

The Contribution of Talk to Generating Flow Experience in the Music Classroom

Catherine Preston

The Open University/Philips High School, England

catherinepreston8@btinternet.com

ABSTRACT

People can experience flow whilst taking part in a range of activities such as painting, sport and music and work. A flow state is achieved by balancing high levels of skill and challenge in a cyclical process that involves setting clear self-imposed goals and generating immediate, unambiguous feedback. Originally developed to study the quality of experience in everyday life, the flow model has been applied in this study to investigate young people's experiences in the music classroom. The aim is to contribute to research in educational practice by exploring how school children experience working together during music lessons. Although collaborative musical participation is encouraged in the classroom context, very little empirical research has been conducted to investigate how effective this is and even less by practicing music teachers in UK schools. The research illustrates how flow theory can contribute to reaching a greater understanding of the nature and quality of pupils' experiences in the music classroom.

The study was conducted by a music teacher based in a state secondary school near Manchester in the north west of England. A mixed methods approach was used incorporating quantitative analysis of participants' self reports recorded on experience sampling forms and qualitative analysis of verbal interactions. Findings were triangulated with teacher assessments of the finished compositions.

The paper reports examples of the results of analysis of the verbal interactions recorded during the composing process. During the interactions, participants were observed in cooperative and competitive discussion, using a range of problem solving strategies and demonstrating their abilities for critical reflection mutual acceptance of each other's ideas. These aspects were found to reflect flow experience in collaborative contexts.

I INTRODUCTION

In music lessons, teachers are encouraged to develop young people's knowledge and skill through integrating three broad areas; listening and appraising, performing and composing. These areas are regarded as central in the teaching and learning of music as the following statement from the Quality and Curriculum Authority¹ shows;

"Performance, composing and listening are interrelated. Pupils should be encouraged, for example, to develop listening skills through performance and composition activities. Knowledge, skills and understanding in each of these areas should be developed interactively through practical music making."

To facilitate this, music teachers regularly structure their lessons to include group work and the practice has become the norm in most secondary classrooms. Recent research in music psychology has highlighted the importance of the social aspects of musical participation. Peer groups, musical preferences, identity and family environment have all been

¹ The Qualification and Curriculum Authority is the regulating body for standards in education in English schools

found to contribute to perspectives on musical participation in and out of school, eg MacDonald, Miell and Morgan (2000); Macdonald, Miell and Mitchell (2002). The importance of these factors is also acknowledged by QCA;

"Music is a social experience in which each performer and listener contributes to the whole experience. Music activities help pupils develop as effective team workers and participators by providing opportunities to play a full part in the life of their school or wider community."

In this paper, the findings from qualitative analysis of the verbal interactions show the extent to which participants who experienced flow influenced the composing process and the finished music.

II THE CONCEPT OF FLOW

Csikszentmihalyi (1975) introduced the concept of flow to explain the capacity of human consciousness to control and direct attention to achieve 'optimal experience' (Csikszentmihalyi, 1992). Being in flow is 'a subjective state that people report when they are completely involved in something to the point of losing track of time and of being unaware of everything else but the activity itself' (Csikszentmihalyi, Rathunde and Whalen, 1997, pg 14). To achieve the flow state, a balance of high levels of skill and challenge (ie difficulty) are required. To sustain the experience, individuals become more and more intrinsically motivated to challenge themselves and attain higher levels of skill. During the process people are clear about what they want to achieve and generate immediate and unambiguous feedback to attain self-imposed goals.

The concept of flow, also termed optimal experience, was initially developed in the course of observations of individuals whilst they were involved in painting and sculpture (Csikszentmihalyi, 1975). To measure flow, Csikszentmihalyi and colleagues developed the Experience Sampling Method (ESM). The first published study using the ESM investigated the thoughts, activities and mental states of adolescents in the course of their daily lives (Csikszentmihalyi, Larson and Prescott, 1977). The method has subsequently been used to measure the quality of experiences in a range of educational, work and leisure contexts. Byrne, MacDonald and Carlton (2006) conducted a study to explore the relationship between flow and group composition that provided the initial idea for investigating the relationship between flow and collaborative composing in a school context. The next section of the paper provides the rationale for how the discourse analysis of group talk was incorporated into the research design.

