The collaborative learning behaviours of middle primary school students in a classroom music creation activity

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Abstract

Located in a northern Tasmanian government primary school, this study presents the findings of an investigation into the learning behaviours of middle primary (Grade 3/4) students in a collaborative music soundscape task. Recent literature regarding music education and social development are presented and the design of the research described. Analysis of data regarding seven learning behaviours that are characteristic of collaboration are explored and findings presented with particular attention to gender and group make-up. This paper confirms earlier research in the area and highlights the role for music creation tasks in the development of a range of social skills. Whilst limited by the scope of this study, of particular note are those data regarding the functionality or otherwise of gender groupings on task outcomes and the collaborative behaviours demonstrated by participants.

Key words: music, collaboration, social skills, primary school.

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Introduction

This paper explores the findings of a 2013 research study into the learning behaviours of middle primary students in a collaborative music creation task. The study was located in a northern Tasmanian government primary school and the findings have the potential to inform the ways in which teachers structure music creation tasks for the classroom. Whilst the study focussed on a range of learning behaviours characteristic of collaboration, such as 'conversation', 'negotiation', and 'sharing materials', the findings indicate that the gender make-up of groups may have considerable effect on these behaviours.

The genus of this study may be found in a desire to explore the impact of collaborative music tasks on social development. There is a developing body of research regarding the impact of Music education on student social skills (Allsup, 2003, 2011; Gooding, 2009; Hallam, 2002, 2010; Reissman, 1998; Robinson, 1999; Scully & Howell, 2008) and this research builds on these studies. For the purposes of this study the term 'collaborative' was used to describe any task that requires students to engage with at least one other student, and 'social development' was used to describe improvement in social etiquette, skills and behaviours. A mixed methods study, this research collected both quantitative and qualitative data, using classroom observations, surveys and student learning journals, and data were analysed through thematic induction.

The findings are limited by the scope of the project, focusing on a single task in a single school with twelve student participants, however they do support earlier research and there is much scope for these findings to be expanded through larger studies. While there was an overall majority of positive collaborative behaviours displayed by participants in this study, there were considerable discrepancies between groups. As each group consisted of a different gender make-up, it is suggested that gender had an impact on the differences in behaviours displayed by each group, and that middle primary students work more positively in collaborative music tasks when grouped with the same gender, and boys particularly so. Similar findings have already been presented by Abramo (2011) and Burland and Davidson (2001), who suggest that same-gender groupings can be more functional than mixed gender groupings.

Literature

Previous studies have shown that involvement in collaborative music activities can have a positive impact on social development and classroom atmosphere. This may occur through deliberate pedagogical decisions made by teachers (Gooding, 2009; Scully & Howell, 2008) or as a result of engaging with peers in a music context (Allsup, 2003, 2011; Devroop, 2012; Hallam, 2002, 2010; Reissman, 1998). In considering students' motivations for participating in music Hallam (2002) argues that music can be used to promote social skills and enhance classroom atmosphere. Hallam (2002) acknowledged that there are a variety of factors, including personality, educational goals, self-perception and self-efficacy, that influence students' decisions to learn an instrument or participate in a band or musical group. However, she concluded that the most important impact on students' enthusiasm was their surrounding environment including their social interactions. In a later work, Hallam (2010) focussed on the emotional benefits of music participation and found that music activities can improve students' value of self. She argued that participation in music activities opened social networking opportunities which increased feelings of self-esteem, belonging, and subsequently confidence. Her study found that when students could express themselves in group situations they formed tighter bonds than through individual presentations, learning to trust and respect their peers through music learning.

Allsup (2003) considered music learning as a means to promote democratic action. Through the shared decision making, dialogue and negotiation required for collaborative music tasks, he found that students became more aware of equality and responsibility. His findings largely support those of Hallam (2002, 2010) that social interaction through music has the potential to create democratic and ethical thinkers who value the diversity of their peers and the range of abilities, ideas and beliefs they have to offer. Allsup's (2011) research into classroom garage bands came to similar conclusions. He explored the incorporation of pop music into the teaching repertoire of classically trained musicians, through participation in small classroom garage bands. He found the collaborative nature of these small group bands helped facilitate this process. While his study focused on teacher development, he recommended music learning as an ideal context for fostering democratic interactions between students. However, his study, with secondary aged students, and that of Hallam (2002) focused on peer influence over musical preferences rather than exploring the social effects resulting from engagement in music.

