

**The impact of a group drumming intervention on students'  
concentration, self-confidence and mental wellbeing.**

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**Research and Development Project  
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## **Abstract**

This research and development project aimed to provide evidence for the benefits of participating in extracurricular music activities. The study focused on three areas; concentration, self-confidence and mental wellbeing. A sample of 33 students was taken from a mainstream state secondary school (representing around 5% of the school population). 19 of these students were placed in a 'drumming group' with selection criteria that they do not currently have instrumental lessons or participate in extracurricular music. The remaining 14 formed the 'control group' - those who learn an instrument and participate in at least one musical activity per week. Questionnaires with 15 questions (5 for each area) were completed by all participants before the intervention began. This showed the control group reported a better level of concentration, self-confidence and mental wellbeing than the drummers prior to the intervention. The drumming group then took part in a weekly drumming session using equipment loaned by Drums for Schools and delivered by their normal music teacher (with guidance from expert drummers). These sessions were observed in weeks 1, 6 and 11 by colleagues in the school, collecting a range of qualitative and quantitative data. On completion of the 12 weeks, all participants completed the same questionnaire and the drumming group took part in a focus group interview. The findings show that the drumming intervention had a significant positive impact on the concentration, self-confidence and mental wellbeing of those involved. This was reported by teachers observing sessions and the students themselves.

## **Contents**

<b>1. Introduction</b>	<b>3</b>
1.1 Context and School Setting	4
<b>2. Literature Review</b>	<b>5</b>
2.1 Current issues and relevance to my setting	6
2.3 Methodological considerations	17
2.4 Measuring concentration, self-confidence and wellbeing.	22
<b>3. Methodology</b>	<b>25</b>
3.1 Ethical Considerations	26
3.2 Research Design	28
3.3 Quantitative Data Collection	29
3.4 Qualitative Data Collection	31
3.5 Answering the Research Questions	32
3.5.1 Research Question 1	32
3.5.2 Research Question 2	33
3.5.3 Research Question 3	33
3.6 Outline of Intervention and Data Collection	34
3.7 Collaboration	35
<b>4. Findings and Discussions</b>	<b>37</b>
4.1 Analysis of pre-intervention questionnaire results	37
4.2 Analysis of teacher observation	39
4.2.1 Qualitative observations	41
4.3 Analysis of post-intervention questionnaire results	45
4.4 Analysis of focus group qualitative data	47
4.5.1 Research Question 1	51
4.5.2 Research Question 2	52
4.5.3 Research Question 3	53
4.6 Limitations of the study	54
4.7 Wider impact of the intervention	56
<b>5. Conclusions and Implications</b>	<b>58</b>
<b>6. Reference List</b>	<b>62</b>
<b>7. Appendices</b>	<b>67</b>
Appendix 1: Observation Data	67
Appendix 2: Transcripts of Focus Group Interviews	72
Appendix 3: Student Questionnaire	75
Appendix 4: Raw Quantitative Data	76
Appendix 4: Mean averages of raw data presented in graphs	80
Appendix 5: Ethical Approval Letter	84

# 1. Introduction

This research and development project aims to focus on a combination of current issues in music education and combat these with an easy to initiate, cost effective, intervention that supports students who may have less access to music than others. There is evidence to show the wide benefits of participating in extracurricular music such as engagement (Slattery, 2018), well-being (Faulkner, Wood, Ivery & Donovan, 2012) self-confidence (Maschi, MacMillan & Viola, 2013) and concentration (Popa, 2018). By introducing an intervention and collecting data around these topics, it could be possible to find supporting evidence for using small group music interventions to support students in both music, but also their wider school experience. Whilst it may be common for schools to offer small group support for subjects such as maths or English (Stylianides & Childs, 2019), instrumental lessons on an individual basis or as a group do not seem to be as common, at least not financially supported by many schools. This study aims to explore some of the advantages of implementing small group music interventions as a way of improving student outcomes. In EBacc subjects (Clarke & Basilio, 2018), for example maths and English, improvement in the subject is often seen in assessment data when students are offered more support away from being in a full class. Schools will naturally be interested in improving these assessment results as the EBacc and Progress 8 (Hardy, 2018) results provide the school with a value or rating in which to judge the impact of their teaching and learning. Likewise, students will need to pass these particular subjects in order to progress onto the next stage of education, a pass will be required to take A-Levels or many courses in further education colleges for example. Music is not assessed in this way and is not included in an EBacc score (Hardy, 2018). Existing research shows that there are other positive aspects to making group music that would benefit students and could in turn support their learning in other subjects. The Group Development Model (GDM) provides a framework for implementing work with small

groups, especially what to expect at certain stages, and will be referred to in context throughout this dissertation (Tuckman, 1965).

## **1.1 Context and School Setting**

The research will be undertaken in the school where I currently teach, it is a state academy which is now in its fourth year, having opened in September 2019. There are around 660 pupils on roll in years 7 to 10, with a small sixth form cohort, from September 2023 the school will have all year groups. A main feature of this new school is the academic curriculum that is offered; in the music classroom, although there is practical work, the curriculum contains more music theory than I have seen in other settings. Having personally conducted previous research in this school it became apparent that the music curriculum has opened up the option of taking GCSE music for more students in school (Author, 2022) with the current subject uptake being higher than national average (Lamont & Maton, 2008). However, it was also identified that many students struggled to relate to this curriculum, despite enjoying music out of the classroom. This indicates that there is a disconnect between enjoyment of the subject and how this is viewed in school, something which has been seen in other settings (Wright, 2002) (Kertz-Welzel, 2022).

The timing of this work is important as nationally, and internationally, there has been growing interest in making a full recovery from the Covid-19 pandemic. Many schools had to temporarily stop extracurricular music and students were unable to gather in groups or even meet friends outside of school. A decreased sense of wellbeing has been detected amongst young people in school (Hume, Brown & Mahtani, 2023). Uptake for extracurricular music and interest in pursuing music beyond Key Stage 3 has declined since the start of the pandemic. There is already research to show that engagement with the arts, particularly for young people, declined during each lockdown in the UK (Mak, Bu & Fancourt, 2022). Part of this recovery for

my school will be to find solutions to increase engagement with the arts, especially performance, and rebuild a strong ethos of participation in music, whether this is in curriculum lessons or extracurricular. Taking any findings and further sharing these with colleagues, school leadership and to other school settings could mean that considerations are made for implementing further small group music interventions in the future. This would have a twofold effect in schools; more students are able to access instrumental lessons, which could be offered more cheaply than hiring an external teacher; and students who would not normally be involved in music may benefit from any positive findings in this research that could help support them in music and other aspects of life.

This dissertation will discuss existing literature relating to music education and, more specifically, the benefits of drumming. The review of existing literature aims to compare and evaluate previous research; discover ideas relevant to my setting; and understand how these could be used to inform and develop my own research. This review will lead into an outline of a research design based on the research questions formulated through engagement with the literature. The study aims to produce findings that can be discussed later in this dissertation to form conclusions based on the research. If it can be shown that a small group music intervention can indeed have a positive impact on students then the implications of why this form of intervention is not commonplace should be discussed. There may be scope to develop and build upon this research further if the study can highlight benefits.

## **2. Literature Review**

In order to devise an intervention that develops and improves the learning experience for students in my school setting it is important to review the current literature. This review of relevant literature aims to understand the current issues with participation in extracurricular

music and the benefits of doing so as well as explaining where there are potential areas for further research. This will subsequently inform decisions on what the intervention seeks to develop; the methodological considerations for data collection; and the structure of the intervention. It should also help inform how the research will be relevant to my setting in terms of future use and sharing of any findings. At the end of this section I will use the literature review to formulate research questions that will inform planning for my research methodology and I will aim to answer these during the findings and discussion section.

## **2.1 Current issues and relevance to my setting**

Previous research shows that there can be a lack of curriculum relevance in Britain for some students (Paterson, 2020). There is an argument that curriculum planning is an expression of dominant social groups, and the well-meaning intention of providing a broad curriculum can be isolating for students who are not part of these groups (Hargreaves, 1982) (Paterson, 2020). This can certainly be seen in my own setting, where the curriculum is relatively new and the school strives to be 'highly academic' across all subjects. In music this takes the form of teaching music theory in detail and working on practical skills that closely relate to this theory. This may be appropriate for some subjects, however in music education there are some who would argue a more practical initial approach is more useful (Barrett & Webster, 2014). A 'sound before symbol' concept, the opposite of a 'theory first' music curriculum, has been promoted by a number of researchers and teachers such as Ausman (2022) and Kay (2013) as well as being a prominent feature of established methods of teaching music such as the Kodály concept (Dunbar & Cooper, 2020). This indicates that our current curriculum may not be suitable for engaging all students and I believe this is what I have observed with a number of students losing interest in the subject.