III FLOW AND COLLABORATIVE TALK

The theoretical basis for studying group talk draws on the work of Mercer (2004). Mercer and colleagues developed an approach to studying group talk to facilitate research that is specifically concerned with investigating how teachers

encourage the joint construction of knowledge. Observational studies of children's group talk conducted by Dawes, Fisher and Mercer (1992) and Mercer (1994b, 1995) gave rise to three 'archetypical' forms of talk, disputational, cumulative and exploratory (Mercer, 2004, page 15). Dawes et al (1992) explored the role of talk as school children worked together at a computer. The exchanges were transcribed and analysed to identify the three types of talk defined as;

1. Disputational – talk that reflected disagreement
2. Cumulative – talk that provided common knowledge
3. Exploratory – talk that displayed critical and constructive disagreement.

It was found that most progress was made during exchanges that involved exploratory talk. In a similar computer-based study, Mercer (1995, 1996) also found that successful progress was linked to exploratory talk and this element has been developed further by Fernandez, Wegerif and Drummond (2001). Their findings indicated that teaching 'ground rules' to increase the use of exploratory talk expanded children's joint zone of proximal development, enabling them to achieve a better mutual understanding of problems that they could have otherwise have done (Fernandez et al, 2001). The concept of the zone of proximal development was developed by Vygotsky and is defined as 'the distance between the actual developmental level as determined through problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (John-Steiner and Holbrook Mahn, pg 14)

There are methodological similarities between this approach and that used in flow research in that both involve conducting exploratory research to generate hypotheses that can subsequently be tested across a range of empirical data. In this study there were two stages of exploratory research. In the first, pupils completed an experience sampling forms (ESFs). The self reports provided the data, analysed using SPSS, to assess their subjective experience and were administered to the same classes over a period of three to four lessons. The lessons were observed by the researcher and also video-taped. For the second stage, episodes of group talk were transcribed and analysed using Mercer's typology to determine how the pupils' discourse patterns compared with their responses on the ESFs. The findings from the analysis of the quantitative data provided evidence to suggest that some pupils achieved a state of flow during a number of lessons. For these respondents, there were positive correlations with flow and involvement and interaction when the main activity was collaborative music making. The findings reflected those from other flow based studies in that those who were found to be in flow reported higher levels of positive moods, self-esteem, intrinsic motivation, intense concentration and a greater sense that what they were doing was important to them (Hektner et al, 2006).

Results from the ESFs also indicated that pupils who did not experience flow did not do so because some of the essential components were missing in that they indicated lower levels of positivity, confidence and concentration or had not been as involved in the activities. The next section discusses how the findings from the experiential dimensions

indicated on the self reports became observable through the analysis of selected episodes of talk.

IV ANALYSIS OF COLLABORATIVE TALK

The analysis was conducted using descriptors derived from the features of disputational, cumulative and exploratory talk to identify cooperative or competitive thinking, critical reflection and mutual acceptance of ideas (Mercer, 2004). To investigate the contribution of group talk to generating flow experience in the music classroom, transcription and analysis of extracts of talk were made during the final phase of group collaboration ie in either weeks three or four of a four week composing topic. Twelve small groups, ranging from three to six pupils from each class, were video and audio recorded. There were four groups from year 7 (aged 12 to 13 years), four from year 8 (aged 13 to 14 years) and four from year 9 (aged 13 to 14 years). Extracts from one group from each year are discussed in this paper. Prior to starting the analysis, the video extracts were transferred to DVD and CDs made of the finished music from each group. The video extracts were loaded into Atlas.ti, a software package designed for the analysis of written, audio and video data. The software was specifically developed to facilitate a grounded theory approach to the analysis of talk and researchers can import their original data into a 'hermeneutic unit' in order to manage and analyse the material for theory building and testing. An added benefit is that the data remains in its original format location. A sample of the graphical interface is reproduced in Figure 1.