Some studies have shown music learning can be used as a tool specifically for the purpose of improving social interaction. A common idea amongst the literature is the practice of using music to create classroom rituals that enhance classroom atmosphere and relationships (Gooding, 2009; Reissman, 1998; Scully & Howell, 2008).

Reissman (1998) demonstrated the power of musical rituals in the classroom by her use of a 'two-minute song break'. This short musical interlude acted as relief for students who struggled to maintain concentration during long periods of work. During a song break, students could suggest appropriate songs and provide lyrics which, Reissman (1998) states, improved students' mood and motivation to complete other academic work.

Scully and Howell (2008) indicated similar results when they considered music education as an organisational tool to introduce procedures, structure lessons and create a positive learning environment in the classroom. This resulted in the establishment of rituals which had a long-lasting effect on the social relationships formed during this process. When past students were interviewed regarding their recollections of experiences of the class, many noted rituals and routines as the most memorable. They also stated that the relationships formed during these classroom rituals were maintained for many years.

Similarly, Gooding (2009) used music as a tool to explicitly support particular positive social behaviours. She categorised potential behaviours into interpersonal, self-related and task-related, and devised specific activities to teach each behaviour to students. For example, students were encouraged to use the interpersonal behaviour of demonstrating a positive attitude toward others by asking them to state one strength of a peer's musical performance. Gooding (2009) found that not only did behaviour improve, but students' were more motivated to be involved in future music activities because of these social aspects. She found that the music classroom is an appropriate context to develop social competency, as it is a natural requirement of collaborative music tasks.

Devroop's (2012) investigation into the impact of music on students' psychological and social wellbeing is one of the few studies to focus solely on an economically disadvantaged population. In order to explore the efficacy of the South African Music Outreach Project (SAMOP), Devroop used survey instruments to question members of two SAMOP musical ensembles. SAMOP is a program aimed at encouraging the development of musical ensembles designed specifically for students in disadvantaged public schools. The program attempts to provide students who have no prior experience in music the skills and knowledge to communicate musically with their peers. In the two participating ensembles there were approximately 84 participants of an average age of 13. Prior to their involvement in the program none of the participants could read music, most had never played an instrument before, and 95% had never performed in a musical ensemble nor had they experienced formal instrumental instruction. At the time of the survey all students had experienced two years of the program. Devroop's (2012) study found that there was a positive correlation between participants' involvement and improvements in their optimism, self-esteem, happiness and perseverance. It was common for many students within this community to drop out of school or repeat grades. Therefore a music program that improved optimism and perseverance was particularly beneficial for them.

Several studies have focused on the effect of friendship and gender on collaborative music tasks. These findings suggest that friend or non-friend groupings and same gender or mixed gender groupings can dramatically affect the outcomes of collaborative music tasks (Abramo, 2011; Burland & Davidson, 2001; MacDonald, Miell & Mitchell, 2002). MacDonald, Miell and Mitchell (2002) investigated the processes used by students to create a finished composition. Forty girls were placed into pairs made up of one student who had formal music lessons and one student with no formal musical experience. Of these 20 pairs, 10 were made up of students who had elected to work together as friends. Each pair was given 20 minutes to compose a new tune using keyboard, and participants were recorded using video camera during the process. The study discovered

that there were significant differences in the way the composition was developed in friend and non-friend pairs. In friend pairs, students built on each other's ideas to create an authentic collaboration, whereas the non-friend pairs worked individually, joining the compositions together only at the end. Additionally, friend pairs spent more time discussing their composition than non-friend pairs. This study highlights the importance of social interaction in collaborative music tasks, especially the effect of friendship pairings on the skills used in the composition process.

Burland and Davidson's (2001) study involved fifty nine 10-11 year old students from two United Kingdom schools. These students were randomly arranged into friendship-based and non-friendship-based male, female and heterogeneous groups. The study aimed to compare the interaction between friendship and non-friendship groups and identify the relationship between friendship and the quality of completed compositions, and friendship and the quality of social interaction. All students completed 10 composition-based music tasks, with 15 minutes allowed for each. This study found that friendship grouping did not affect the quality of the composition, but did have a significant effect on the quality of social interaction. The authors suggest that this is because friends who have a strong familiarity have a previously established system of interaction and communication that is used to achieve a common goal. Secondly, conflict situations occurred in friendship groups more than in non-friendship groups, and resulted in the elaboration and development of ideas. Criticisms were received without offence with the quality of the end product being valued as more important. In non-friendship groups, however, criticisms were interpreted personally, resulting in negative feelings and lower levels of quality interaction. Gender also had an impact on interaction within mixed groups, with gender sub-groups forming and discussing ideas before cooperating as a whole group. Girls were more likely to take control of the group and plan by note-taking than boys and were also more diligent and focused. Essentially, the study found that friendship and gender groupings can have a significant effect on the classroom atmosphere, creating a more positive workplace for students to share and develop individual understanding.

