

## **CHILDREN COMPOSING IN GROUPS: COLLABORATIVE, COOPERATIVE OR COACTIVE LEARNING?**

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### **Abstract**

*A common activity amongst many music teachers is to set a task for groups of children to work together to create and compose a piece of music on a theme either chosen by themselves, or by the teacher. Whilst group work has been shown to be effective in terms of enhancing children's learning, it also raises a number of problems and issues for discussion. The first issue relates to the fact that there is very little published research which has explored if or not children working within a group, follow a particular form of process, and we are not really aware of the types of learning which individual children within the group engage in during the group composition activity. Second, as with group learning in all subjects, the music teacher is subsequently faced with the problem of assessment of the compositional outcome; namely do they assess and grade the output from the whole group, or do they grade each individual. If the former, what is the use of a single grade to share between 5 or 6 students, and if the latter how does the teacher grade each individual contribution – especially if the types of learning taking place are unclear. This study explores eight groups of children working on a musical composition. In total, eight groups of children representing four schools were given a group composition task by their teacher. Video recordings were made of all eight groups and later subjected to thematic analysis in order to establish if, or not they followed a particular process and secondly, to try and identify the types of learning which occurred in each group. Contribution was explored from the idea of collaborative, cooperative and coactive learning.*

**Keywords:** *compositional process, group learning, group assessment, learning styles*

### **Introduction**

Previous work has highlighted the benefits to be gained from effective group work, (Pell et al., 2007; Tolmie et al., 2010; Kyndt et al., 2013), including providing children with the opportunity to share ideas, (Webb & Mastergeorge, 2003), to develop leadership

skills (Mercier, Higgins & Costa, 2014), to develop decision-making and negotiation skills, (Blatchford et al., 2006; Baines et al., 2007) and to develop their level of critical thinking (Fung, To & Leung, 2016). In addition, through the child-child interaction which can occur when working within an effective group, children appear able to improve their generic social skills (Baines et al., 2009; Blatchford et al., 2006); communication and discussion skills (Gillies, 2003, 2006), build up trust and respect (Galton & Hargreaves, 2009), and develop their planning and organisation skills (Baines, Blatchford, and Chowne, 2007; Veldman, et al., 2020).

However, merely placing children together in groups, does not always further their learning (Baines et al., 2008; Patterson, 2018), with numerous challenges needing to be overcome to ensure that group work is effective in terms of promoting childrens' development (Baines et al., 2015). Similarly, Miell and MacDonald (2000) also found that although children frequently talked with their friends within a group context, their conversations tended to consist mainly of off-task chat with the level of actual collaborative or cooperative group work being somewhat limited. Added to this, a number of other studies have highlighted how the impact of group work on aspects of pupil learning has also been found to be more beneficial in some subjects, than in others (Jin & Kim, 2018). As a result, teacher attitudes towards setting children to work in groups have also been found to be relatively negative with lack of control (Granstrom, 2006; Williams & Sheridan, 2010), increased levels of noise and increased levels of off-task behaviour being cited as the main problems of situating children in small groups to work on tasks (Baines et al., 2015). Further studies have also suggested that the decreasing use of group work in classrooms is due to the lack of knowledge which most teachers have in terms of designing, managing and assessing the group (Lotan, 2006, 2008); a phenomenon which is in stark contrast to rest of society which is requiring more and more collaboration in the workplace (Granstrom, 2006).

Parents, on the other hand, are also seen as holding negative views of their individual child being required to work in a group, and this is especially the case if they perceive their child as being 'gifted' (Saunders-Stewart et al., 2013). Many parents perceive their own child as being 'held back' by the 'less able' peers with whom they have been asked to work, and in subjects such as Maths or Science, children working together is often simply seen as 'cheating'. However, whilst working together in a group is often considered as dishonest in some subjects, working together in a group in music, is mainly seen as the only way to work. This was a concept that was well understood by pupils, who regarded music as the one subject in which you can work with your friends *legally* (Lamont et al., 2003). In other words, parents (and especially competitive parents) wish to see how their child is achieving in maths, science and their first language, for example, but have little or no concern as to how they perform individually in music. Thus, group work amongst pupils in music, which in reality is a mainly 'group activity', is typical in most schools. Yet, as Forslund Frykedal & Hammar Chiriak (2011), clearly state: "*The dilemma emerges as the knowledge is to be assessed and marked individually in a collaborative situation*" (p. 332).