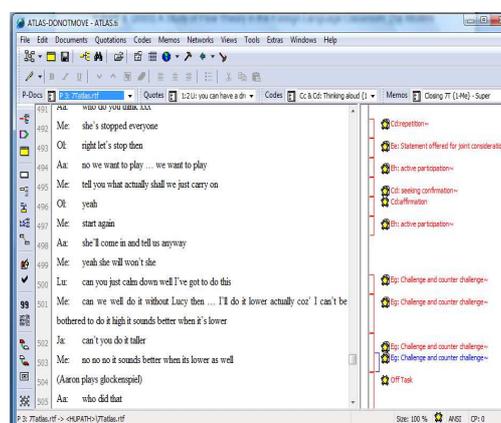


Figure 1. Graphical Interface from Atlas.ti

Figure 1 gives an example from one of the transcripts to show the process of analysis using Atlas.ti. It has enabled a way of visualizing on the graphical interface the descriptors for the modes of talk in the data. Atlas.ti has been particularly important for adding and cross-referencing video and audio clips (including mp3 files of music), teacher evaluations and self reports as it can handle many kinds of different data types in one unit.

The categories entered into the software are listed below. The descriptors were used for all the small groups who participated in the research. The definition for each one is given first (in italics) followed by the variations of each type of talk that emerged during the analysis.

A. Cumulative Talk - building positively and uncritically on what others have said:

- *Cc Constructing a 'common knowledge' by accumulation eg thinking aloud*
- *Cd Characterised by repetitions, confirmations and elaborations*

Cumulative talk was demonstrated as:

Cc and Cd: thinking aloud

Cc: accepting others' suggestions/demonstrations

Cc: constructing common knowledge

Cc: demonstrating or modeling to others

Cd: seeking confirmation

Cd: affirmation

Cd: agreement

Cd: confirmation and elaboration

Cd: repetition

B. Disputational Talk - disagreement

- *Da Individualised decision making – no attempt to pool resources, make suggestions or offer constructive criticism*
- *Db Assertions/counter assertions – characteristic discourse feature; short exchanges*

Disputational talk was demonstrated as:

Da: unsuccessful initiation

Da: use of 'I'

DaMus: individual playing ie not with anyone else

Db: assertion

Db: counter assertion

C. Exploratory Talk - participants engage critically but constructively

- *Ee Statements/suggestions are offered for joint consideration*
- *Ef Challenge/counter-challenge*
- *Eg Challenges and counter-challenges are justified and alternative hypotheses/ideas are offered*
- *Eh Active participation*
- *Ei Opinions are sought and considered before decisions are jointly made*
- *Ej Compared to disputational and cumulative modes, knowledge is made more publicly accountable and reasoning is more visible in the talk*

Ee: statement offered for joint consideration

Ee: we need

Eg: challenge and counter challenge

Eh: active participation

Ej: knowledge is made accountable and reasoning is visible in the talk - and through playing and demonstrating

Es: self correction

Extract 1 Year 7

The first extract is from a year 7 group and is a transcription of the talk a few minutes before joining the rest of the class to perform the finished piece. They were composing music to show their understanding of the elements of music and were also required to produce a graphic score. They were nearing the end of the session and had just

performed a section of music for the researcher who had been in the room to check on their progress

Megan: shall we have another go

Oliver: yeah

Megan: remember Aaron don't start once I've finished that one okay not before

Lucy: I've just written it out

Megan: James you start on cue ... James watches me and I'll nod at you when you need to start

Oliver: ready I'll go

Lucy: wait

Megan: wait

Oliver: three two one (pupils play first section)