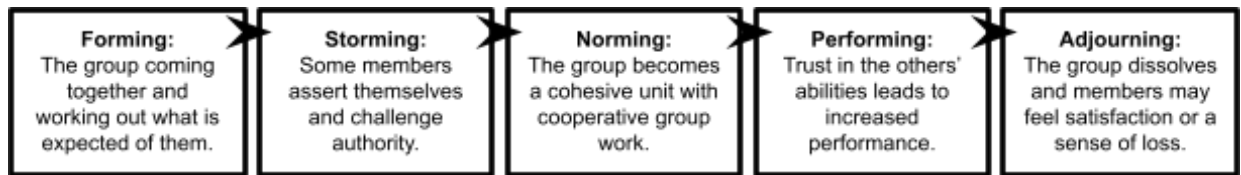
Beyond my setting there is a national problem of uptake for music when it becomes an optional subject in year 10 (age 14). This was first identified by Crabtree (1947) and the reasons can vary between different settings (Wright, 2008), they certainly include relevance of the curriculum to the students' perceptions of music (Peters, 2016). However, from research previously conducted in school, I believe that participation in extracurricular music can have an effect on whether students are more likely to engage with curriculum lessons. This would in turn see an improvement in the uptake for music in the future (Author, 2022). There are two viewpoints that must be taken into account here; those supporting extracurricular music to promote an academic curriculum; and those who believe the curriculum itself should be adjusted to promote engagement (Kertz-Welzel, 2022). McQueen, Halam and Creech (2018) argue that it is the curriculum which should be made more relevant and suited to the students, which is supported by the views expressed by Wright (2008). This could work to increase engagement immediately, but if students aim to progress onto GCSE or A-Level music then a certain level of theoretical knowledge will be needed. I do believe the aim should be to enable all students to have the chance of furthering their music education. If the curriculum is adjusted to them then they could be missing out on material that would enable them to progress further. On the other hand Power, Taylor, Rees and Jones (2009) demonstrate that music outside of the classroom has a powerful effect on student engagement with music. There is merit to both of these arguments, although I side with Power et al. (2009) in that students should have as much exposure to the subject as possible and this requires input away from curriculum lessons. I believe this could be used as a way into the more challenging material used in the classroom. This ensures that all students have access to an academic music curriculum with the opportunity to explore different skills and musical genres that they choose to further engage with or already have an interest in outside of the classroom.

Lamont and Maton (2008) present evidence that the student perceptions of music place it as less important than maths, English, science and history. Their research also discovered that music can be seen to have an 'elite code' which makes it appear inaccessible to many students (Lamont & Maton, 2008). This relates to Paterson (2020) and Hargreaves (1982) who saw curriculum choices as being dominated by liberal elite groups and this literature demonstrates why students may feel that music is not an option for them. I would argue that many of the benefits to music are lost when the emphasis is on an academic curriculum and can see that students in my setting might agree with the concept of music having an 'elite code' (Author, 2022). These benefits have been identified in numerous studies, for example Kimbel and Protivnak (2010) outline ways that musical intervention could be used in school counselling sessions. This research goes into detail about the benefits, but also highlights some of the limitations with this form of intervention. I would argue that when the end goal is to engage students with music and not use music as a counselling tool, then many of the limitations they identified could be ignored (Kimbel & Protivnak, 2010) and the intervention can be assessed purely for its musical benefits.

Group work is one of the elements I would pick out as being inclusive and engaging, Faulkner et al. (2012) supports this with a successful model of teaching group drumming to young people in Australia and New Zealand who are at risk. Kimbel and Protivnak's (2010) work leads towards a more individualised intervention which is perhaps necessary within a school counselling model, whereas Faulkner et al. (2012) sees their only limitation being the commitment of the facilitator. I think the balance is somewhere between these two views, using proven models but making some adaptations for the setting might be most useful. As my curriculum involves a focus on individual work, any extracurricular intervention should be based on group work in order to have the maximum impact. Many studies indicate that there are benefits to making music as a group, which would support my thoughts. Ho, Tsao, Bloch and

Zeltzer (2010) show that there is strong potential in using group drumming as a therapeutic tool. What is missing from the research is why this is effective. Perkins et al. (2016) build on the existing research and set out to discover exactly why group music has many benefits. This difference of focus is useful in thinking about my own setting. The exact reasons as to why group work is beneficial would be interesting to discover in order to understand whether engagement with music could be impacted.

In relation to this it is important to look at an existing model, the Group Development Model, developed by Bruce Tuckman. This model outlines a clear framework for progress in group work and the importance and stages of guiding a group to success. These stages of development are the result of analysing around 50 studies that involved group work. The model can be viewed in the following way (Tuckman, 1965):



Often in my setting music is delivered with a focus on individual success, the GDM outlines a way of bringing a group together to work cooperatively. The success of the intervention relies on the group trusting in each others' abilities and recognising that the learning process requires cohesion (Tuckman, 1965). The final stage 'adjourning' was added by Tuckman and Jensen (1977) following the review of many additional studies involving group work. This follow-up work highlights the importance of continued research and developing previous ideas.

Looking at the current issues in relation to existing research, especially in my setting, there is an indication that broadening the musical offer in school and focussing on something more practical and group oriented would be beneficial to my students. In order to keep the intervention affordable and accessible I believe a group drumming intervention would be highly suited and could potentially provide a contrast to the current musical offer in school (Collins,

2016) (Kertz-Welzel, 2022). Using the principles of the GDM outlined above this will hopefully provide the students with a different learning experience from current curriculum music lessons (Tuckman, 1965). The next section of this literature review will focus primarily on the previous research around this area and any benefits that have been identified.

## **2.2 Previous research into the benefits of group drumming**

As there are a number of studies showing benefits to group drumming, this literature review will now investigate research in three more specific areas; mental wellbeing, concentration and self-confidence. Research by Faulkner et al. (2012), which has already been mentioned during this literature review, focussed around a drumming initiative called 'DRUMBEAT'. This is regarded as the leading therapeutic drumming programme in Australia and prides itself on being backed by research (Faulkner et al., 2012) (Martin & Wood, 2017). By looking at one specific group, namely alienated youth in Australia and New Zealand, Faulkner et al. (2012) were able to see positive results in the behaviour and mental wellbeing of participants in their programme. Another similar study by Maschi, MacMillan and Viola (2013) focussed on adult social workers and increasing their wellbeing, although this was for a different purpose, a clear link between drumming as a group and an increased feeling of wellbeing was found (Maschi, MacMillan & Viola, 2013). In the case of Faulker et al. (2012) the goal is not as specific, simply to support young people, although the study is broad and looks at groups in two separate countries. Maschi et al. (2013) have a clear target group and investigate specifically how these benefits of drumming would support their participants in their jobs. In a similar way, drumming could be seen as a way of supporting students to do their job in school; perhaps helping them concentrate, moderate their behaviour and feel successful in their learning environment.

A more recent study that specifically targeted adolescents with a diagnosis of autism demonstrates positive behaviour changes from drumming (Cahart, Amad, Draper, Lowry & Marino et al., 2022). This is a model example of a music related project aimed at a specific group of young people and demonstrates a reduction in hyperactivity and inattentiveness. There is possible scope for this to be opened more widely and used as an intervention in schools. The study offered individual lessons to participants and I would argue that the cost of this would be considerably more than implementing other studies that are focused around group activity (Cahart et al., 2022). Another critique of this would be that despite there being proven benefits to making music as a group (Slattery, 2018) (Faulkner, Wood, Ivery & Donovan, 2012), this was not explored in the research. However, Cahart et al. (2022) had not intended to explore the effects of group work and it may not have been an option with their participants, I feel that an extra element of this research could have compared individual progress with those doing group work.

Faulkner et al. (2012) identified a number of reasons why drumming may be an effective intervention. Firstly outlining the fact that cognitive-based interventions often require participants to have good language skills and the confidence to use these, whereas in drumming these skills were not needed. Drumming mimics the interaction skills that young people need to acquire; such as listening, responding and turn-taking (Faulkner et al., 2012). They identified that the DRUMBEAT project can have such a positive effect on the mental wellbeing of participants that it is now used by some mental health services as well as in drug and alcohol rehabilitation. Venkit and Godse (2013) have found similar results from their study, where young female commercial sex workers in a rehabilitation programme in India were offered the opportunity to learn group drumming. This study is quite narrow, specific and only involved eight drumming sessions. The authors were clear in that research of this nature needs to be developed further (Venkit & Godse, 2013). Faulkner et al. (2012) have much higher participation numbers in

comparison, with more than 260 professionals now trained in implementing the intervention (Faulkner et al., 2012), there is also evidence in their work supporting Venkit and Godse's conclusions (2013) that the research would be more effective longitudinally. Cahart et al. (2022) ran their study over only 8 weeks but were able to offer two drumming sessions per week, thus making sure there was regular input for participants. However, I would argue that these sessions could have been delivered over a slightly longer period of time, Cahart et al. (2022) do not mention this as a limitation of their research. The positive effects of drumming seem to be far reaching with their use in the treatment of mental health patients and young people with autism being an indication of evidence for the benefits of making music in this way. Drumming is noted for particular features such as "feelings of belonging, acceptance, safety and care and new social interactions" (Perkins, Ascenso, Atkins, Fancourt & Williamon, 2016, P.12), all of which stand out to me as qualities we should be promoting in school environments.