The more usual approach to group assessment in music, certainly within the UK, is to provide two grades for the entire group; the first being for the musicality and accuracy of the task i.e. how well in a musical sense, did the group produce what was required of them. The second assessment is usually awarded for effort; enabling children who are less skilled musically to achieve as well as those who perhaps have additional

instrumental lessons outside of school hours. Group assessment is the process in which group members work together and receive one grade. The benefit of this approach relates to the fact that children develop social skills such as argument, debate, assertiveness, cooperation and increased confidence and social awareness (Meseke et al., 2009; Nafziger et al., 2011). What group assessment does not necessarily achieve is any measure of individual achievement, with a number of studies highlighting the fact that an assessed group score is seldom a reliable indicator or a child's individual score (Ewald, 2005). The debate over what should be assessed within a group composition (e.g. effort, musicality, achievement, contribution etc.) is interesting but it is also beyond the scope of this current paper. Our argument here is that the more teachers understand about the type of learning which can take place within a group as they compose together, the more able they are to construct an appropriate and accurate assessment framework.

The theoretical basis for requiring children to work in groups has often been based on a social constructivism idea (Vygotsky, 1978): namely that children develop meaning and learn by engaging with more knowledgeable peers, teachers, or others, and are therefore 'scaffolded' to a new level of thinking; which Vygotsky termed the zone of proximal development. If utilised well, group work enables children to gain a variety of skills through working together. However, it is not yet clear as to what exactly takes place when children work together and collaborate to create a piece of music, and there have been calls for further research into the precise processes involved in these typical composition activities (MacDonald & Miell, 2000). Therefore, any research which highlights or explains more accurately the precise nature of the processes taking place when children work together to compose will enable music teachers to develop more effective strategies and pupils to achieve far more of the potential skills and musical knowledge available through working collaboratively with others. Thus, this current paper will explore the process whereby children work together in a group to create a collaborative musical composition, and seek to identify the types of learning which take place within that process.

### **Cooperative, Collaborative or Coactive?**

Certainly, in the English language and when discussing group work with teachers, these two terms are used synonymously. However, in this text we take a more detailed definition of the two terms. Collaborative learning takes place when a group of learners work together in order to achieve a task (Marjan & Seyed, 2011). Cooperative learning is perhaps best viewed as a more social tool in which a group of people help each other to achieve a task, or common goal; however, they may not achieve the same level of learning or contribute to the same degree; however, they cooperate to ensure the task is completed (Doymus, 2007; Burcin et al., 2012). Dillenbourg (1999) distinguished between cooperative and collaborative learning depending on how the various tasks in the group were arranged. If the tasks required to complete the common goal are distributed equally amongst the group; this was seen as a collaboration. In collaborative learning, the resulting knowledge and meaning coming out of the group task are constructed from the equal contribution of group members. The aim of collaborative learning is therefore the joint construction of knowledge and meaning (Chi & Wylie, 2014) On the other hand, cooperative learning requires only group members to fulfil their individual role to the final product without actually contributing anything to what

is learned. Thus, collaborative learning requires each group member to make a coordinated effort in order to solve the problem with others, whilst cooperation more specifically focuses on the accomplishment of an end product through the division of working hard. Therefore, when comparing collaborative and cooperative approaches, collaborative learning may also be said to include a higher level of problem-solving, whilst cooperative learning can be said to be the act of working together in order to accomplish a joint task.

Further studies into group learning (e.g. Williams, 2010) have further discussed the issue of what can be said to constitute a 'group'; in other words, how small can a group become and yet still enable collaborative work to take place. In this sense we accept, for example, that whilst two pupils working either together or individually cannot be classed as a 'group', nevertheless they are able to work together on a collaborative basis. Within this paper and to take note of this argument, we adopt and use the term 'co-active learning' (Shivaswamy & Thorsten, 2015) to denote situations in which sub sections of a group can appear to be working alone on an individual project but come together at some point to share ideas; they briefly collaborate with the effect of mutual, equal co-learning taking place.

Specifically, with regard to children working on a collaborative composition task (e.g. Seddon, 2006). A collaborative group will include discussion, and probably arguments about the form, the tempo, the instrumentation and possibly the beginning and ending of the piece. Within this group, two children may isolate themselves from the rest of the group and practice with an instrument. Briefly, the same two may come together and share an idea from which they both learn. They can then move apart and incorporate their newly acquired idea into their own individual contribution to the group (co-active learning). Meanwhile others in the group may be asked to hit their instrument loudly to begin a second stage in the composition. They work with the group to ensure the outcome, but have not contributed or necessarily learned anything musical but may have learned to work within a group (cooperative learning).