Megan: shush she's stopped everyone

Oliver: who just did that

Aaron: who do you think xxx

Megan: she's stopped everyone

Oliver: right let's stop then

Aaron: no we want to play ... we want to play

Megan: tell you what actually shall we just carry on

Oliver: yeah

Megan: start again

Aaron: she'll come in and tell us anyway

Megan: yeah she will won't she

Lucy: can you just calm down well I've got to do this

Megan: can we well do it without Lucy then ... I'll do it lower actually coz' I can't be bothered to do it high it sounds better when it's lower

James: can't you do it higher

Megan: no it sounds better when it's lower as well (Aaron plays glockenspiel)

Aaron: who did that

All: laughter

Aaron: xxx

Megan: James don't do that you'll break it right are you ready three two one go

(all play and Lucy writes on sheet)

Commentary

The episode starts with Megan seeking confirmation to play through again, 'Shall we have another go?' Using 'we' includes everyone. Oliver affirms, 'Yeah'. Megan elaborates (cumulative) to remind Aaron about when to play which also serves to construct common knowledge for the group, 'Remember Aaron don't start once I've finished that one okay not before.' Lucy challenges to draw attention to how this affects the score, 'I've just written it out,' which is not taken up by the others. Megan continues to direct, constructing common knowledge to ensure James knows when to play, 'James watch me and I'll nod at you when you need to start.' Oliver asserts to start, 'Ready I'll go,' and is interrupted by Lucy who counter asserts with a command, 'Wait.' After Oliver's count, all pupils actively participate by playing together. When they stop (because Megan has seen through the practice room window that the teacher has stopped the others in the main classroom), Aaron wants to continue the music showing his active participation. This is taken up by Megan who encourages everyone to carry on, 'Tell you what actually we shall just carry on'. Her statement

also shows active participation. Lucy is not involved in playing and is concerned with writing. She uses an 'I' statement to reinforce her role, 'Can you just calm down well, I've got to do this'. Megan counter challenges by suggesting they play without her. She uses 'we' to include everyone and offers an alternative for her part on the flute, 'I'll do it lower actually coz I can't be bothered to do it high. It sounds better when it's lower'. This shows self correction, another feature of exploratory talk. James challenges her decision, 'Can't you do it higher'. Megan counter challenges by repeating her reason, 'No no, it sounds better when it's lower as well.' She reinforces her decision by repeating 'no' three times.

Aaron plays on the glockenspiel and makes a joke about who could have done it which makes the rest laugh. Megan remonstrates with James who is messing around, 'Don't do that you'll break it'. She re-focuses the group by counting in for a play through, 'Right are you ready one two three go'.

Summary

Megan was the only member of the group who scored highly for challenge and skill on her ESF. She adopted the role of both teacher and director and made most of the decisions about what they will play. She showed her involvement by revising and justifying her own part. Her utterances had characteristics of both cumulative and exploratory talk and she makes a considerable contribution to the productivity of the group by directing and demonstrating. She appeared confident about how the music should sound including her own part and justified her decisions to the others when challenged. All of these features supported her high scores on the ESF for challenge and skill and reflected a positive approach, indicated high levels of confidence, involvement and concentration and her talk indicated that she considered what they were doing was important.

Extract 2 Year 8

The extract comes towards the end of the lesson and the group were making a final decision about which topic they could choose to compose music in call and response style. There had already been some indecision about this just before this part of the session and Jordan has been elected leader:

Jordan: [we're doing work] [?]
Tom: do proper work then
Jordan: with Lewis in our group none of them will work we might as well go with the easiest one celebration
Lewis: celebrate good time (sings) de de de
Jordan: (sings) de de de der ... right put it in then use you're right wrist put it in don't hold it (talking about the drum) (All play)
Jordan: right we're doing celebration (Lewis plays MINI DRUM)
Jordan: right you can't do that because you've got to be like that (puts hands in the air)
Tom: (plays drum and sings) uma sika laly we can do uma sika laly
Lewis: no 'mor saka lely' (laughter) 'mor saka lely'
(pupils stop playing and talking as another teacher passes through the corridor)
Tom: alright xxx