Whilst all of these examples involve participants with more complex needs than the students in my school, it is worth noting the positive impact all of them show on mental wellbeing (Faulkner et al., 2012) (Venkit & Godse, 2013) (Perkins et al., 2016). This can be coupled with previous research on the effects of the covid-19 pandemic (Mak et al., 2022), showing that young people have interacted less with the arts in recent years and would therefore be a good time to implement a similar intervention in my setting.

Whilst the results from Faulkner et al. (2012) seem positive, it should not be ignored that the lead researcher developed the DRUMBEAT programme and therefore the question of impartiality should be considered. There is, however, further research from Martin and Wood (2017) that shows clearly the positive impact of DRUMBEAT on mental wellbeing. Their research found that boys who completed the programme reported, through a questionnaire, an average improvement of 7.6% on their mental wellbeing and 23.9% lower antisocial behaviour (Martin and Wood, 2017). Interestingly they did not see any changes in the behaviour of girls

who participated, with the only suggested reason being that girls reported a lower initial rate of antisocial behaviour. This does not explain the change in mental wellbeing, as there was no detectable difference in the reported baseline score for mental wellbeing between boys and girls. As Venkit and Godse (2013) only worked with women and were able to observe a positive impact on mental wellbeing, paired with no explanation of the difference in findings from Martin and Wood (2017) I do still believe that group drumming would be a positive experience for both boys and girls in terms of their mental wellbeing within a school setting. There are also other successful related studies showing positive results for female only participants such as Kokal, Engel, Kirschner and Keysers (2011).

As there is a wide range of research indicating that mental wellbeing can be supported by group drumming, including Slattery (2018), the benefits of using drumming specifically in a school setting will now be further investigated. Drumming has been proven to promote participation due to its accessibility (Slattery, 2018), which would be ideal in my setting when trying to include those who do not currently participate in extracurricular music. The development of a group or community playing music together could be particularly useful for students feeling isolated from the curriculum or music as a whole (Camilleri, 2002) (Kertz-Welzel, 2022). This could easily be achieved through a drumming intervention as the group will need to build on ensemble skills in order for the music to come together, they will have to work as a team (Tuckman & Jensen, 1977). Camilleri (2002) noted that within a drumming group individual leadership tends to fall away and the group will achieve a greater sense of creativity. The emphasis on teamwork and inclusion is central to the premise in Camilleri's paper, that group drumming will create a less violent school environment (Camilleri, 2002). This study takes a specific issue that it aims to find a solution to, which is different to my goals, although engendering a sense of group cohesion aligns closely with school values. Camilleri's (2002) work relates closely to the Group Development Model, relying heavily on

teamwork (Tuckman, 1965). Likewise the disappearance of leadership that Camelleri observed would fit with Tuckman's 'norming' stage of the GDM (Tuckman & Jensen, 1977).

Students in mainstream secondary school attend many different subjects in one day, sometimes up to six in my school. According to cognitive load theory (Sweller, 1988) the effect of frequently changing subjects can be detrimental to learning for some people. This can have a negative effect on concentration, particularly when the material is difficult to access or students are tired (Chang & Yang, 2010). Miller (1956) outlines that the working memory can only retain around 7 pieces of information, indicating that students may often feel overwhelmed in school. What Slattery (2018) found through observing an existing drumming project in an Australian school is that improved focus and concentration were recorded as main themes from all data sources (Slattery, 2018). This research was a combination of surveys for parents and students mixed with observations and interviews with the music teacher. The data gathered in this project shows a range of different viewpoints and I find it significant that all recognise an improvement in concentration and focus (Slattery, 2018). In the case of Martin and Wood (2017), concentration was a theme in two of their measures; post-traumatic stress symptoms and antisocial behaviours. As mentioned previously, the antisocial behaviours improved for boys and it can be assumed that this includes concentration, as students were asked specifically how many times in the last month they had been unable to concentrate in the classroom (Martin & Wood, 2017). To further support this is the evidence from Cahart et al. (2022) that shows a reduction in inattention in adolescents with autism. Although in this case, the measure used in the research combined inattentiveness with hyperactivity and impulsiveness so it cannot be determined that only inattention was affected (Cahart et al., 2022).

Previous research from Faulkner et al. (2012) shows similar reporting from participants in relation to their improved concentration after the drumming intervention. The programme is mentioned in Slattery's (2018) work and clearly the findings of both studies closely match. This

is certainly something that could be replicated in a school setting and the implications of improved concentration on students' learning experience would be beneficial. Faulkner et al. (2012) goes on to add that this is connected with a new sense of pride, both as individual participants and the whole group. There is scope for more research in this particular area as until now the impact of group drumming on concentration has appeared in qualitative data collected by a small number of studies. I find it interesting that Faulkner et al. (2012) and in particular Slattery (2018) found improved concentration to be widely reported. This is certainly something I would be interested in exploring further and potentially trying to replicate the qualitative data gathered previously. Perhaps it would be possible to use a questionnaire or similar tool to collect quantitative data in my setting relating to concentration as this seems to be missing in previous research.

Another theme that often presents when looking at the benefits of drumming is the effect on self-confidence (Slattery, 2018) (Faulkner et al., 2012) (Wood et al., 2013). Generating confidence in young people who are learning music is essential to successful teaching and avoiding low engagement with the subject (Mullen & Badger, 2023). Drumming could be a way of enthusing disengaged students in music participation through allowing them to find confidence. Existing research shows that observations from parents can be insightful in education research. Slattery (2018) found that parents reported observing changes in their childrens' confidence following participation in a group drumming programme. This was reported by parents as having an effect on two aspects; the child gaining social and emotional skills; and positive changes in their attitude towards school generally. Interviews with students themselves have shown similar success, with some reporting that drumming had enabled them to feel more comfortable making eye contact with others (Slattery, 2018). Wood et al. (2013) were able to gather similar results in improved self-confidence from using teachers to observe changes in student behaviour. One key difference is that Wood et al. (2013) only mention confidence under

'additional teacher feedback' whereas Slattery (2018) mentions this specifically in a number of research areas and set out to look for effects on self-confidence at the beginning of their research.

Faulkner et al. (2012) received feedback from the participants themselves on completion of the drumming course that they felt their confidence had improved. This relates closely to the findings in both Wood et al. (2013) and Slattery (2018). Many of the participants reported being able to talk freely in front of other members of the group, something which could also have a wider impact on the mental wellbeing of these students (Faulkner et al. 2012). Improved confidence and being able to talk freely within the group are, according to Tuckman's Group Development Model, signs that the group is reaching the 'performing' stage of development (Tuckman, 1965). Whilst all three of these studies demonstrate an impact on confidence, it is often mentioned as something that was reported in qualitative data alongside other themes. This is an element of drumming interventions that I believe could be researched further, the fact that it has been mentioned in numerous studies but not specifically looked at has left a gap in the research.

An increased feeling of confidence is not unique to drumming as previous research indicates that songwriting has also been shown to have a positive impact (Elkoshi, 2021), although the previous research by Elkoshi (2021) does not include group work and creative work is completed by the facilitator for the participant. In drumming related studies there seems to be a positive impact on many different areas of behaviour and this could be to do with the group atmosphere and interactions. Again, the Group Development Model shows how these interactions can ultimately affect the way the group functions (Tuckman & Jensen, 1977). As Faulkner et al. (2012), Wood et al. (2013), and Slattery (2018) have shown, drumming can positively impact self-confidence. Through building confidence it is possible that students will feel more successful as musicians and be more motivated to access the curriculum lessons.

This is particularly important in my setting, where the content of the curriculum is quite theoretical and academic, leading some students to appear demotivated if they lose confidence in the classroom.