Another study focusing on gender in music tasks was conducted by Abramo (2011), but focused on secondary school students within the context of a popular music program. The study, which took place at a public high school in the north-east of the United States, involved six male and nine female participants. These participants were involved in two female groups, one male group and two mixed groups, with one male and two females participating in more than one group. Data collection took place over a period of 12 rehearsals, during which group observations, using field notes and audio recordings, occurred. Individual interviews were then conducted a month after the final rehearsal. Abramo (2011) found that male participants primarily communicated through musical gestures, and when they used verbal language, it was accompanied with a musical gesture. For example, rather than talk about a suggestion for a short tune on guitar, boys would use a musical gesture, such as playing the tune. In contrast, female participants communicated primarily using verbal dialogue and designated their rehearsal into verbal language time and music playing time. In the two mixed-gender groups, these differences resulted in tensions between the group members which hindered the rehearsal process. This often occurred through questioning by a female of the male members' approach, or vice versa, resulting in conflict between members.

Method

This study employed a mixed methods approach, collecting both quantitative (survey and observation) data and qualitative (survey and participant learning journal) data. The objective of this research was to examine students'

experience of a collaborative music task and the behaviours they demonstrated through completing that task. These objectives were achieved through observations and by giving participants opportunities to write about their experiences in their own words, facilitating an exploration of the individual experience of each participant. Through the use of surveys and student journals participants were encouraged to express their perceptions of the task using different tools and at different stages of their participation. The purpose of the pre survey was to gather more generalised data about the background and interests of the participants. This was also important to establish commonalities or patterns between participants prior to their completion of the task. The use of observations throughout the completion of the task enabled the collection of data about student learning behaviours, and the post survey explored participant preferences regarding the ways in which the task was completed. The resulting corpus of data and data sets (Braun & Clark, 2006) are rich and deep.

The study employed purposeful or purposive sampling (Burns, 1997; O'Leary, 2010; Patton, 1990). According to O'Leary (2010), there is a growing recognition that non-random samples can credibly represent populations if selection is done with the goal of representativeness in mind, and strategies are used to ensure samples match population characteristics. In an attempt to match general population characteristics the school selected for the research was a suburban (Northern Tasmanian), lower to middle socio-economic status government school. The middle primary age group was selected because of a lack of literature regarding this particular age group and because of the likelihood that these participants would provide more mature perceptions of their experiences than younger students (Minks, 1999).

In negotiation with the school a Grade 3/4 class was selected for participation in this research based on their willingness and availability. All students in the class and their parents/guardians were invited to provide their informed consent to participate. Following receipt of informed consent, in consultation with the Grade teacher, 12 consenting students, six boys and six girls of mixed academic abilities, were purposively selected. These 12 students were divided into three groups with four participants in each: 1) a female group, 2) a male group, and 3) a mixed group (Beegle, 2010). To protect the identity of participants the names used throughout this article are all pseudonyms. Annie, Bella, Courtney and Dimity made up the female group, Jack, Samuel, Matthew and Nick made up the male group, and Emily, Fiona, Harry and Tom made up the mixed group. These groupings were designed to provide additional comparative information on the variable of gender, while the use of mixed ability groupings was intended to limit the impact of academic ability on results.

In their groups participants were provided with 30 minutes to compose a soundscape based on the theme, developed in consultation with the Grade teacher, of a 'day at the beach'. In an effort to enable students of diverse abilities to participate a soundscape task was selected as the vehicle for data collection based on the assumption that these types of compositions generally require no previous musical skills or experience. The soundscape has been used in previous research studies by Crawford (2008), Elliott and Baker (2008), and Lum and Shehan Campbell (2007).