To summarise, although previous studies have investigated the ways in which children work together in groups, it is still unclear as whether or not children engage in a structured process when given the task of creating a musical composition within a group. In addition, when the group have actually created and performed their final composition, it is the responsibility of the teacher to then judge and assess the piece; should this be done according to contribution from each child, or on the learning that has taken place; with the additional question of what type of learning takes place within the group.

Thus, the current study had two main research questions:

- To what extent do children follow a specific process when composing in a group?
- What types of learning can be accomplished within a collaborative, compositional task?

## **Method and Procedure**

10-11-year-old children were observed in four primary schools in London, UK. The age of the participants was selected in particular because this was suggested as being an optimal age for productive communication (MacDonald et al., 2002). A total of 39 participants (19 boys and 20 girls) across the four schools were involved. The activity required five or six participants in each of eight groups (two per school) to work together on creating a musical composition. Each group contained both boys and girls and all groups were arranged by the music teacher. The teacher in each school provided the title for the theme of the piece (e.g. 'Rain' or 'Space') and all groups in each school were allocated similar musical instruments including percussion and keyboards. Two sessions from each school was observed and although the sessions were planned individually, all music teachers followed a similar lesson structure consisting of a five minutes introduction for instruction and organisation into groups, 25 minutes was allocated for the group to carry out the activity, and 15 minutes was allowed for a performance of each group composition to the whole class and to receive feedback from the teacher.

Video recordings were made of each of the groups and the behaviours taking place within each of the groups were subsequently subjected to thematic analysis following standard qualitative procedures as set down in the model suggested by Braun and Clarke (Braun & Clarke, 2006, 2014; Clarke & Braun, 2017). Viewing of the video content enabled an initial event log to be created. This log simply listed all behaviours as they occurred chronologically. Secondly, descriptive terms of the children's behaviours were then created and transferred to summative data sheets. We then adopted an inductive, 'bottom up' approach in which our initial descriptive level of coding was systematically built up towards a more theoretical and interpretive level of understanding (Langridge, 2004). In this respect we carried out an initial 'horizontal' analysis which created four descriptive themes summarising the behaviours we observed (namely: experimentation, coordination, performance and appraising). Subsequently, these four horizontal themes were subjected to further reflection and a number of theoretical perspectives were identified producing a hierarchy of analysis (vertical). Our vertical analysis of the horizontal themes produced three further categories namely collaborative, cooperative and coactive; each being a descriptor of a specific learning type.

Subsequent comparison of the four behaviour categories alongside the chronological event log highlighted the fact that certain behaviours within each of the four categories tended to dominate a specific period of time within the compositional process. That is, similar behaviours appeared in all groups in a specific order. As such, we hereby argue that when children are placed in groups and given the task of creating a musical composition, their overall compositional process tends to progress according to a four stage, spiral process with each stage employing specific and discrete behaviours namely Stage 1: Experimentation, Stage 2: Coordination, Stage 3: Performance, and Stage 4: Appraising. This then leads to the piece being 'presented' to the class and teacher.

## **Behavioural Themes**

### ***Stage 1: Experimentation***

In virtually all cases, children began the compositional process by sitting WITH their group but not interacting with it. Instead, the main focus was on experimenting with their instrument; experimenting with a range of sounds in order to decide which sound they wanted to play within the group, and they often spent a significant amount of the available time in this stage.