Whilst mental wellbeing has been a common theme in research related to group drumming (Wood et al., 2013) (Perkins et al., 2018) (Martin & Wood, 2017) it would be interesting to investigate whether these findings could be replicated in my school setting. As other studies have shown, concentration and self-confidence can be enhanced by group drumming. There is a possibility to build on gaps in the research here and devise a study that focuses on both concentration and self-confidence, perhaps linking them with mental wellbeing. There is certainly a need for supporting mental wellbeing, concentration and self-confidence in British secondary schools (Walters, Simkiss, Snowden & Gray, 2022). When researching several areas like this within one study it is worth considering how the data will be collected in order to answer the specific research questions. Cahart et al. (2022) make this clear in their limitations that future research should aim to have a questionnaire that finely discriminates between the different components of the research (Cahart et al., 2022).

## **2.3 Methodological considerations**

In order to make methodological considerations for this project the literature review will now investigate how previous research has been conducted and critique these methodologies. There are a range of approaches that should be considered before designing the study such as the duration of the intervention, the sample size, how participants are grouped, if there is a control group included and the criteria for participation. In terms of data collection this section will also look at qualitative and quantitative methods.

One key theme that has emerged from the existing literature is the strength of studying the impact of group drumming longitudinally (Maschi, MacMillan & Viola, 2013) (Slattery, 2018)

(Martin & Wood, 2017) (Venkit & Godse, 2013). Maschi, Macmillan and Viola (2013) were able to collect quantitative data that was used to draw conclusions from their research, although the study was only conducted over 4 months. Some researchers explicitly identified this as a limitation of their work, for example Venkit and Godse (2013), who only used eight drumming sessions to support their research. This was, however, in combination with other interventions and they make it clear in their work that this is a limitation. In a similar way, Slattery (2018) is open about the limitations in their research, explaining that they did not feel two school terms was long enough for the work being undertaken. I would argue that Slattery researched a well established drumming project and many of the participants had been involved for some time which would have enabled more reliable data to be collected (Slattery, 2018) than research involving a new intervention such as Faulkner et al. (2012) or (Maschi, MacMillan and Viola, 2013). This is definitely a theme that I will have to consider in my own work as I will be limited by time and will be introducing a totally new intervention. In the case of Martin and Wood (2017) and Faulkner et al. (2012) they followed a programme lasting ten weeks. On the slightly shorter side is Cahart et al. (2022) with only 8 weeks, this did however involve 16 drumming sessions, this is not mentioned as a limitation in their work and from comparing this with other studies I believe it is possible that they could have seen even more improvement had the study been over a slightly longer time frame.

Another limitation that appeared in much of the literature is the sample size and ensuring that enough participants continue for the duration of the project. Some research designs were able to include multiple groups simultaneously across different settings (Maschi, MacMillan & Viola, 2013), whereas others had to focus on a much smaller group of participants (Slattery, 2018). In the case of Kokal et al. (2011) they acknowledge, with hindsight, that their sample of 18 “may not” have been big enough to draw strong conclusions from. However, it is one of the first studies showing connections with synchronicity in drumming and how this affects behaviour.

Clearly this form of research could be repeated with a larger sample size in the future, as the researchers recommend (Kokal et al., 2011). Martin and Wood (2017) were able to use a slightly larger sample size, initially having 84 students involved. They did however have a relatively high drop out rate which reduced the number of participants who completed the course to just 73.8% of those who started (Martin & Wood, 2017). Cahart et al. (2022) had a small sample size, starting with 36 participants and only being able to use 'post drumming assessment' data from 32 participants. They were, however, able to recruit participants from across the country and not just focus on one particular setting which I believe makes the study more comprehensive (Cahart et al., 2022). Clearly the best results will be achieved with a larger sample size over a longer period of time. I will be limited in both of these aspects but the literature shows that previous research has still been able to make conclusions based on their data with these limitations. I would argue, as in the case of Slattery (2018), that research that is specific to the school setting could be more valuable for teachers in terms of making curriculum decisions and sharing research with colleagues. Another consideration is retaining participants once they have been recruited. Some previous research saw a higher dropout rate (Martin & Wood, 2017) and others, such as Ho et al. (2011), managed to have a 100% retention rate. For the research that I will be undertaking it will be important to ensure that the retention rate remains fairly high as the sample size could be impacted, thus making analysis difficult when looking at statistics in the data.

In addition to sample size, the way participants are grouped could support findings, for example the use of a control group allowing for comparisons to be made from the data. Faulkner et al. (2012) only had 30 participants but was able to ensure some of these formed a control group. Maschi, MacMillan and Viola (2013) identified that a control group would have strengthened their research and allowed for more comparisons to be made in the discussion of their findings. Other studies did not make it clear whether a control group would have benefited

their research (Slattery, 2018) (Kokal et al. 2011). I believe that a control group would enhance the conclusions that can be drawn from this research and agree with Maschi, MacMillan and Viola (2013). For a study taking place in one school a sample size of around 30 participants with a control group should allow for analysis and comparisons to be easily made (Faulkner et al., 2012) (Cahart et al., 2022), although this would have more significance for the school where research is being conducted than other settings in terms of sharing findings. In addition to student participants, Slattery (2018) decided to involve a parent survey as a data collection method, which showed data related to improved confidence as mentioned in section 2.2. However, only nine parents actually returned the form so it became difficult to conclude that many students had their confidence positively affected by the intervention (Slattery, 2018). Parents can be a great source of data relating to student behaviour, although it is possible that there are other external factors that make it difficult to obtain data from them (Slattery, 2018) (Knopik, et al., 2021). Cahart et al. (2022) were able to involve parents as part of their work by having them complete a form whilst the drumming participants completed a separate practical assessment, ensuring that enough data was collected to be used in their findings.

In terms of selecting participants there are some interesting points that should be raised from existing literature. Some studies report nonrandom selection of participants. In the case of Faulkner et al. (2012) teachers were asked to suggest students that would be suitable to participate. This could be seen as an effective way of finding the appropriate students, however teacher bias must be taken into consideration. Martin and Wood (2017) used similar methods and were using the same drumming programme. It might have been more interesting to see if the research could be replicated with more randomised participants. I do believe these studies should have made it very clear what the criteria for participation are, as to ask teachers which students present 'challenging behaviour' could be interpreted in a number of ways (Rae, 2007) (Faulkner et al., 2012) (Martin & Wood, 2017). In some of the previous research the participation

criteria were very clear, such as a diagnosis of ASD, and participants were randomly grouped into those who would do drumming or into a control group (Cahart et al., 2022). In this case Cahart et al. (2022) also suggest future studies having an 'active control group' where participants learn a sport, for example archery, to compare whether there is more benefit from music and drumming or other activities that may also have a positive impact (Cahart et al., 2022).

Much of the existing literature comes from outside of the UK, in particular Australia has produced much of the research so far. As we share similar ethical procedures (Davies, Tan, Miller & Israel, 2022) I can expect to make similar considerations. Cahart et al. (2022) conducted their work in the UK but not in the school environment. It will be crucial for me to detail ethical considerations, especially as the research will take place with students in school. In some existing studies there is no outline of the ethical process and any considerations made, they simply list where approval came from (Cahart et al., 2022).

Perkins et al. (2016) gathered only qualitative data, although this has been shown throughout the literature review that this is a useful form of data in educational research. There can be challenges to analysing qualitative data when so much has been collected (Flick, 2019). Perkins (2016) completed their data analysis using the analysis software NVivo, a software that supports qualitative researchers to collect, analyse and organise their data, as well as reporting findings (Dhakal, 2022). The use of Interpretative Phenomenological Analysis (IPA) is also used to understand what meaning a certain experience can have for a participant (Smith, Flowers, Larking, 2009) (Perkins, 2016), in this case it proves particularly useful in understanding how participants made sense of this in relation to the drumming intervention (Perkins, 2016). Whilst the use of both NVivo and IPA is interesting and relevant to the work conducted by Smith et al. (2009) and Perkins (2016), I would be hesitant to use this personally as it would take a

considerable amount of time to learn to operate the software and its advantages seem more beneficial when analysing data collaboratively (Wilk et al., 2019).

## **2.4 Measuring concentration, self-confidence and wellbeing.**

This section will assess some of the ways in which the previous research has analysed data and explore further ways of measuring participants' levels of concentration, self-confidence and mental wellbeing. A number of issues are presented with gathering data on these topics such as the use of observation or participants self-reporting and how these have been used in existing literature.

The Skills and Difficulties Questionnaire (SDQ) is a widely used existing questionnaire that contains 25 questions and may be used in behavioural screening. It is most commonly used by psychologists, clinicians and educationalists (sdqinfo.org, 2022). One of the advantages in using the SDQ is that there are versions for teachers and parents to complete about a child. Initial research with the SDQ showed a strong correlation between results from teachers, parents and students (Goodman, 1997). There is also now wide ranging international data that enables comparisons to be made from any study using the SDQ. It has further been scrutinised and the validity tested over a number of years (Goodman, Meltzer & Bailey, 1998). There are limitations to using the SDQ as the sole data collection method and this has been identified in previous research, it seems to be best when supported by observation (Ohl, Fox & Mitchell, 2013) (Goodman, Brown & Mahtani, 2000). Whilst this is clearly a useful tool, I believe it could be too broad for the data I would like to collect which should be specific to the school intervention.