Data were collected using a pre survey instrument administered directly prior to the task, a post survey and a learning journal instrument administered directly after the task. Additionally, observation data were collected during each of the three group's completion of the task by two observers using four, timed observations. The observers recorded participants' exhibited behaviours against a checklist of seven items of behaviour, namely: 1) 'on or off task', 2) 'working individually or collaboratively', 3) 'engaged or disengaged from conversation', 4) 'negotiation', 5) 'sharing materials', 6) 'positive or negative

participation decisions' and 7) 'positive or negative language'. Observers could also record comments to elaborate on their observations. Data were analysed using inductive category construction (Hatch, 2002; Sarantakos, 2005) or what Braun and Clarke (2006) refer to as thematic, inductive analysis.

Data

Analysis of pre survey data indicated that 11 participants (92%) enjoyed group work, especially in music classes, because of their desire to "work with friends" or to "be happy with other people". From the pre-surveys, it also became apparent that a small majority of participants, seven or 58%, had a family member who played an instrument, which demonstrated that they had some prior exposure to music. A similar number of participants, eight or 66%, were currently involved in some kind of regular music activity themselves. It was also evident that, apart from one student, Bella, those who had a family member who played an instrument were themselves currently involved in music activities or learning. This demonstrates that for 92% of these participants, there was a correlation between their own involvement in music activities and a family background in this area. Analysis of pre surveys also provided data regarding the number of hours participants listened to music on a weekly basis. Four participants, Annie, Fiona, Matthew and Nick, indicated that they spent more than 8 hours per week listening to music. Emily, Tom, Jack and Samuel listened to music for less than 1 hour per week. Bella and Courtney listened to music between 4 and 8 hours per week and Dimity and Harry for between one and two hours.

Analysis of post survey and learning journal data revealed a positive attitude towards collaborative learning by participants. In responding on a five point Likert scale to a question regarding their feelings about working as a group in the soundscape task, 9 of the 12 participants (75%) indicated a positive response such as 'I loved it' (8 responses) or 'I enjoyed it' (1 response). One student (Tom) indicated that he preferred 'other types of learning'. When analysed with reference to his pre survey responses Tom's preference for more individual learning is of interest. In his pre survey Tom indicated that none of his family played an instrument, that he had never been involved in music and that he was not currently involved in any music. Like three other participants Tom also indicated that he listened to music for less than one hour per week.

Qualitative post survey data suggest that the most common reason for enjoyment through collaborative work was pleasure in group work and an opportunity to experiment with musical instruments. These data included phrases such as "I got to work whith [with] some fun and awesome people", "I like being in a band", and "I would of [have] been embarrest [embarrassed] if I was on my own". The analysis of learning journal data (post task) revealed a similar attitude to collaborative learning, with nine of the 12 participants (75%) using language such as working "together", or working with "other people", and writing positively about their experience. Seven participants (58.33%) referred to the enjoyment of working with their friends, sometimes using quite emotive language such as 'love'. This was the case for Nick, who had no prior or current experience in music, but listened to his iPod for more than eight hours a week, who stated, "I loved being in a band with my friends". Taking into account Nick's limited background in 'making' music, his response could suggest that he valued the opportunity to make music collaboratively, rather than simply listening to it alone on his iPod.

The positive attitude to collaborative learning was also strongly evident in observation data. As may be seen in Table 1 most participants were observed to be 'working collaboratively' for the majority of the task. However there were very important discrepancies noted between the three groups, with the mixed group exhibiting equal

levels of individual and collaborative behaviour and the gender groups exhibiting higher levels of collaborative behaviour. As may be seen there were 24 observed instances of individual behaviour compared with 72 of collaborative behaviour, a ratio of 1:3 in favour of collaborative behaviours. Furthermore 17 of the 24 observed instances of individual behaviour (71%) occurred in the mixed gender group.

Further evidence to support the observation of collaborative learning was evident in the 'engagement in conversation' item, with participants engaged in conversation more often than they were disengaged. As may be seen in Table 2, again, there were discrepancies between groups, with the mixed group exhibiting more disengagement than engagement, but overall there were 37 (39%) instances of being disengaged from conversation and 59 (61%) instances of being engaged in conversation.

The 'negotiation' observation item provided similar results, again supporting evidence of

Table 1: Working collaboratively (✓) or individually (×).