### ***Stage 2: Coordination***

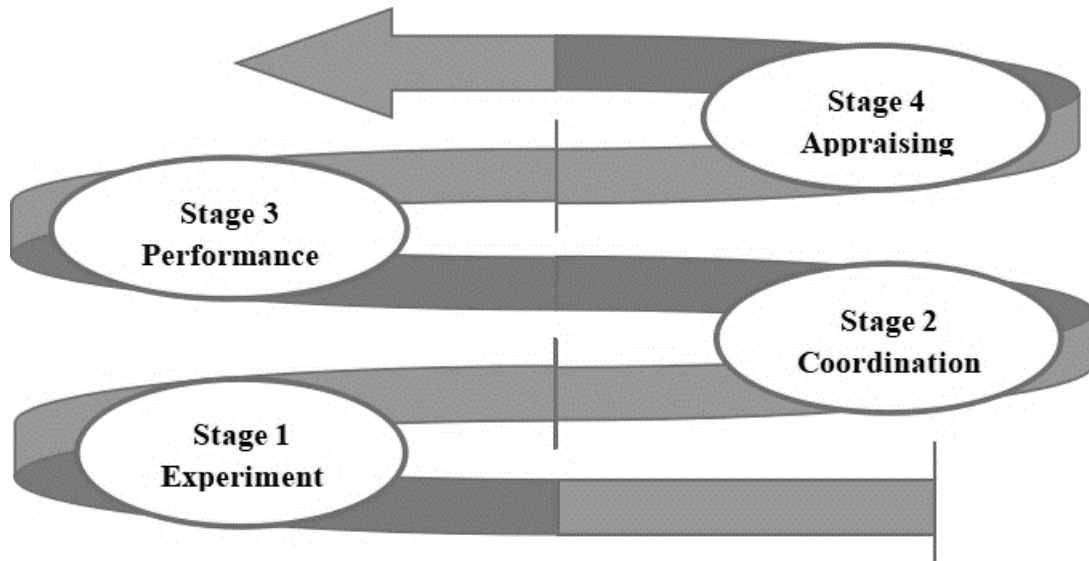
Following on from this 'experimental stage', children then began to interact with each other mainly through talk but also occasionally demonstrating their chosen sound. However, the dominant activity in this stage of the process was talk with the group, discussing and arguing about the form and overall structure of the musical piece. Within our 4 groups, there was a tendency for boys to be more vocal and assume leadership positions, whilst in instances where a group produced a graphic score, this was a role almost totally assumed by a girl. Of particular note in this second stage is the fact that the overall concept of the piece, the form, the coordination of the different instruments was decided through talk and not through playing. In addition, children who did not involve themselves in any major way in the coordination of the piece, tended to withdraw and revert to stage one; to carry out further experimentation.

### ***Stage 3: Performance***

The third stage involved performance, or more realistically, a practice of the whole composition. Of note here is that in a number of cases, the individual who had assumed a leadership role in the coordination stage, did not necessarily take a leadership role in the musical stage.

### ***Stage 4: Appraising***

The fourth stage of the process involved an appraisal of the performance. Again, this stage was carried out mainly through talk and not through any form of musical activity. Discussions included suggestions of ways to improve, evaluations, criticism of self or other and arguments about the overall form of the piece. At this point, depending on the group dynamic it was possible for groups to return to any of the previous stages. In some instances, groups would begin to experiment as individuals again, whilst in others they would perform the piece again.



*Figure 1: Spiral theory of the compositional process*

### **Presentation**

The final act in the process took place when the group composition was performed to the class and the teacher and the assessment took place, and the group received feedback. At this point, our detailed observations highlighted three main issues. First, the majority of the time allocated to creating the composition was taken up with talk, and not with musical activity. Second, the individual who tended to lead in the 'talk' did not necessarily also take the lead in the performance. This role was often seen to be taken over by one child who had been far less vocal during the time the piece was being composed. Third, whilst the overall work within the group tended to follow our proposed stage theory, there were instances in which children reverted to an earlier stage before progressing. For example, having performed and appraised the piece, some groups reverted to the experimental stage in order to carry out either further individual experimenting, or by opting out to work in pairs.

So, in this respect, in answer to our first research question, we argue that children in our particular study did tend to work towards their final composition with a set process with each stage of the process involving very specific and discrete behaviours. We argue that the model is better seen as a 'spiral' rather than a set stage theory in that whilst, for example, children did on occasions return to an earlier stage, they did so, on a higher level, building on the learning which had already taken place. However, what more can we say about the learning and the behaviours which took place within this group activity?

### **Cooperative, Collaborative or Coactive?**

Our analysis of the video material enabled one further problematic issue to be identified, namely that frequently although two pupils were seen to be demonstrating similar behaviours, (e.g. creating a range of sounds on a drum), it was also apparent that the level of motivation, the intentionality of the behaviour and the ultimate outcome of the behaviour was in fact very different. In this respect, we argued that some children

could be said to be ‘collaborating’ whilst others could more accurately be described as ‘cooperating’.

A second analysis was thereby carried out representing an attempt to identify the similarities and differences between pupils who were collaborating and those who were cooperating. A suggested taxonomy of the different attitudes and behaviour of the children towards the group was created, i.e. an attempt was made to define precisely when a behaviour was collaborative, when it was coactive and if and when it became cooperative. A brief description of the representative behaviours which are indicative of collaborative, coactive and cooperative learning in each of the four stages is presented as follows:

**Stage 1: Experiment**

In this stage, children tended to work individually around choosing their own individual sound. They experimented with playing their instrument and explored the full range of sounds they could produce. Although on the surface level, the behaviours were similar. More subtle behaviours could be identified which indicated the type of learning taking place.