Another existing tool that is worth exploring is the Warwick-Edinburgh Mental Wellbeing scale (WEMWBS), used in previous research into the benefits of drumming by Martin and Wood (2017). This uses 14 positive questions and asks participants to give a rating from 1 to 5, the

higher the score the better the mental wellbeing of the participant (Tenant, Hiller, Fishwick, Platt, Joseph, Weich et al., 2007). Martin and Wood (2017) are clear to detail the high validity that the WEMWBS has been shown to have in previous research. They even cite a study conducted two years before their project (Hunter, Houghton & Wood, 2015) that demonstrates the validity further, also showing how their work is supported by existing research.

The use of both of these existing tools means that it is simple to demonstrate the validity of the data collection method. The data could further be used to compare with previous studies, perhaps internationally, or easily built on in future as the questionnaires are standardised. However, they are not specifically tailored to the research questions and may not be the best fit for exploring particular issues. Slattery (2018) devised questionnaires that were suited specifically to their project. They were able to include some open questions to allow the participants to write extended answers, collecting qualitative data (Slattery, 2018). This is perhaps possible for working with smaller sample sizes but could be difficult to analyse a large amount of data for. Clearly there are also limitations to using the data on a wider scale and proving the validity of the questionnaire when it is self made.

Cahart et al. (2022) is an excellent example of combining a range of data collection methods and using these throughout the research to improve their work, for example creating a questionnaire to control for previous musical experience (Cahart et al., 2022). The depth of their data collection goes considerably further than would be possible for me to carry out in a school, as they were able to use MRI scans and a number of existing questionnaires such as the Edinburgh Handedness Inventory Short Form (Cahart et al., 2022). Much of the existing literature uses a variety of questionnaires that ask for participants to self report, such as the SDQ. In this case the SDQ has been shown to be reliable (Goodman, Meltzer & Bailey, 1998) over a number of years and in a wide range of situations. Others have developed their own questionnaires, such as Slattery (2018), making this more specific to their research, although it

is important to consider how accurate the data from these one off self-reporting questionnaires is.

Although observation is a particularly useful form of data collection and could certainly be used in a drumming intervention, there are limitations on what can be seen. There are signs to show how confident a participant seems such as playing loudly or looking relaxed, it may not be as easy to observe mental wellbeing. Cahart et al. (2022) did not conduct any observation of drumming sessions, there was a pre and post assessment of drumming with specific criteria, otherwise they only used questionnaires and MRI scans. This is not too common in existing research into drumming as most studies have used observation in some form. Slattery (2018) was based on observing an existing project and found enough supporting data. Venkit and Godse (2013) relied on observation whilst completing their work and Ohi, Fox and Mitchell (2013) gave suggestions for future studies to combine questionnaires with observation. However, if mental wellbeing cannot easily be observed, perhaps looking for other behaviours such as enjoyment of the task and satisfaction in completing or achieving what participants are asked to do would indicate that a positive effect on mental wellbeing is taking place (Madsø, Molde, Hynninen & Nordhus, 2022). If students are in a school situation where they feel successful and happy, this is likely to have a positive impact on their mental wellbeing (Arslan, Allen & Ryan, 2020). I have observed in curriculum lessons that some students lose confidence in music due to feeling unsuccessful. This forms part of an 'elite code' often associated with music that can turn students away from the subject (Lamont & Maton, 2008). Therefore in order to make observations about the impact on mental wellbeing in the classroom, it seems possible to look for behaviour and actions that relate to satisfaction from the task and learning experience.

Following the review of related existing literature, three research questions have been formulated which this project aims to further investigate and answer in the remaining sections of this dissertation:

1. To what extent does group drumming affect the self-confidence of students?
2. Does group drumming positively impact students' concentration in their music sessions and beyond?
3. To what extent can a positive impact on mental wellbeing be shown following regular weekly drumming sessions?

### **3. Methodology**

The methodology for this research involved initiating a drumming intervention targeting students in a mainstream state secondary school in the UK who at the time did not have instrumental lessons or participate in extracurricular music. The intervention lasted for 12 sessions, each taking around 30 minutes, with data being collected at different stages using a mixed methods design. This first section will outline the ethical considerations and the process of refining the design in relation to these. Further sections will discuss the research design, including specific data collection methods, and the final methodology section will give an overview of the collaboration involved in planning and delivering this research.

#### **3.1 Ethical Considerations**

As the research took place in a mainstream secondary school in England there are a number of issues relating to ethics that were presented. The British Educational Research Association outlines 'Ethical Guidelines for Ethical Research' (BERA, 2018) which was strictly adhered to in this project. This provides a clear ethical procedure that should be followed for

research in British schools. However, it is important to ensure that the reasons behind these ethical considerations are understood and themes relevant to this project are discussed in this section.

Fundamentally, the research involved young people who were not able to give consent. All participants were in years 7 or 8 (ages 11-13) during the intervention and therefore getting parental consent was crucial before any data could be collected. In order for parents to sign a consent form it was necessary to ensure that they were informed about all of the methods of data collection, what was to be involved in the research for participants and how this data will be managed. This is crucial for parents and participants to be able to make an informed decision about participation. In relation to this, as the study took place in a school where the researcher is employed as a music teacher, it can be described as practitioner research. With this situation there is the added element that the participants will know the researcher, this could have had an influence on their participation and could possibly influence the data.

The Central Research and Ethics Committee (CUREC) of the University of Oxford formed a key part in ethical decision making when designing the methodology. Having begun with an initial idea that this study would aim to focus on vulnerable learners, in terms of students who had a SEND diagnosis or who were struggling in mainstream school, I adapted my participation criteria based on engagement with the CUREC process. Issues around targeting specific students were raised and as a teacher designing the research this situation requires careful reflection. Despite having good intentions and starting my planning with the aim of supporting those who I felt needed this research the most, it soon became apparent that this possibly involved making assumptions about those students I had in mind. The word 'vulnerable' in my initial application meant that a longer ethical process and review would be required to ensure that all ethical criteria were met. As this would have seriously impacted the timing of my study, I made the decision in conjunction with CUREC and my supervisor to

broaden the research focus. A similar issue was discussed in the literature review with Faulkner et al. (2012) asking teachers to suggest students who would be suitable. In a similar way Cahart et al. (2022) had very clear participation criteria that students should have an autism diagnosis, a study of this nature requires considerable planning and reasoning behind the ethical decisions being made. During the CUREC process the design of my project evolved, meaning that the only participation criteria were that students had never had an instrumental lesson and are currently not participating in extracurricular music. This reworking of the methodology allowed the research to broaden its reach and included a range of students. Whilst there is an argument that research for specific groups of learners should be conducted, I believe in this case the ethical considerations have made this research more relevant to my setting.

A final consideration is the sensitivity surrounding research into mental wellbeing and self-confidence. Some ethical considerations were raised whilst completing the CUREC process around the questions that would be asked during focus groups and on the questionnaire, particularly in the area of mental wellbeing. Whilst the questionnaire does ask participants to reflect on how they have been feeling, it does not go into the realm of mental health or ask any challenging questions. This was an important part of the question writing process for both the questionnaire and focus group components. It is important to consider that some young people may feel under confident or have poor mental wellbeing and being asked about this could cause them to reflect on this in some way (O'Reilly, 2017), possibly causing distress. Being sensitive to this during the research design process has supported the ethical standard of this project.

### **3.2 Research Design**

Following confirmation of ethical approval (Appendix 4) from the university, a letter was delivered to the head teacher asking for consent that the project can take place in school. Participants for the drumming group were recruited by self selection, avoiding any potential

teacher bias (Faulkner et al., 2012). During regular music lessons all students were told that they could receive a group drumming lesson every week for 12 weeks and the selection criteria were also made clear. Students volunteered if they were interested, they were then asked about their current engagement with music. If they were not participating in extracurricular music and not taking instrumental lessons then they were offered a place. The duration of the study was fixed by time constraints but relates well to previous studies as it is longer than Cahart et al. (2022) and Venkit and Godse's (2013) research. More time would have been an improvement on this design, as in the case of Maschi, Macmillan and Viola (2013).

