erm…well I think it should be inventive and imaginative like erm…the door slamming to represent something and it shouldn't be the same as everyone else's and it should be unique to you.' (Female Non-FIMT, post Q-sort)

'I think people really should go to do different music rather than just going for like Pop or something.' (Female FIMT, post Q-sort)

Although four of the items deemed important by participants in Factor B differ from those deemed important by participants in Factor A two items: (18) 'is pleasing to your teacher' and (09) 'is for an occasion' receive identical negative placing in both factors (see Table 5). The disagreement between Factors A and B, on items: (29) 'is like professional music' and (32) 'is musically skilful' serves to support the argument that preconceived ideas of composition have been abandoned in favour of a more experimental approach. Further support for this interpretation was found in the post Q-sort interviews, for example:

'Well it doesn't matter if it's not musically skilful as long as you like it and you can put up with it' (Female Non-FIMT, post Q-sort)

'…If you don't like professional music and you want it to be a little unique or different then it really shouldn't matter if it's professional or not.' (Female Non-FIMT, post Q-sort)

Factor C: Composing an inventive and imaginative piece to a preconceived formula

As can be seen from Table 2, the Q-Sorts of participants 17, 5, 28, 29 and 12, define Factor C. The items placed on the 'positive' side of the model Q-sort for this factor reveal 'composing an inventive and imaginative piece to a preconceived formula' to be important to these participants. This interpretation is supported by their placement of items: (01) 'has sounds that go well together', (45) 'fits together in time', (08) 'is inventive and imaginative', (21) 'has a shape or plan', (26) 'has a main tune' and (40) 'has a tidy start and finish' in the model Q-sort (see Table 5).

Insert Table 5 here

Although Factor C has the high placement of item (08) 'is inventive and imaginative' in common with Factor B, suggesting a degree of experimentation, the remaining 5 items: (01) 'has sounds that go well together', (45) 'fits together in time', (21) 'has a shape or plan', (26) 'has a main tune' and (40) 'has a tidy start and finish' suggest that the experimentation should take place within a preconceived framework. Some support for this interpretation of limited experimentation can be found in the model Q-sort for Factor C through the relatively high positioning (+2) of items: (15) 'has chords in it', (31)'is organised' and (32) 'is musically skilful' that tend to reinforce the idea of a preconceived framework. Items linked with experimentation such as (10) 'is different and unusual', (11) 'is surprising/unexpected', and (06) 'is original (not copied)' all failed to reach the positive side of the model Q-sort for this factor. Support for this interpretation was found in comments made by adolescent participants in their pre and post Q-sort interviews, for example:

'First of all you want to know what type of music you want to do like Christmas, Pop or whatever and then you need to know the different… what different instruments you need' (Male FIMT, pre Q-sort)

'The main tune because most songs that you hear have main tunes and you have the main tune, have something else and then maybe go back to the main tune or just use the main tune twice or something.' (Female FIMT, post Q-sort)

The placing of the positive items for Factor C suggests that a degree of invention and imagination in composition is desirable but that this should take place within an 'appropriate' framework. Examination of the negative items reveals high levels of agreement with Factors A and B on the unimportance of item: (09) 'is for an occasion'. But it is interesting to note that Factor C places item (18) 'is pleasing to your teacher' at (+1), whereas Factors A and B place the same item at (–4). Item (09) 'is for an occasion' has links with 'fulfilling the brief' that is associated with criteria

important to teachers (as noted in the teacher interviews). Participants belonging to Factor C seem to be rejecting item (09) but indicate through the placing of item (18) that they are more concerned with 'pleasing the teacher' than participants belonging to Factors A and B. Support for this interpretation was found in comments made by participants during their post Q-sort interviews.

'...is for an occasion, well quite a lot music that's done isn't for an occasion it's just done for what they feel and their mood just spread out.' (Female Non-FIMT, post Q-sort)

'Is for an occasion most songs aren't for an occasion it's nice to have one you can just play anytime anywhere.' (Female FIMT, post Q-sort)

'Is pleasing to your teacher is important, is pretty important I think because like you are aiming to impress your teacher when you are doing these things really so you get like a good grade and you want it.' (Male Non-FIMT, post Q-sort)

Factors A-C account for the largest percentage of difference between most of the participants. The remaining Factors (D-H) probably represent idiosyncratic differences of small groups or individuals rather than overall trends and fall outside the scope of this paper. An exception will be made for Factor F as it consists exclusively of a particularly unusual individual in relation to his prior musical training, which is fundamental to one of the research questions.