**Table 1. Children’s collaborative, cooperative or coactive approach in the first stage**

<b>COLLABORATIVE LEARNING APPROACH</b>	<b>COOPERATIVE LEARNING APPROACH</b>	<b>COACTIVE LEARNING APPROACH</b>
Experiment with wide range of sounds/rhythms	Random repeat playing of instrument	Experiment with wide range of sounds/rhythms
Focused practice to improve	Repetition – monotony – no variation in sound	Focused practice to improve
Concentrate on instrument and the task	Non-musical behaviour/focus elsewhere looking at other groups	Converse with or observe behaviour of another child
Purposeful and absorbed	Periods of doing nothing	Adopt their technique or develop joint technique
No engagement but learning taking place in isolation to support the group process	Isolated - still active	Assimilate the jointly developed behaviour

In Table 1, two children could both be demonstrating an identical behaviour, for example, they are both sitting apart from the group creating a variety of sounds on a small drum. However, the behaviour of the collaborative learning child is purposeful, and focused on making a significant contribution to the task. Their attention is on the group task. Evidence for this included – demonstrating their sound to group members, or checking or appraising how their sound will fit in with the group task. They might still be collaborating even though they are mostly working alone. On the other hand, the cooperative child continually repeats their initial identical behaviour but in an



unfocussed way. Interaction with other members of the group does not take place and the activity does not progress beyond the initial repetitive actions. When asked to do something, they comply and cooperate to get the task done. Attention is often on activity in other groups.

The understanding of the idea of coactive learning here though, is important. As described in Table 1, two children, for example, can be apart from the group and experimenting alone. Both can be collaborating by discovering the ideal sound for their individual contribution. In a brief interaction with another child, through either demonstrating to each other, discussing or arguing, they develop a new technique which they then assimilate into their own individual task although they go back to working alone. This is coactive learning and is important part of the process. On a number of occasions, we witnessed a child learning coactively but then to be asked by the teacher: *“Are you part of this group or not?”* Put bluntly, a significant learning experience was dismissed.

***Stage 2: Coordination***

In this second stage of the compositional process, children started interacting with other children in order to demonstrate and share their ideas, gained from the experimental stage, and build up further information. The level of contribution and involvement in the group was different between collaborative and cooperative approaches, as highlighted below:

***Table 2. Children’s collaborative, cooperative or coactive approach in the second stage***

<b>COLLABORATIVE LEARNING APPROACH</b>	<b>COOPERATIVE LEARNING APPROACH</b>	<b>COACTIVE LEARNING APPROACH</b>
Start interacting and making comments	Remains apart, no contribution to ideas	Continues to learn through observation, discussion with others
Suggesting, Arguing, Supporting	Listening and accepting their role as seen by others	Contributes but assimilates other ideas
Active engagement	Passive engagement	Co-active engagement
Strong opinion and high motivations	Limited energy and motivation to improve	Strong opinions but open minded

In this stage, the collaborative child increased his or her level of interaction and often an argument or confrontation took place in order to establish some level of agreement on an idea. Strong opinions, assertive behaviour and confrontation all appeared to be part of the collaborative process of negotiating ideas and opinions and collaborating towards a shared objective. In contrast the cooperative child tended to remain silent, was often distracted and contributed nothing to the final objective but did play/act as was directed. On the other hand, the coactive learner listened and contributed in equal measure. However, we would say the main difference though between the collaborative

learner and the coactive learner was that the collaborative learner tended to contribute to the task outcome by *negotiating* what they had learned (the sound they had developed), whereas the coactive child *assimilated* their contribution into the end task.

**Stage 3: Performance**

Following a series of behaviours involving interactions and trial and error with peers, children tested their ideas through performing the piece, ready for their presentation.

**Table 3. Children’s collaborative, cooperative and coactive approach in the third stage**

<b>COLLABORATIVE LEARNING APPROACH</b>	<b>COOPERATIVE LEARNING APPROACH</b>	<b>COACTIVE LEARNING APPROACH</b>
Perform with conviction but disrupt if things are not seen as right	Perform their part but without conviction	Perform with attention; willing to moderate and adapt to keep the piece going
Sometimes change role for leader to follower	Lack of interest, motivation	Performance might involve a selection from what they have practiced – not just repeat of what they practiced
Good eye contact	Less or no eye contact	Equal eye contact and attention to all
Sometimes remove instrument from a cooperative group member to play themselves	Happy to give in to more dominant member	Flexible, tolerant and adaptive and constantly assimilating new ideas, behaviours and opinions

In this stage, we noted a difference between those children who were collaborating with high levels of motivation and those who were coactive. Whilst collaborative learners were focused on the process of mixing and coordinating the precise components of what individuals had developed and to ensure the task was completed; coactive children were still engaging in the performance as a further opportunity to learn. Collaborating children regarded the learning as being complete and the purpose of the performance was to ensure the piece was performed ‘correctly’, and to practice performing it correctly. As such, they often stopped the performance, or dropped out of the performance. In this respect, they ceased to cooperate. Coactive children however, regarded the performance as part of the learning experience. They were willing to be flexible and around issues which emerged. For example, if it was felt that their contribution did not fit well during the performance, they were able to listen and monitor the effect and change their behaviour (having learned) in subsequent repeats.