The initial design set out to recruit 20 students for drumming and 20 in the control group. The control group students were recruited in the same way but during extracurricular activities, such as orchestra, choir and jazz band in order to ensure they were already participating in music. Once recruited, participants were given a multi-paged information sheet for themselves and a similar one for their guardians. On return of a signed consent form, participants were officially entered into the study and some personal information, such as names and year groups, was recorded onto a secure database. This information was held in line with CUREC approval, was password protected on a secure device and will be deleted on completion of the project. This allowed for data to be collected and matched to a participant, student names were then made anonymous and each participant given a number. This follows the ethical guidelines set out in the previous section and advice from CUREC (BERA, 2018). The drumming group was divided into two smaller groups to allow for enough instruments, as only 15 drums could be sourced, and easier management of the intervention (Collins, 2016).

Once the groups were established the control group were told that they would only have to complete two questionnaires, 12 weeks apart. Although the questionnaire was exactly the same both times, they were not told this as it could have influenced their answers. The drumming group then started working on a programme of 12 lessons. This started from the

absolute beginning, teaching technique and how to make a good sound. Drumming sessions were planned loosely around material written by Andy Gleadhill (Gleadhill, 2011) (Gleadhill, 2013), although much of this was adapted in the session planning stage. This involved warm-ups, call and response patterns and a series of pieces using two or three different drumming parts. Students were given the opportunity to improvise short passages and remember pieces and warm-ups between each session. The progression of the drumming intervention followed the GDM (Tuckman, 1965) (Tuckman & Jensen, 1977). This allowed for clear expectations to be set out at the start and a cohesive teamwork to be formed with the goal of developing drumming skills.

### **3.3 Quantitative Data Collection**

Data collection started in the first drumming session with all students completing a questionnaire (appendix 3). This was designed specifically for this research and was loosely based on two existing questionnaires, the Skills and Difficulties Questionnaire (SDQ) and the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) (Tenant et al., 2007) (Martin & Wood, 2017) (Goodman, 1997). The scoring system is similar to the SDQ, although there are fewer questions and these have all been altered with the addition of five questions aimed at answering research question 3 on mental wellbeing. Questions that appeared in the WEMWBS were written in the present perfect continuous tense and I felt the way these questions were worded matched closely with the type of questioning required in this part of the research. I therefore used this for most of the questions when writing the questionnaire as it indicates to the participants that they should think about a timeframe up to completing the questionnaire, not just at the moment of completing it (appendix 3). As the study could only run for 12 weeks, I wanted to understand how the students had been feeling in the weeks prior to starting the drumming intervention and then compare this with the final weeks of the intervention. Through designing

the questionnaire with 15 questions it was possible to address each of the research questions directly, meaning there were 5 answers to provide data for each research question. The questions were put into a random order and a calculator was made on google sheets to produce scores from student answers. The same questionnaire was completed at the end of the intervention by both the control and drumming groups in order for results to be compared. Use of a questionnaire in future research was endorsed by Cahart et al. (2022) following their study.

During weeks 1, 6 and 11 teaching colleagues were invited to observe the intervention and act as research assistants. Their job was to complete an observation form that aimed to collect both quantitative and qualitative data relating to the students' behaviour in the intervention (appendix 1). Observers were asked to give a rating from 1 to 5 for how they perceived students to be concentrating, how confident they appeared and whether they seemed satisfied with the work they were doing. Observation of mental wellbeing was discussed in the final section of the literature review and therefore a link between students being satisfied with their work and progress and mental wellbeing had to be drawn for this observation to take place (Madsø et al., 2022) (Arslan, Allen & Ryan, 2020). The data collected from these answers could then be compared between the three different data collection points, looking for a longitudinal change that could provide some answers to all three of the research questions.

### **3.4 Qualitative Data Collection**

Qualitative data was collected in two ways: colleague observation in weeks 1, 6 and 11; and focus group interviews with the drumming group participants on completion of the intervention. It was not possible to include focus group interviews with the control group, although there are questions that could have been asked, such as whether they think their participation in extracurricular music supports them in school.

Colleagues were given a form that asked them to make observations about the way students worked during the intervention. This enabled a fair amount of comments to be collected from two members of teaching staff whilst the session was being delivered. Previous studies employed similar collection methods successfully, such as Wood et al. (2013). The qualitative data will be analysed and used to answer all three research questions. It could further be used to check for any changes that have been picked up by quantitative data. The comments collected could be used to construct a more detailed answer to research questions to possibly explain why there may be changes identified. As two members of staff completed these observation forms, it is possible to compare the data and look for similarities and differences. If similar observations were recorded then the data can be assumed to be representative of what happened in the intervention session. In addition, I completed the form myself as the researcher following the observed drumming sessions to also record any observations made during the session delivery.

Following the intervention, immediately after the final drumming session, students were invited to stay for a focus group interview. This was conducted in groups of ten participants and asked only five questions. The aim was to open up a dialogue and gather the students' perspective on the intervention. This data could further be compared with other qualitative data collected by colleagues and used to address any differences or similarities noticed between observations and student feedback. Using focus groups to collect data was a key feature of several previous studies and provided useful data in those cases (Faulkner et al., 2012) (Wood et al., 2013) (Slattery, 2018).

### **3.5 Answering the Research Questions**

In order to specifically answer the research questions, this section will detail how data will be collected for each:

### **3.5.1 Research Question 1**

“To what extent does group drumming affect the self-confidence of students?”. Data relating to this question will be gathered initially from the student questionnaire. Students will rate themselves based on the following five statements:

- I've been nervous in new situations.
- I've been feeling confident in front of others.
- I am good at trying new things.
- I've been worrying a lot.
- I have many fears.

This will provide a score for the drumming and control group. Additionally, observations will be made during drumming sessions to record signs relating to self confidence. The colleagues observing will rate the students from 1 (under-confident) to 5 (over-confident), defined as a student trusting in their own abilities. They are then asked to record any observations related to self-confidence, such as body language or participation in the task. Finally participants in the drumming group will be interviewed and asked “has drumming made you feel more confident and how?”. A combination of qualitative and quantitative data should provide a range of views to allow a discussion of the research question.

### **3.5.2 Research Question 2**

“Does group drumming positively impact students' concentration in their music sessions and beyond?” is answered using a similar data collection method. All student participants were asked to rate themselves against 5 statements on the questionnaire:

- I've been restless.
- I think before I do things.
- I finish the work I am doing.
- I've been easily distracted.
- I am constantly fidgeting.

These answers could then be compared between the control and drumming groups and before and after the intervention took place. Additionally, observers were asked to rate the students

from 1 (no concentration) to 5 (excellent concentration) during the three observations that took place in weeks 1, 6 and 11. They were then asked to write down any observations about the concentration of the group they observed, e.g. focus on the task, not getting distracted or fidgeting. Finally to answer research question three, and in particular the final part of the question about concentration outside of the drumming sessions, the focus groups were asked the following two questions: “How much do you have to concentrate during drumming? Does it help you to concentrate?”. The intention is that a discussion about concentration more generally may develop during this interview and it could be assessed later as to whether participants feel that drumming has supported them outside of the music classroom.

### **3.5.3 Research Question 3**

“To what extent can a positive impact on mental wellbeing be shown following regular weekly drumming sessions?”. Perhaps the most reliable source of data used to answer this question will come from the students themselves, the following five statements are the remaining five from the questionnaire (a total of 15 questions) and asks students to reflect on and rate their perception of their mental wellbeing:

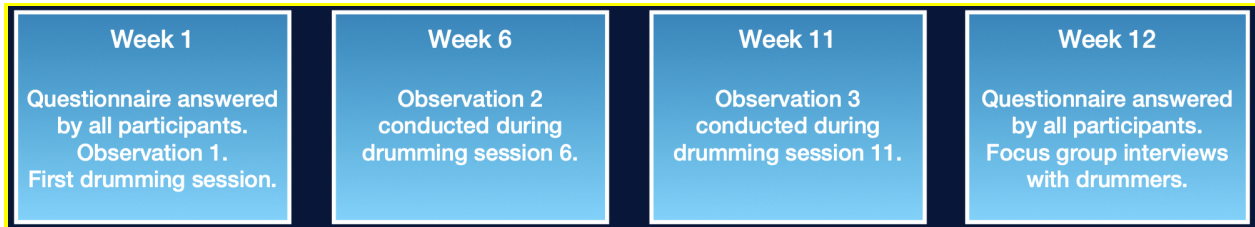
- I've been dealing with problems badly.
- I've not been feeling relaxed.
- I've been feeling cheerful.
- I've been feeling good about myself.
- I've been feeling useful.