Participant information			Observer One				Observer Two			
Participant	**Gender**	**Group**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**
Annie	F	Female	✓	✓	✓	✓	✓	✓	×	✓
Bella	F	Female	✓	✓	✓	✓	✓	✓	✓	✓
Courtney	F	Female	✓	✓	✓	✓	✓	✓	×	✓
Dimity	F	Female	×	✓	×	✓	×	×	✓	✓
Emily	F	Mixed	✓	×	×	×	✓	×	×	×
Fiona	F	Mixed	✓	✓	✓	✓	✓	✓	×	×
Harry	M	Mixed	✓	✓	✓	×	✓	×	✓	✓
Tom	M	Mixed	×	✓	×	×	×	×	×	×
Jack	M	Male	×	✓	✓	✓	✓	✓	✓	✓
Samuel	M	Male	✓	✓	✓	✓	✓	✓	✓	✓
Matthew	M	Male	✓	×	✓	✓	✓	✓	✓	✓
Nick	M	Male	✓	✓	✓	✓	✓	✓	✓	✓

Table 2: Engaged in (✓) or disengaged from (×) conversation.

Participant information			Observer One				Observer Two			
Participant	**Gender**	**Group**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**
Annie	F	Female	✓	✓	✓	✓	✓	✓	×	×
Bella	F	Female	✓	✓	✓	✓	✓	×	✓	×
Courtney	F	Female	✓	✓	✓	✓	✓	✓	×	×
Dimity	F	Female	✓	×	✓	✓	×	×	×	×
Emily	F	Mixed	✓	×	×	×	✓	×	×	×
Fiona	F	Mixed	✓	✓	✓	×	✓	×	×	×
Harry	M	Mixed	×	✓	✓	×	×	×	✓	×
Tom	M	Mixed	×	✓	✓	×	×	×	×	×
Jack	M	Male	✓	✓	✓	✓	×	✓	✓	✓
Samuel	M	Male	✓	✓	✓	✓	✓	×	×	×
Matthew	M	Male	✓	×	✓	✓	✓	✓	✓	✓
Nick	M	Male	✓	✓	✓	✓	✓	✓	✓	✓

collaborative learning in the task that emerged from survey items, journal entries and other observation items, with a majority of negotiation behaviours being positive. As may be seen in Table 3, while the mixed group demonstrated contrasting behaviours, with a majority of non-negotiation, there were only 33 (34%) instances of non-negotiation throughout the three groups, and a total of 63 (66%) instances of negotiation. The mixed group again presents interesting data, with 21 instances of non-negotiation recorded, and Tom demonstrating no instances of negotiation at all. Tom's data in this respect could be evidence of a correlation between his attitude to collaborative learning and his demonstrated learning behaviours.

As seen in Table 4, there was more evidence of a correlation between participants' demonstrated

Table 3: Engaged in (✓) or disengaged from (×) negotiation.

Participant information			Observer One				Observer Two			
Participant	**Gender**	**Group**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**
Annie	F	Female	✓	✓	✓	✓	✓	✓	×	×
Bella	F	Female	✓	✓	✓	✓	✓	✓	✓	✓
Courtney	F	Female	✓	✓	✓	✓	✓	✓	✓	×
Dimity	F	Female	✓	×	✓	✓	×	×	×	×
Emily	F	Mixed	×	✓	×	×	×	✓	✓	×
Fiona	F	Mixed	✓	✓	×	✓	×	✓	✓	×
Harry	M	Mixed	×	✓	✓	×	×	✓	✓	✓
Tom	M	Mixed	×	✓	×	×	×	×	×	×
Jack	M	Male	✓	✓	✓	✓	✓	✓	✓	✓
Samuel	M	Male	✓	✓	✓	✓	✓	×	×	×
Matthew	M	Male	✓	✓	✓	✓	✓	×	✓	✓
Nick	M	Male	✓	✓	✓	✓	✓	✓	✓	✓

Table 4: Engaged in (✓) or disengaged from (×) sharing materials.