Factor F: Composing an 'appropriate' response to stimulus

Factor F consists of one male participant with prior experience of FIMT. He was described by his music teacher as being 'exceptionally musical and the most gifted musician in his year group'. He is also academically able and articulate as revealed in the transcript of his pre and post Q-sort interview. The high positive placement of items: (16) 'sounds like the title/story', (21) 'has a shape or plan', (08) 'is inventive and imaginative', (13) 'sounds the way you wanted it to', (32) 'is musically skilful' and (40) 'has a tidy start and finish' may be interpreted as

'composing an "appropriate" response to stimulus'. The negative placement of items: (37) 'has a pulse', (35) 'has a strong beat' and (42) ' has a steady beat to hold the tune together' may be interpreted as rejection of 'pop-tune' criteria. Support for this interpretation was found throughout his pre and post Q-sort interviews, for example:

'I find it very difficult to write if you're not concentrating on a certain person that's for a solo piece. But on the other hand for example a symphony or like a brass band piece then you can't really focus on like a particular brass band or particular orchestra because erm…it's not going to be just one orchestra playing you see.' (Male FIMT, pre Q-sort)

It's not important that music has a steady pulse that goes because otherwise all music would be the same and you've got to use rubato and stuff to make it more interesting. You can't just have a pulse in every piece of music. (Male FIMT, pre Q-sort)

Discussion

This study employed Q-methodology to investigate the criteria adolescents use when evaluating their musical compositions. Results revealed three main interpretations of the criteria the majority of adolescents thought to be important. These interpretations were based on the model Q-sorts for each factor. Statements made by participants during pre and post Q-sort interviews provided further support for the interpretations. The first set of criteria (Factor A) consisted of items interpreted as 'composing an appealing piece to a preconceived formula'. Adolescents in this group value musical composition evaluation criteria that are broadly similar to that which they would employ to evaluate commercially produced 'pop' music. The second set of criteria (Factor B) was interpreted as 'composing a novel, abstract and interesting piece'. Adolescents in this group show a greater willingness to adopt criteria that will enable them to compose the type of music they are expected to compose at school. The third set of criteria (Factor C) was interpreted as 'composing an inventive and imaginative piece to a preconceived formula'. Adolescents in this

group showed a willingness to adopt criteria that would enable them compose the type of music at school that is likely to achieve positive evaluations from their teachers.

Another aim of the study was to determine the extent to which differences were apparent in the criteria used by adolescents with or without prior experience of FIMT. The distribution of the participants according to FIMT and gender for each of the three groups revealed some interesting trends. Factor A had more male participants than female (5-1), Factor B had more female participants than male (5-1) and Factor C was more evenly divided (2-3). It would appear that for these participants identifying with and valuing music composed in school may be more closely associated with gender than prior experience of FIMT. In other words males identified with 'pop' music criteria rather than 'school music' criteria whereas females were more likely to identify with 'experimental' music. This supports findings that when composing in school, girls are more likely to be more diligent during composition (Green, 1997).

Factor B had more participants with FIMT than without FIMT (5-1). As such, their musical training may have predisposed these participants to value the composition criteria that are likely to coincide with their teachers' ideas of what makes a good composition as revealed in the teachers' statements gathered during the Q-item formulation process. During this process the greater use of technical language in statements made by adolescents with prior experience of FIMT than adolescents without experience of FIMT indicated adolescents with FIMT had a closer affiliation with teachers' criteria than their non-FIMT peers. Indeed, the participant with the highest level of previous exposure and success with FIMT produced an individual factor (Factor F) that provided further support for this interpretation.

A final aim of the study was to examine the extent to which adolescents and music educators involved in the current study value similar evaluation criteria. For Factors A and C, the notion of a preconceived formula (as indicated by the model Q-sorts) was common but the perception of what constitutes a preconceived formula appeared to differ between the factors. This difference was based on what was regarded as aesthetically appropriate by the participating adolescents. The defining six items for Factor A could be said to represent the ideal ingredients of a popular song. This frame of reference for evaluating musical composition based upon comparison with the music that adolescents listen to may be more readily available to them than the criteria expected by specialist music teachers in a formal music education environment. During the teacher interviews (forming part of the Q-item compilation process), teachers frequently used the word 'appropriate', this was echoed in the advisory documents reviewed, implying the existence of generally accepted musical criteria expected to be employed in a good composition. It could be argued that teachers' evaluations are based on 'appropriate' criteria identified in the advisory documents and influenced by their own formal musical training.