Whilst observation may be more suited to the other two research questions, in order to answer research question three the observers were asked to look for signs of satisfaction or enjoyment of the task. The observers rated their perception of the group's satisfaction, defined as the ability to complete the task with ease and enjoyment. This links with existing research that was discussed in the literature review to indicate a connection between students being satisfied with and enjoying the task with an impact on mental wellbeing (Madsø et al., 2022) (Arslan, Allen &

Ryan, 2020). In terms of this intervention, this is the best fit for collecting observation data about mental wellbeing. In addition to this, a focus group question will ask drumming participants to personally give some feedback about their enjoyment of the intervention, with the opportunity to expand on their answers; “Do you enjoy the drumming sessions? Why?”.

### 3.6 Outline of Intervention and Data Collection

The intervention started with the expectation that the participants knew nothing about drumming. Therefore session one involved basic skills such as holding the drum correctly and how to produce different sounds, as well as playing in time and other ensemble skills needed over the following weeks. The following graphic outlines the data collection methods and when these were completed:



The drumming skills built up progressively until the group could play a number of pieces from memory with transitioning sections using call and response. The pieces were taught using a variety of learning styles closely related to the VARK model, incorporating visual, auditory, reading and kinaesthetic ways of understanding the music that was being played (Fleming, 2001). All of the pieces used were from ‘Andy Gleadhill’s African Drumming Book 1’ (Gleadhill, 2011) with some of the teaching methods adapted and some material adapted for this study. This provided a progressive framework based on experience and success in teaching drumming in previous settings.

### **3.7 Collaboration**

With time constraints and completing the research alongside teaching full time, it is essential that this project involved collaboration in a number of ways. This section will outline some of the forms that collaboration has taken during this study. Firstly within the school setting, engaging colleagues was necessary to ensure the project could run smoothly. Working with other members of the music department to ensure that the project would fit within our timetable and that there would be a suitable room to use every week. Colleagues were essential to collect data during observations throughout the study, a total of four fellow teachers volunteered to do this, with two of those repeating an observation. One form of collaboration that had not been considered prior to starting the study was the support staff in school who assisted with organising the students, especially the staff in the office who sent out reminder slips for students every week. This reduced the workload for me whilst implementing the project in school and meant I could focus on collecting data and delivering the intervention.

Once it was established that the project would use drums, experts who had delivered similar sessions were consulted. A previous colleague who teaches percussion offered advice in delivering the sessions and Andy Gleadhill, who has written a number of resources for schools, provided insightful guidance (Gleadhill, 2011 & 2013). I had initially worked with my line manager to look at sourcing enough drums for the project, although in September 2022 it became apparent that our department budget would not be able to cover the cost. This was used as an opportunity to extend the collaborative reach of this project. Having explained my research to the director of Drums for Schools I was offered the loan of 15 djembes (West African Drums) free of charge for the duration of the project. This external input came with additional support for the research as the company was very interested in research sharing following the project and they were able to offer expert advice on potentially supporting students with SEND who participated in the project.

Whilst delivering the 12 sessions to the participants, I engaged the support of a year 9 student who takes drumming lessons and plays at a high level. As this student was on a reduced timetable due to being part of an alternative provision in school, they were able to help me model techniques and this was especially useful demonstrating two-part drumming. This remained separate to any data gathering and was purely part of delivering the sessions. Through this collaboration colleagues began taking an interest in how the project was developing and many expressed an interest in learning about the findings when they became available. This in turn led to some colleagues sending me links to existing research that I was able to utilise as part of this literature review. A meeting was scheduled to share findings with the school's parent teacher association following the initial analysis of the data. The results of this collaboration within the wider school community will be discussed in the final sections of this dissertation.

## **4. Findings and Discussions**

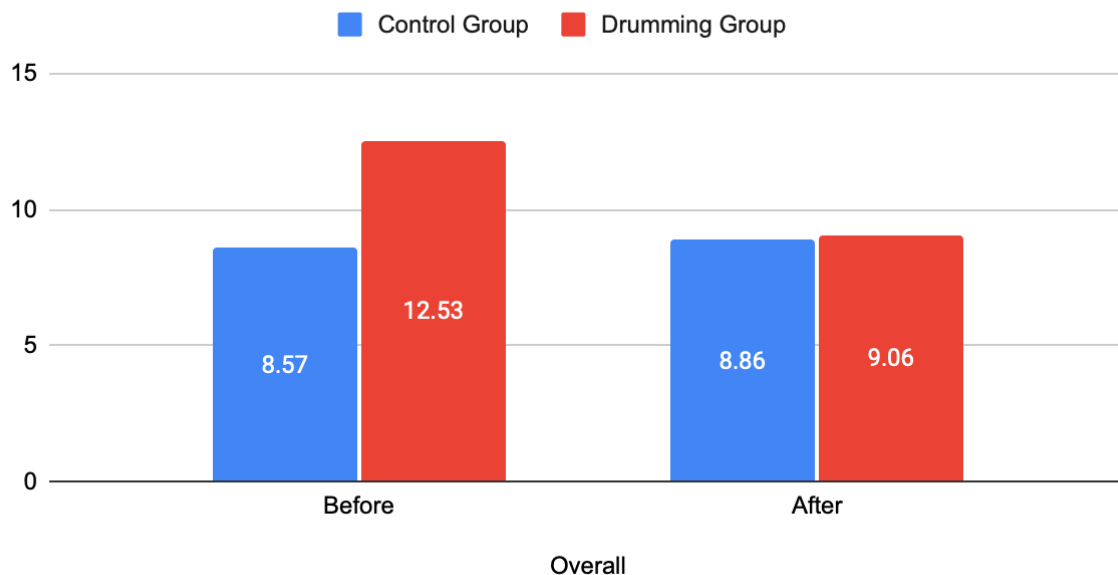
Following the intervention and data collection the data were analysed and will now be presented and discussed. This section aims to summarise the key findings and will draw on evidence in the data to provide answers to the three research questions.

### **4.1 Analysis of pre-intervention questionnaire results**

The questionnaire presented 15 statements that participants rated themselves against, self-reporting their feelings towards each statement. A calculator built on google sheets then turned these answers into a numerical score. Based on the size of the participant sample this seemed to be the best method (Tipton, Hallberg, Hedges & Chan, 2017). The highest number is 30 and represents the worst score, with the best score being 0. Each of the following themes

had 5 questions and could also be individually scored; mental wellbeing, concentration and self-confidence. For each of these the worst score is 10 and the best 0. In total 33 participants completed the pre-intervention questionnaire. The numerical score generated from the questionnaire calculator provides an insight into the participants' self reported feelings towards each statement. It is clear to see from the following graph that students who regularly participate in music scored considerably better on the pre-intervention (before) questionnaire:

A graph to show results of the student questionnaire - a mean average of all overall scores.



The mean average score of 8.57 for the control group was 3.96 lower than the drumming group. This shows that the participants who already participated in regular music were more likely to self report better mental wellbeing, concentration and self-confidence. This supports earlier research that indicated this was likely to be the case as participation in music has been shown to improve all three of these (Slattery, 2018) (Faulkner et al., 2012) (Maschi, MacMillan & Viola, 2013) (Popa, 2018).

The data further show that when the 15 questions are divided into their specific areas that the drumming group self-reported a worse score for each individually, using a mean

average from all participants. The drumming group reported slightly worse mental wellbeing and self-confidence than the control group, although most significant was the difference in concentration. A difference of 2.36 for concentration was recorded between the two groups with the drumming group scoring a high mean average of 5, this shows that before the intervention many participants in the drumming group believed they had much weaker concentration than those doing regular music already in the control group.