**Stage 4: Appraising**

In this stage, children engaged more in ‘problem-solving’: assessing, appraising and the revision of sounds and rhythms were demonstrated frequently. Compared to the

previous stage, the number of children's comments increased, and the level of the involvement of children was higher.

**Table 4. Children's collaborative, cooperative and coactive approach in the fourth stage**

<b>COLLABORATIVE LEARNING APPROACH</b>	<b>COOPERATIVE LEARNING APPROACH</b>	<b>COACTIVE LEARNING APPROACH</b>
Increased the number of comments	Silence	Tended to be quite but attentive
Give directions to others	Obedience	Gave suggestions to others
Negotiate within set parameters	Repeating sounds and rhythms ; no notable change from beginning of the process	Moderated, continued to take on new ideas and adaptive opinions according to discussion
Restrictive commitment to the task	Without opinion	Flexible commitment to the task

In this final stage, collaborative children tended to remain focused and motivated and interacted with the other group members in order to ensure the task was completed accordingly. However, it became clearer that the focus of their collaboration was on 'knitting together' more effectively what each individual had developed and contributed, and in this sense, it could be said they truly collaborated. They were indeed happy to consider new ways to coordinate and link aspects of the individual musical elements together with the aim of producing a good and effective end product. However, they were not usually quite so willing to change (to learn?) and incorporate what musical aspects could have been learned from the actual performance. Collaborators were not always willing to accept new learning which had taken place in others. For example, a common comment was along the lines of: *"That is not what you did before ..."* Often collaborative children expressed some form of frustration or annoyance at the end of the performance if all had not gone exactly as planned.

Cooperative children obeyed instructions and simply repeated their own individual musical pattern, performed with little or no motivation and seldom changed, developed or improved on their initial contribution. It was also notable that the few times when strongly, collaborating children became cooperative children by refusing to accept the learning which had taken place in others. Similarly, we noted some cooperative children become both collaborative and coactive as the leadership role moved from one relying on talk to one relying on musicality, or musical skill.

Coactive children can probably be best described as 'collaborators who cooperate' in that they continued to learn both musically, technically and socially throughout the entire compositional process.

## Discussion and Conclusions

Our first research question asked if children tended to follow a specific process when composing in a group. We have argued here that following observations of a total of eight groups of children working on composing a similar piece of music, that a pattern can be discerned and subsequently posited as a spiral, stage theory, with each stage containing distinct sets of behaviours. Subsequently we argue that in answer to our second research question a number of learning types can be determined namely collaborative learning, cooperative learning and coactive learning. We have argued that what may initially appear to be similar, or identical behaviours exhibited by three different children can in fact be evidence of three different learning types with one child collaborating, one child cooperating and child coactively learning, with each type involving different learning processes.

We have specifically argued that the contribution made by individual children, and the types of learning taking place within the group are varied and frequently unseen by the teacher. In this respect some of the deeper, more effective leaning taking place can be not only curtailed, but negatively impacted. For example, in the situation were the coactively learning child was asked to become more a part of the group, this one statement carried with it a number of negative messages. First, it conveys the idea that there is a hierarchy of learning with the group in which the social learning, being social and acting social take priority. Second, it can convey the idea that learning along with others is the better thing to do, rather than reflecting on the learning which develops in the individual but arising out of what others have done or said.

Finally, we accept the limitations of this study in that it is based around a relatively small group of school children within a small geographical area. Not only were children located within the same geographical area, but it is also possible that children had all be taught to work in a similar way during group composition; hence the similar behaviours we observed in eight groups could be an artefact of the teaching style common within that group of teachers. What the study has tried to do however is suggest a process and taxonomy of behaviour which if explored further could give us a greater level on insight into the mechanism taking place within a group working together on a musical composition. Such an insight would certainly give us more of an understanding of the range of elements which should be assessed when taking into the contribution of individuals working within a group.