Jordan: is that what you were waiting for
Tom: yeah (laughter)
Jordan: right we need to think of another right so if it's celebration we kind of like improvise we just have a bit of a boogie (plays Xylophone)
Tom: no I'll start (Jordan continues to play)
Tom: I'll start by going I'll start and I'll finish and you can join in and Louis can go (does 'happy face')
Lewis: no
Tom: and then we'll go (sings) kuma sika laly kuma sika laly
Lewis: xxx
Jordan: yeah that's clearly [what we'll do] [?]

Commentary

Jordan took charge by stating to the group what topic they would be doing and constructed common knowledge displayed by his statement, 'right we're doing work'. Tom confirmed and elaborated, 'do proper work then'.

Jordan commented on Lewis's lack of work and offered a statement for joint consideration by suggesting an alternative, 'with Lewis in our group none of them will work we might as well go with the easiest one celebration'. Exploratory talk was extended as Lewis took up the idea and demonstrated a line from a popular celebration song by singing, 'celebrate good time'. Jordan echoed the singing and demonstrated to Lewis how to play the drum, '(sings) de de de der ... right put it in then use you're right wrist put it in don't hold it (talking about the drum)'.

Jordan confirmed the topic, 'right we're doing celebration' which demonstrated his acceptance of the role as leader. More exploratory talk took place as Tom modeled a vocal idea to the others, '(plays drum and sings) uma sika laly we can do uma sika laly'. Jordan demonstrated an idea for joint consideration; 'right we need to think of another right so if it's celebration we kind of like improvise we just have a bit of a boogie (plays xylophone). Tom also demonstrated an idea 'I'll start by going I'll start and I'll finish and you can join in and Lewis can go (does a 'happy face' to the camera). Tom added some more vocalisation, 'and then we'll go (sings) kuma sika laly kuma sika laly and Jordan affirmed,' yeah that's clearly [what we'll do]' as the teacher entered to call them back to the classroom'.

Summary

There were no self reports for flow in the ESFs from this group. However, the boys did prepare some music and explored different ideas. There was evidence to suggest elements of cumulative and exploratory talk but they appeared to be much less involved and committed to what they were doing than those in the year 7 group. This is demonstrated through their comments about doing 'proper work', awareness of the camera eg Lewis making a 'happy face' to the camera and being distracted by teachers passing them while they talked. Although Jordan adopts the role of director, he does not display the higher levels of involvement and concentration that characterised Megan's input, exemplified by his statement at the beginning of the extract when he suggested to the others that they might as well go for the easiest option.

Extract 3 Year 9

This group were writing words and composing music for a song in Britpop style. They had listened to examples during the previous lesson and were continuing their ideas to produce lyrics that reflected everyday stories, a feature of songs in this genre. The exchanges occurred just before the teacher entered to check on their progress.

Jade: right have we got anymore words anymore words to write down
Lucy: right I thought about it (sings) I'm standing in a puddle and my feet are getting+...it's like motown [?] ... feet are getting wet coz these bullies are being
Jade: wow well good
Lucy: such a pest
All: (laughter)
Emma: coz these bullies are being such a pest
Jade: right so what does it go that's good
Lucy: (sings) I'm standing in a puddle
Emma: (goes to sing)
Lucy: shhh
Jade: is that a new one are we starting there
Lucy: in the puddle ... yeah ... (sings) I am standing in a puddle
Jade: is it not I'm
Lucy: (sings) I am standing I'm standing ... no I am ... (sings) I am stand+.. I'm ..oh yeah I'm ...(sings) I am standing in the puddle ... in a
Emma: (sings) puddle
Lucy: (sings) and my toes are getting wet ... because these bullies are being mean and they make me cry ... no and they make me sad ... huhhhhhhhh
Jade: right so I'm standing in a puddle and my toes are getting wet
Lucy: (sings) and my toes are getting wet ... these bullies
Emma: no (sings) and these bullies are so mean ... they make me feel so sad
Lucy: yeah
Jade: hoorah