Similarly, adolescents who endorsed the criteria contained in Factor C (by comparison to Factor A) indicated that higher levels of novelty are considered important in relation to 'invention and imagination', but overall 'originality' is not as important as 'pleasing to your teacher'. In other words, these adolescents may have felt restricted to some extent by what they considered to be 'appropriate' for music composition at school in order to conform to the aesthetic appeal and appropriate construction valued by their teachers.

Another interesting trend revealed by the factor scores for individual Q-items across factors A-C was for items: (09) 'is for an occasion', (14) 'sounds like a

particular style', (16) and 'sounds like the title/story'. Each of these items failed to reach the positive side of the model Q-sorts. This suggests that the majority of participating adolescents did not consider these evaluation criteria important. However, teachers consider these criteria important in 'fulfilling the brief' required by music curriculum. This disagreement between teachers and students regarding what constitutes important evaluation criteria lends support to previous findings by Seddon and O'Neill (2000 & 2001), where differences were found between the evaluations of compositions provided by teachers and students.

This study has several limitations that should be considered when interpreting the results. First, the relatively small sample, drawn from only two schools located in the same geographical area, make generalisations of the results problematic. Future research is needed to confirm the reliability of the findings with students from schools in other parts of the country. Also, the application of Q-methodology requires the authors to provide their own interpretations of the results. In order to address this issue, we have made the process of analysis and interpretation as transparent as possible to assist others in offering alternative interpretations. We also relied heavily on the interview material to verify our interpretations. Finally, we acknowledge the greater links found between the criteria considered important by the individual participant with the highest level of prior FIMT experience and the criteria considered important by the music teachers we interviewed. As such, future research is needed that investigates whether or not older students, or students with more extensive musical training, do indeed display greater affinity with the evaluation criteria used by music educators.

This study has important implications for music education. Our findings suggest that many teachers place a great deal of importance on evaluating the end

product of students' musical compositions, and that their evaluations tend to be based on criteria linked to specialist musical training. However, the adolescent participants from our study were more concerned with self-expression during the process of composition than with the professional quality of the product. It may be inappropriate to merely apply specialised evaluation criteria to adolescents' musical compositions at this stage of their musical education. Greater use of formative assessment based on the process of composition may yield greater educational benefits that will assist all students, regardless of the previous musical training, to learn and understand the criteria that music teachers consider important when evaluating the product of their composition efforts.

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Table 1. Sources of Q-Items

Item No.	Item	Advisory Documents	Teacher Interviews	Adolescent Focus Groups	Research Literature
1	Has sounds that go well together	Yes	Yes		Yes
2	Has a catchy/memorable tune		Yes	Yes	
3	Is likeable			Yes	Yes
4	Is worth hearing again				Yes
5	Has sounds that create a mood	Yes	Yes		Yes
6	Is original (not copied)	Yes		Yes	Yes
7	Has a mixture of sounds	Yes	Yes	Yes	
8	Is inventive and imaginative	Yes			Yes
9	Is for an occasion	Yes	Yes		
10	Is different and unusual		Yes	Yes	Yes
11	Is surprising/unexpected	Yes		Yes	
12	Is interesting				Yes
13	Sounds the way you wanted it to	Yes	Yes		Yes
14	Sounds like a particular style	Yes		Yes	Yes
15	Has chords in it	Yes	Yes	Yes	
16	Sounds like the title/story		Yes		
17	Is pleasing to your friends		Yes	Yes	
18	Is pleasing to your teacher		Yes		Yes
19	Is simple	Yes	Yes		Yes
20	Is complicated	Yes			Yes
21	Has a shape or plan	Yes	Yes		Yes
22	Is long	Yes	Yes		
23	Is short	Yes			
24	Has musical ideas that link together	Yes			Yes
25	Has loud and quiet sections	Yes	Yes	Yes	Yes
26	Has a main tune	Yes	Yes	Yes	Yes
27	Has flow without big leaps			Yes	Yes
28	Repeats over and over			Yes	
29	Is like professional music			Yes	
30	Is technically good			Yes	Yes
31	Is organised	Yes	Yes		Yes
32	Is musically skilful	Yes	Yes	Yes	Yes
33	Has some repeats	Yes			Yes
34	Uses musical patterns	Yes	Yes		Yes
35	Has a strong beat		Yes	Yes	
36	Has a feel for rhythm	Yes	Yes	Yes	Yes
37	Has a pulse		Yes	Yes	Yes
38	Has different beats			Yes	Yes
39	Is random/aimless		Yes	Yes	
40	Has tidy start and finish		Yes	Yes	
41	Is like a sandwich-ABA		Yes	Yes	
42	Has a steady beat to hold the tune together		Yes	Yes	
43	Is fast and slow at different points			Yes	Yes
44	Uses different sounds	Yes	Yes	Yes	Yes
45	Fits together in time		Yes	Yes	Yes
46	Has a strong ending				Yes