Participant information			Observer One				Observer Two			
Participant	**Gender**	**Group**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**
Annie	F	Female	✓	✓	✓	✓	×	✓	✓	×
Bella	F	Female	✓	✓	✓	✓	✓	✓	✓	×
Courtney	F	Female	✓	✓	✓	✓	✓	✓	✓	×
Dimity	F	Female	✓	✓	×	✓	×	×	✓	×
Emily	F	Mixed	×	✓	×	×	×	×	✓	×
Fiona	F	Mixed	×	✓	×	✓	×	×	✓	✓
Harry	M	Mixed	×	×	✓	×	✓	×	✓	✓
Tom	M	Mixed	×	×	×	×	✓	×	×	×
Jack	M	Male	na*	×	×	✓	×	×	✓	✓
Samuel	M	Male	na*	✓	✓	✓	×	✓	✓	✓
Matthew	M	Male	na*	✓	✓	✓	×	✓	✓	✓
Nick	M	Male	na*	✓	✓	✓	×	✓	✓	✓

*Note. * observer recorded "na"[not applicable], ** no check provided in this observation*

behaviour and their attitude toward 'collaborative learning' in the 'sharing materials' observation item. This is another instance of the mixed group demonstrating a majority of negative (non-sharing) behaviour but throughout all groups out of 92 observations there were only 36 (39%) instances of not sharing materials, compared with 56 (61%) instances where participants did share.

Strong confirmatory evidence of collaborative learning in the task was again revealed through the analysis of the 'positive or negative language' observation item. As may be seen in Table 5, out of a total of 94 observations of language use, participants exhibited 79 (84%) instances of positive language and 15 (16%) instances of negative language. Six instances (40%) of negative language use related specifically to observations of Tom.

As may be seen in Table 6, data collected from the 'on or off task behaviour' observation item

Table 5: Positive (✓) or negative (×) language.

Participant information			Observer One				Observer Two			
Participant	**Gender**	**Group**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**
Annie	F	Female	✓	✓	✓	✓	✓	✓	×	×
Bella	F	Female	✓	✓	✓	✓	✓	✓	✓	✓
Courtney	F	Female	✓	✓	✓	✓	✓	✓	✓	✓
Dimity	F	Female	✓	✓	✓	✓	×	×	✓	×
Emily	F	Mixed	✓	✓	na*	✓	✓	✓	✓	✓
Fiona	F	Mixed	✓	✓	✓	✓	✓	✓	✓	✓
Harry	M	Mixed	✓	✓	✓	×	×	✓	✓	✓
Tom	M	Mixed	✓	×	×	×	×	×	×	✓
Jack	M	Male	✓	✓	×	✓	✓	×	✓	**
Samuel	M	Male	✓	✓	✓	✓	✓	✓	✓	✓
Matthew	M	Male	✓	✓	✓	✓	✓	✓	✓	✓
Nick	M	Male	✓	✓	✓	✓	✓	✓	✓	✓

*Note. * observer recorded "na"[not applicable], ** no check provided in this observation*

Table 6: On (✓) or off (×) task behaviour.

Participant information			Observer One				Observer Two			
Participant	**Gender**	**Group**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**
Annie	F	Female	✓	✓	✓	✓	✓	✓	✓	✓
Bella	F	Female	✓	✓	✓	✓	✓	✓	✓	✓
Courtney	F	Female	✓	✓	✓	✓	✓	✓	✓	✓
Dimity	F	Female	✓	✓	×	✓	✓	✓	✓	✓
Emily	F	Mixed	✓	✓	✓	✓	✓	✓	✓	✓
Fiona	F	Mixed	✓	✓	✓	✓	✓	✓	✓	✓
Harry	M	Mixed	✓	✓	✓	×	✓	✓	✓	✓
Tom	M	Mixed	×	×	×	×	✓	×	×	×
Jack	M	Male	✓	✓	✓	✓	✓	✓	✓	✓
Samuel	M	Male	✓	✓	✓	✓	✓	✓	✓	✓
Matthew	M	Male	✓	✓	✓	✓	✓	✓	✓	✓
Nick	M	Male	✓	✓	✓	✓	✓	✓	✓	✓

demonstrated that participants also spent an overwhelming majority of time focused on the task. This was the case for all groups, with only 9 (9%) instances of off-task behaviour and 87 (91%) instances of on-task behaviour, with observations of Tom again being prevalently negative (7 out of a total of 9 instances or 78%).

Similar results were evident in the 'participation decisions' item. This item was used to determine whether or not students were making the decision to participate. As may be seen in Table 7 there were a total of 82 (96%) participation decisions made throughout the three groups, of which there were only 3 (4%) instances of decisions not to participate, an overwhelming majority. This suggests that, despite some negative collaborative behaviour, most participants sustained their motivation during the task.