## References

- Baines, E., Blatchford, P. & Chown, A. (2007). The effectiveness of collaborative group work in primary schools: Effects on science attainment. *British Educational Research Journal*, 33(5), 663–680. doi: 10.1080/01411920701582231
- Baines, E., Blatchford, P. & Kutnick, P. (2008). Pupil grouping for learning: Developing a social pedagogy of the classroom. In R.M. Gillies, A. Ashman, & J. Terwel (Eds.), *The Teacher's Role in Implementing Cooperative Learning in the Classroom* (pp. 56-72). New York: Springer.
- Baines, E., Blatchford, P. & Webster, R. (2015). The challenges of implementing group work in primary school classrooms and including pupils with special educational needs, *Education 3-13*, 43(1), 15-29. doi: 10.1080/03004279.2015.961689

- Baines, E., Rubie-Davies, C. & Blatchford, P. (2009). Improving pupil group work interaction and dialogue in primary classrooms: Results from a year-long intervention study. *Cambridge Journal of Education*, 39(1), 95–117. doi:10.1080/03057640802701960
- Blatchford, P., Baines, E., Rubie-Davies, C., Bassett, P. & Chowne, A. (2006). The effect of a new approach to group work on pupil-pupil and teacher-pupil interactions. *Journal of Educational Psychology*, 98(4), 750–765. doi:10.1037/0022-0663.98.4.750
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.
- Braun, V. & Clarke, V. (2014). What can “thematic analysis” offer health and wellbeing researchers? *International Journal of Qualitative Studies on Health and Well-Being*, 9(1), 26152.
- Burcin, G., Sefa, D., Yasin, S. & Levent, A. (2012). The effects of learning together technique which is based on cooperative learning on students’ achievement in mathematics class. *Procedia Social and Behavioral Sciences*, 46, 3431-3434. doi: 10.1016/j.sbspro.2012.06.079
- Chi, M.T.H. & Wylie, R. (2014). The ICAP framework: Linking cognitive engagement to active learning outcomes. *Educational Psychologist*, 49(4), 219-243. doi:10.1080/00461520.2014.965823
- Clarke, V. & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology: Qualitative Positive Psychology*, 12(3), 297-298.
- Dillenbourg, P. (1999). What do you mean by ‘collaborative learning’? In P. Dillenbourg (Ed.), *Collaborative Learning*. Oxford, England: Elsevier.
- Doymus, K. (2007). Teaching chemical equilibrium with the Jigsaw technique. *Research Science Education*, 38, 249-260.
- Ewald, J.D. (2005). Language related episodes in an assessment context: A small group quiz. *The Canadian Modern Language Review*, 61(4), 565-586. doi: 10.3138/cmlr.61.4.565
- Forslund Frykedal, K. & Hammar Chiriach, E. (2011). Assessment of students’ learning when working in groups. *Educational Research*, 53(3), 331-345. doi:10.1080/00131881.2011.598661
- Fung, D.C., To, H. & Leung, K. (2016). The influence of collaborative group work on students’ development of critical thinking: The teacher’s role in facilitating group discussions. *Pedagogies*, 11(2), 146-166. doi:10.1080/1554480X.2016.1159965
- Galton, M. & Hargreaves, L. (2009). Group work: Still a neglected art? *Cambridge Journal of Education: Classroom Group Work*, 39(1), 1-6.
- Gillies, R.M. (2014). Cooperative learning: Developments in research. *International Journal of Educational Psychology*, 3(2), 125-140. doi.org/10.4471/ijep.2014.08.
- Gillies, R.M. (2006). Teachers’ and students’ verbal behaviours during cooperative and small-group learning. *British Journal of Educational Psychology*, 76(2), 271-287. doi: 10.1348/000709905X52337