Table 2. Factor Loadings for the Evaluation of Composition Criteria Q-Sort

Participant	Factor A	Factor B	Factor C	Factor D	Factor E	Factor F	Factor G	Factor H
01	0.77							
18	0.72							
21	0.65							
09	0.65							
02	0.61							
03	0.54							
04		0.86						
32		0.82						
13		0.69						
11		0.58						
14		0.58						
16		0.56						
17			0.71					
05			0.66					
28			0.64					
29			0.60					
12			0.51					
31				0.75				
16				0.67				
06				0.60				
23					0.77			
22					0.58			
27					0.57			
07						0.76		
30							0.68	
26							0.62	
19							-0.54	
24								0.68

Ranked in order of highest per factor (suppressed below 0.5)

Table 3. Positive and negative factor weights for items included in Factor A

		Factors							
Item No	Item	A	B	C	D	E	F	G	H
02	Has catchy/memorable tune	+4	+1	-2	+2	-1	-1	+1	-1
05	Has sounds that create a mood	+4	+2	0	-1	0	+2	+3	-1
04	Is worth hearing again	+3	+4	-1	+4	0	+2	+3	+2
13	Sounds the way you wanted it to	+3	+4	0	+4	-1	+3	+2	0
26	Has a main tune	+3	-1	+3	+1	+3	-3	-2	-4
45	Fits together in time	+3	0	+4	+1	+3	+1	0	+4
18	Is pleasing to your teacher	-4	-4	+1	+2	-2	+1	0	+2
20	Is complicated	-4	-1	-3	-3	-1	0	-4	-2
09	Is for an occasion	-3	-3	-4	-2	0	-2	+1	-3
23	Is short	-3	-2	-3	-2	-4	0	-1	-1
28	Repeats over and over	-3	-2	-3	-3	-3	-3	+1	+1
39	Is random/aimless	-3	-1	-2	-2	-1	+1	0	0

Table 4. Positive and negative factor weights for items included in Factor B

		Factors							
Item No.	Item	FA	FB	FC	FD	FE	FF	FG	FH
04	Is worth hearing again	+3	+4	-1	+4	0	+2	+3	+2
13	Sounds the way you wanted it to	+3	+4	0	+4	-1	+3	+2	0
07	Has a mixture of sounds	-1	+3	+1	+3	0	-1	0	+1
08	Is inventive and imaginative	+2	+3	+3	+1	-1	+3	+2	0
11	Is surprising/unexpected	-1	+3	0	+1	-2	0	-2	-2
12	Is interesting	+1	+3	+2	+3	+2	-2	-4	+2
18	Is pleasing to your teacher	-4	-4	+1	+2	-2	+1	0	+2
29	Is like professional music	0	-4	-2	-1	-3	0	-4	+3
09	Is for an occasion	-3	-3	-4	-2	0	-2	+1	-3
14	Sounds like a particular style	-1	-3	-2	-3	-1	-2	+1	-3
17	Is pleasing to your friends	-2	-3	-2	+3	-2	-2	-1	+2
32	Is musically skilful	0	-3	+2	-1	+1	+3	-1	-3

Table 5. Positive and negative factor weights for items included in Factor C

		Factors							
Item No.	Item	FA	FB	FC	FD	FE	FF	FG	FH
01	Has sounds that go well together	+2	+1	+4	+2	+1	-1	+2	+2
45	Fits together in time	+3	0	+4	+1	+3	+1	0	+4
08	Is inventive and imaginative	+2	+3	+3	+1	-1	+3	+2	0
21	Has a shape or plan	+2	0	+3	-2	0	+4	+4	-1
26	Has a main tune	+3	-1	+3	+1	+3	-3	-2	-4
40	Has a tidy start and finish	+1	-1	+3	0	+1	+3	-2	-1
09	Is for an occasion	-3	-3	-4	-2	0	-2	+1	-3
22	Is long	-2	-1	-4	-4	-4	+1	0	0
16	Sounds like the title/story	0	0	-3	-4	+2	+4	-1	-3
20	Is complicated	-4	-1	-3	-3	-1	0	-4	-2
23	Is short	-3	-2	-3	-2	-4	0	-1	-1
28	Repeats over and over	-3	-2	-3	-3	-3	-3	+1	+1

Figure 1. Q RESPONSE GRID

Not really important								Really important
-4	-3	-2	-1	0	+1	+2	+3	+4
(2)	(4)	(6)	(7)	(8)	(7)	(6)	(4)	(2)