Commentary

Jade began by seeking confirmation from the group by asking a question about the lyrics. She used 'we' to show she is including all of them, 'right have we got any more words any more words to write down'. Lucy affirmed and elaborated by adding she had been thinking about it, 'right I thought about it'. She demonstrated her ideas by singing to the group which also served as a way of offering her ideas for joint consideration', (sings) I'm standing in a puddle and my feet are getting+...it's like motown [?] ... feet are getting wet coz these bullies are being...'. Jade interrupted to affirm by praising, 'wow well good'. which also showed her acceptance of Lucy's ideas. Jade finished the last line, 'such a pest' which made them laugh again indicating their acceptance of Lucy's contribution.

Emma repeated the last line, 'coz these bullies are being such a pest' which gave further indication of their acceptance of the lyric. Jade affirmed by praising Lucy's ideas, 'that's good'. Jade sang what appeared to be the first line again, '(sings) I'm standing in a puddle' and as Emma started to join in Lucy shushed her. It suggests that Lucy was working out the next part and thinking about it as she sang.

Lucy did not want Emma to join in until she has worked out the new line and realised that Emma thought she was singing the first one again. This is not apparent in the talk but was evident in the video because she held up her hand. Jade realised and sought confirmation by asking if she was starting new line, 'is that a new one are we starting there'. It is important to notice she used 'we' even though Lucy was the one who actually created the lyrics. Lucy continued singing and affirmed, 'in the puddle ... yeah ... (sings) I am standing in a puddle'. Jade challenged the use of 'I am' to suggest 'I'm', 'is it not I'm?' This was accepted by Lucy as shown by the way she corrected herself as she tried out the lyric again, '(sings) **I am** standing **I'm** standing ... no I am ... (sings) **I am** stand+.. **I'm** ..oh yeah **I'm** ...(sings) I am standing in the puddle ... in a'.

Emma showed her active participation and involvement by echoing the last line, '(sings) puddle'. It was interesting that she did a refrain here as this tied in with her asking about the echo in an earlier part of the transcript. This exemplifies an occurrence that has happened in other extracts where participants had continued ideas or suggestion from the preparation stage into the middle or closing extracts. In these instances, it was often participants who didn't appear to be as musical, able to play instruments or were not as confident as some of the others. Lucy continued to create the lyric as she sang. This was demonstrated in the way she changed the last line of the new verse (in italics), '(sings) and my toes are getting wet ... because these bullies are being mean and they make me cry ... *no and they make me sad* ... huhhhhhhhh'.

Jade repeated the line as a way of constructing common knowledge because she says right before starting, 'right so I'm standing in a puddle and my toes are getting wet'. Lucy confirmed by giving her the next line, '(sings) and my toes are getting wet ... these bullies'. Emma corrected her because it was the second part of the lyric that was being repeated, 'no (sings) and these bullies are so mean ... they make me feel so sad'. Lucy confirmed with 'yeah' and Jade affirmed with 'hooray' which also showed her satisfaction with what had been created.

Summary

There were a number of indications that showed successful cumulative and exploratory talk. Out of all the year 9 groups this was the only one which clearly showed the thinking processes of how the lyrics were decided upon. Lucy's scores on her ESF showed that she was 'in flow' and had quite an influence on the others as she worked out her ideas. The teacher input was fairly minimal compared to the other groups in year 9 and these pupils also scored highly on the teacher assessments which suggested that the participants benefitted from having more autonomy during the song writing process.