Conclusion

There were obvious discrepancies between the collaborative behaviours exhibited between each of the participant groups, with analysis of data indicating that same-gender groups consistently worked more collaboratively, particularly in the case of the all-male group. This behaviour pattern was demonstrated in nearly all items of the observation checklist. The apparent dysfunction of the mixed group was obvious enough to warrant a specific observer comment, that, from the beginning there was a "clear gender split. Girls together, boys together" and that "each child" was doing their "own thing". This comment, combined with the behavioural pattern that emerged from the checklist, suggests that same-gender grouping resulted in a higher level of focus on task and that boys especially benefitted from working with other males in this music task.

Based on the five checklist items that recorded explicitly collaborative behaviours, positive collaborative behaviour was demonstrated most of the time in 332 of 465 observed instances (71%). This majority of positive collaborative behaviour supports analysis of post survey and journal data in which positive references to this learning were made by 10 of the 12 participants (83%). Checklist items that recorded task engagement demonstrated that participants remained focused on task for a majority of time with 87 instances (91%) of on-task behaviour, and continued to make positive participation decisions for 82 (96%) of observed instances. These observation data are likewise supported in analysis of post survey

Table 7: Participation Decisions – positive (✓) or negative (×).

Participant information			Observer One				Observer Two			
Participant	**Gender**	**Group**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**	**Ob #1**	**Ob #2**	**Ob #3**	**Ob #4**
Annie	F	Female	✓	✓	✓	✓	✓	✓	✓	✓
Bella	F	Female	✓	✓	✓	✓	✓	✓	✓	×
Courtney	F	Female	✓	✓	✓	✓	✓	✓	✓	✓
Dimity	F	Female	✓	✓	✓	✓	✓	✓	✓	×
Emily	F	Mixed	na*	✓	na*	na*	✓	✓	✓	✓
Fiona	F	Mixed	na*	✓	✓	na*	✓	✓	✓	✓
Harry	M	Mixed	na*	✓	na*	na*	✓	✓	✓	✓
Tom	M	Mixed	na*	na*	×	na*	✓	✓	✓	✓
Jack	M	Male	✓	✓	✓	✓	✓	✓	✓	✓
Samuel	M	Male	✓	✓	✓	✓	✓	✓	✓	✓
Matthew	M	Male	✓	✓	✓	✓	✓	✓	✓	✓
Nick	M	Male	✓	✓	✓	✓	✓	✓	✓	✓

*Note. * observer recorded "na" [not applicable]*

and learning journal data which were completed following the activity and through which participants could reflect on their experience. In journals nine participants (75%) referred positively to working in "groups", with their "friends", "together" or with "other people". These participants identified various benefits of group learning in music, including the perception that working together helped reduce embarrassment and was more enjoyable. This attitude was exemplified by Dimity who made the comment in her journal "Because we work together we achieve more success".

A gender analysis of the percentage of instances of positive behaviours observed in the five explicitly collaborative observation items reveals interesting findings in respect of group collaboration and gender make up. While the all-female group displayed a total of 125 out of 160 instances of positive collaborative behaviours (78%) and the all-male group 138 out of 156 instances (88%), the mixed gender group demonstrated considerably less with 68 out of 149 instances (46%). Based on these observations, participants worked more positively in the collaborative music task when grouped with the same gender. Similar findings, although with older students, have already been presented by Abramo (2011) and Burland and Davidson (2001), who suggest that same-gender groupings can be more functional than mixed gender groupings.

As indicated earlier the findings of this study are limited by the scope of the project, focusing on a single task in a single school. Furthermore the use of a small, purposively selected sample should be understood when considering the generalisability of the findings. The findings of this research do however indicate that the vast majority of participants consistently demonstrated positive learning behaviours in their completion of a collaborative soundscape activity, with the exception of one participant whose preferred style of learning was non-collaborative irrespective of context. The findings of this study are particularly significant for boys, as the all-male group was noticeably more collaborative in their learning behaviours than the other two groups. The difference in positive collaborative behaviours between the boys in the mixed group (46%) and the all-male group (88%) was so great that it can be further suggested that boys specifically may benefit most from same-gender groups when working collaboratively in music tasks. Furthermore, in the 'on task/off task' checklist item, the all-male group was the only group to display on-task behaviour at all times. Such findings clearly indicate that collaborative music tasks can provide students with an opportunity to demonstrate positive social behaviours, particularly in same gender groupings and particularly for boys.

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