- Gillies, R.M. (2003). The behaviors, interactions, and perceptions of junior high school students during small-group learning. *Journal of Educational Psychology*, 95(1), 137-147. doi:10.1037/0022-0663.95.1.137
- Granstrom, K. (2006). Group phenomena and classroom management in Sweden. In C.M. Evertson, & C.S. Weinstein (Eds.), *Hand Book of Classroom Management: Research, practice, and contemporary issues* (pp. 1141–1160). Mahwah: Lawrence Erlbaum Associates.
- Jin, Q. & Kim, M. (2018). Metacognitive regulation during elementary students' collaborative group work. *Interchange*, 49(2), 263-281.
- Kyndt, E., Raes, E., Lismont, B., Timmers, F., Cascallar, E. & Dochy, F. (2013). A metaanalysis of the effects of face-to-face cooperative learning. Do recent studies falsify or verify earlier findings? *Educational Research Review*, 10(2), 133-149. doi:10.1016/j.edurev.2013.02.002
- Lamont, A., Hargreaves, D.J., Marshall, N.A. & Tarrant, M. (2003). Young people's music in and out of school. *British Journal of Music Education*, 20(3), 229-241. doi: 10.1017/S0265051703005412.
- Langridge, D. (2004). *Introduction to Research Methods and Data Analysis in Psychology*. Harlow: Pearson.
- Lotan, R.A. (2008). Developing language and mastering content in heterogeneous classrooms. In R.M. Gillies, A. Ashman, & J. Terwel (Eds.), *The Teacher's Role in Implementing Cooperative Learning in the Classroom* (pp. 187-203). Brisbane: Springer.
- Lotan, R.A. (2006). Managing group work in the heterogeneous classroom. In C.M. Evertson, & C.S. Weinstein (Eds.), *Handbook of Classroom Management: Research, practice, and contemporary issues* (pp. 525-540). Mahwah: Lawrence Erlbaum Associates.
- Macdonald, R.A.R. & Miell, D. (2000). Creativity and music education: The impact of social variables. *International Journal of Music Education*, 36(1), 58 -68.
- MacDonald, R.A.R., Miell, D. & Mitchell, L. (2002). An investigation of children's musical collaborations: The effect of friendship and age. *Psychology of Music*, 30(2), 148-163.
- Marjan, L. & Seyed, M.G. (2011). Benefits of collaborative learning. *Procedia Social and Behavioral Sciences*, 31, 486-490. doi:10.1016/j.sbspro.2011.12.091
- Meseke, C.A., Bovee, M.L. & Gran, D.F. (2009). Impact of collaborative testing on student performance and satisfaction in a chiropractic science course. *Journal of Manipulative and Physiological Therapeutics*, 32(4), 309-314.
- Mercier, E., Higgins, S. & Costa, L. (2014). Different leaders: Emergent organizational and intellectual leadership in children's collaborative learning groups. *International Journal of Computer-Supported Collaborative Learning*, 9(4), 397-432.
- Miell, D. & MacDonald, R.A.R. (2000). Children's creative collaborations: The importance of friendship when working together on a musical compositions. *Social Development*, 9(3), 348-369.
- Nafziger, R., Meseke, J.K. & Meseke, C.A. (2011). Collaborative testing: The effect of group formation process on overall student performance. *The Journal of Chiropractic Education*, 25(1), 11-15.

- Patterson, E.W. (2018). Exploratory talk in the early years: Analysing exploratory talk in collaborative group activities involving young learners. *Education 3-13*, 46(3), 264-276. doi: 10.1080/03004279.2016.1243141
- Pell, T., Galton, M., Steward, S., Page, C. & Hargreaves, L. (2007). Promoting group work at key stage 3: Solving an attitudinal crisis among young adolescents? *Research Papers in Education*, 22(3), 309-332. doi:10.1080/02671520701497571
- Saunders-Stewart, K.S., Walker, C.L. & Shore, B.M. (2013). How do parents and teachers of gifted students perceive group work in classrooms? *Gifted and Talented International*, 28(1-2), 99-109.
- Seddon, F. (2006). Collaborative computer-mediated music composition in cyberspace. *British Journal of Music Education*, 23(3), 273-283.
- Shivaswamy, P. & Thorsten, J. (2015) Coactive learning. *Journal of Artificial Intelligence Research*, 53, 1-40.
- Tolmie, A.K., Topping, K.J., Christie, D., Donaldson, C., Howe, C., Jessiman, E., Livingston, K. & Thurston, A. (2010). Social effects of collaborative learning in primary schools. *Learning and Instruction*, 20(3), 177-191.
- Veldman, M.A., Doolaard, S., Bosker, R.J. & Snijders, T.A.B. (2020). Young children working together. Cooperative learning effects on group work of children in grade 1 of primary education. *Learning and Instruction*, 67, 1-13.
- Vygotsky, L.S. (1978). *Mind in Society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Webb, N. & Mastergeorge, A. (2003). Promoting effective helping in peer-directed groups. *International Journal of Educational Research*, 39(1-2), 73-97. doi:10.1016/S0883-0355(03)00074-0
- Williams, K.D. (2010). Dyads can be groups (and often are). *Small Group Research*, 41, 268-274. doi: 10.1177/1046496409358619
- Williams, P. & Sheridan, S. (2010). Conditions for collaborative learning and constructive competition in school. *Educational Research*, 52(4), 335-350. doi.org/10.1080/00131881.2010.524748

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