Lucy adopted the role of both teacher and director in similar ways to Megan in the year 7 extract. She made most of the decisions about how the lyrics should be and showed her involvement by consistently revising and justifying her ideas. Her utterances had characteristics of both cumulative and exploratory talk and she made a considerable contribution to the productivity of the group by directing and modelling. She appeared confident about how the words should fit and

corrected herself several times. All of these features supported her high scores on the ESF for challenge and skill and reflected the characteristics of flow experience in her positive approach, high levels of confidence, involvement and concentration. Evidence that she considered what they were doing was important is shown from the outset as her opening statement indicated she had been thinking about the lyrics prior to this lesson.

V DISCUSSION AND CONCLUSIONS

Three examples of the analysis of verbal interactions of pupils engaged in collaborative composing have been presented and summarised. The participants had completed self reports designed to measure the extent to which they had experienced flow. The episodes were discussed in the light of statistical analysis of their responses on the self reports to explore relationships between flow and collaborative talk. Discourse analysis was conducted through looking at the talk based on methods used by Mercer (2004). It was found that those participants who experienced flow positively influenced the group talk. They demonstrated this through adopting the roles of teacher and director, influencing decisions about the form and content of the music. Their talk displayed utterances that indicated high levels of commitment, involvement, concentration and self confidence and they were clear about their ideas and how the finished music should sound. These qualities have been found to be the main components of flow experience.

There was also evidence to suggest that some participants influenced the quality of the finished music. Their compositions were independently assessed by four music teachers who rated them according to criteria provided by the class teachers for each topic. The assessment criteria were based on National Curriculum levels provided by QCA, the regulating body for standards in education English schools.

Two teachers rated the music composed by the year 7 group as level four, ie at least one element can be identified, players are keeping time with each other and there were three clear and balanced sections. Two teachers rated it as level five, ie as level four with the addition of a range of melodic and rhythmic ostinati, which is above average for this age group. All four teachers rated the music composed by the year 8 group as level five, ie showing complex melodic and rhythmic ostinati and call and response patterns, which was above average for this age.

All four teachers rated the song composed by the year 9 group as level six, ie music that demonstrated a clear understanding of Britpop style as shown in the lyrics, melody, use of chords and overall song structure, the inclusion of harmonic and devices and appropriate use of tempo, dynamics, phrasing and timbre. This was above average for this age group. The ratings from the independent assessments indicated that the quality of all the music produced by the participants was above average and that they were unanimous in their assessments of the year 8 and year 9 compositions. There was an equal division about the quality of the year 7 music although level four and level five are both generally regarded as above average for this age. At the time of writing further analysis is still to be conducted but at this stage there are indications that the incidences of cumulative and

exploratory talk as displayed by these participants were related to flow experience.

The teacher assessments of year 8 music show some interesting findings in relation to flow. Although the self reports from these participants had not indicated that flow was experienced, their interaction showed that they had the skills to create the music and fulfilled the criteria to achieve an above average assessment. The principle measure for flow is that levels of challenge and skill should be high and equal so it would appear that the members of this group had the necessary skills but were not particularly challenged by the activity.

In this paper, the results of preliminary analyses of the verbal interactions of group talk have been presented that were part of a larger scale study that has investigated the nature and quality of pupils' experiences of collaborative composing based on the concept of flow. The design of the research used a mixed methods approach that has embedded a qualitative component, discourse analysis, within a quantitative design, the statistical analysis of self report questionnaires. The research design included an additional component, teacher assessments of the participants' finished compositions, to ascertain if there was a relationship between flow experience, group talk and the quality of the music produced. From the analysis conducted so far, there are indications that participants who experienced flow had an important influence on both the process and product of collaborative music making. It has also been found that those who did not experience flow may not have done so because they did not feel challenged or were not sufficiently motivated. These findings have important implications for teaching and learning music in schools to indicate that intervention strategies for improving the quality of group talk could improve pupils' involvement and motivation during group music making.

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