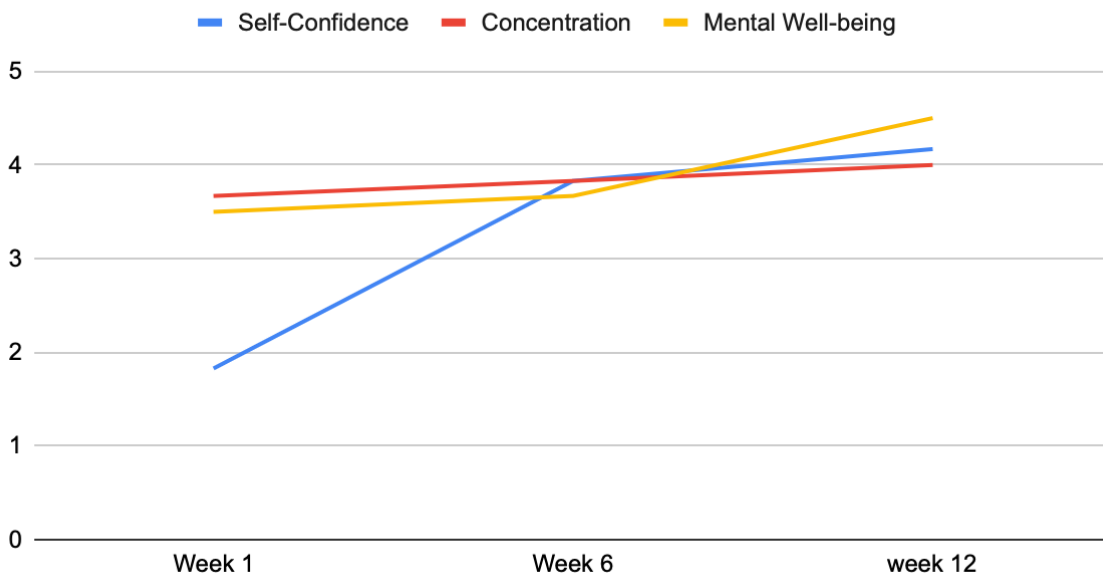
Making comparisons with the whole group average is important for the starting point of this study, however it is necessary to highlight that some students in the drumming group (especially students 2 and 10) scored lower than many in the control group (appendix 4). For student 10 in this case, as their score is particularly low on the questionnaire it would be difficult to view improvement over the course of the intervention. Despite these two lower scores, it should be noted that the highest score from the control group was 16, whereas in the drumming group this reached as high as 26 out of 30 for student 12. The initial data from the pre-intervention questionnaire can be used to show that on average the drumming group scored higher in all three areas, showing that they rated themselves worse than the control group before the intervention started (appendix 4).

## **4.2 Analysis of teacher observation**

During the course of the study collaboration was established with other members of teaching staff in school. A total of four staff members volunteered to act as research assistants and collected observation data. These observation forms were completed in sessions 1, 6 and 11 with two observers in each session. I also completed the form afterwards to record my own observations from delivering each session. Each form contained three Likert scale questions (Imam & Dyana, 2022) that aimed to answer each research question. The results for these observations are based on a number out of 5, the number for each observation was generated

through a mean average of the three observers' selection on the form. From looking at this data there is an immediate trend that shows an increase in all areas of the study. Observers noted that students improved throughout the intervention. The following graph represents scores given by observers and shows this increase:

A graph showing mean average for teacher observations during the course of the intervention.



Concentration was rated as 3.67 out of 5 in session 1. This could have been higher than the other two areas as students were exposed to a new skill, requiring them to concentrate. For satisfaction the observers recorded a score of 3.5, perhaps as some of the skills needed in the session were not too challenging but students appeared to enjoy themselves overall. The lowest score was for self-confidence, rated as 1.85.

By the second observation in week 6 the scores on each of these scales had shown signs of improvement. Self-confidence was reported to have improved the most, increasing to

3.83, this was the same as the new score for concentration, also showing that the observers recorded an improvement here. Satisfaction increased slightly to 3.67. All of these data show that, collectively, the drumming group were displaying noticeable behaviour changes by the halfway point of the project.

This trend continued towards week 11 of the intervention where the final observation took place (appendix 4). All of the three areas of observation had scored a 4 or higher out of a possible 5 points. Concentration was reported to have increased the least over the course of the intervention, increasing from 3.67 to 4. Satisfaction showed a strong increase from 3.5 to 4.5, indicating that it appeared that students were enjoying the drumming tasks quite a lot by the end of the intervention. The largest increase through observation was for self-confidence, increasing from 1.83 in week 1 to 4.17 in week 11. These figures show an initial positive trend that does suggest the intervention had a positive impact, based on observations. It would be unreliable to draw conclusions purely from this and the data certainly do not fully answer the research questions. It will be interesting to compare these results with the quantitative data collected from the pre- and post-intervention student questionnaires. This will also be compared with the qualitative data, presented in the next section, to see if there is any correlation also supporting this gradual improvement throughout the intervention.

#### **4.2.1 Qualitative observations**

Alongside the Likert scale questions the observers were also asked to complete an open section of the observation form with behaviour that they observed, similar to methods used by Slattery (2018). The following paragraphs will present and further examine some of this data.

Confidence was rated the lowest to begin with on the likert scale and the qualitative data indicates why the observers felt that this was the case in session 1. The students were asked to try a simple improvisation task to get used to the playing techniques of the drums and it was

noticed that most of the students were happy to try this, although two or three refused. Despite wanting to try, many did not have success immediately and this could have affected their confidence. It was clear that when playing as a group students displayed more confidence than when asked to do something individually. This can be seen in the Group Development Model, suggesting that the group had found confidence and trust in each others' abilities in the 'performing' stage of the model (Tuckman, 1965), although perhaps full confidence had not been established by this point. One factor that could have impacted the observers' low confidence rating was the fact that almost no talking was observed in the group, some students whispered to each other but did not call out or ask any questions. This could be due to the fact that in a new situation they showed a lower level of confidence or perhaps the lack of talking was due to students following instructions and trying to understand the new skills being presented. From observation it is not necessarily possible to view what students are thinking and therefore this will need further comparison with data from focus group interviews to look for correlation.

By week 6 observers reported seeing an improvement in the group's confidence "full participation" and "instantly taking lead" were some of the comments recorded. Most students had increased the volume they were playing the drums by this point in the intervention, perhaps indicating that they were less afraid of making mistakes. Unlike in week 1, when asked to try rhythms on their own students chose not to opt out, during this observation all students tried a short solo task in front of the group. One observer noted some nervous body language during this part of the drumming session and this could be an explanation for how the session 6 behaviour was scored on the Likert scale. As mentioned in the previous section the observers recorded an average confidence of 3.83 out of 5 in week 6, increasing to 4.17 by week 11. This is supported by the qualitative data that shows by week 11 the students were eager to start playing drums during setting up and wanted to get started. During this session a more difficult

piece was introduced and students reacted well, all were clearly trying to play confidently and seemed to be trusting in the skills they had built up during the course of the intervention. Many students were leading rhythms for other students to copy back in the warm-up section by this stage of the intervention. Some behaviour such as playing drums when the teacher was talking had been observed and this could indicate a feeling of confidence or at least familiarity with the drumming sessions and the way they were delivered.

A relatively high level of concentration was observed in the first session. Observers reported that concentration increased as the session went on and students showed few signs of distraction, were listening to instructions and were able to complete a call and response task. Students appeared more focused when actually drumming, rather than just listening to instructions. By week 6 a slight improvement was observed in terms of concentration; an “excellent focus on task” was recorded with students’ focus on the teacher’s drum and making eye contact. These were not seen from all students in the first week. At this stage there were still students who found concentrating on the task difficult, particularly if they were on one part for a longer amount of time or if the teacher was talking. Students seemed more responsive to copying drumming and playing than listening to explanations of what they should be doing. By week 11 the concentration at the beginning of the session seemed to have decreased, with students not seeming focused on getting prepared for the session but playing their own musical ideas on the drums. Whilst this is not showing concentration, observers indicate that students were clearly enjoying themselves and wanted to be drumming. With the introduction of a new piece the behaviour immediately showed a higher level of concentration. Less fidgeting was reported and students focused on the music and teacher. Students showed an “immediate recognition and response to teacher whistle signals” (appendix 1), with the number of patterns that students had learned this could indicate that they were concentrating and listening for the next musical instruction.

Students generally seem to have started the first session displaying relatively neutral behaviour, although as the session progressed “lots of smiles” and students being very chatty afterwards in an excited way would suggest that it was a positive experience for most participants. Students seemed excited when given the drums as this was a new experience for all of them. During the first session, as mentioned in the confidence section, there was some nervous behaviour and for many this could have impacted their experience of the session, perhaps this explains why the student behaviour changed throughout and many seemed more relaxed and happy towards the end of the session. This developed by week 6 and students were seen to be making eye contact with each other and smiling during the drumming from the start. One observer noted that some students did not appear to necessarily be enjoying the drumming but had more neutral expressions or seemed a bit bored “looking disinterested”. This reflects some of the limitations of this form of observation as different observers have recorded slightly different things. Ultimately I was trying to understand the way the students are impacted by this intervention so the questionnaire and focus group data may provide more clarity. In week 6, in line with the ‘storming’ stage of the Group Development Model, some tension was observed when one student displayed frustration at others not playing quite in time (Tuckman, 1965). “Obvious enjoyment throughout” is recorded as an observation for week 11, indicating that the students display behaviour showing that they are enthusiastic about what they are doing and have learned to enjoy the tasks. A number of positive behaviours were observed during this session that would suggest students were happy; such as “dancing and laughing with each other” or “thanking the teacher at the end”. This demonstrates a strong group cohesion, as predicted by the GDM’s ‘performing’ stage, where the group’s trust in others’ abilities leads to an overall improved group performance (Tuckman, 1965). An extension to this was observed when students displayed sadness in the final session that the intervention was

coming to an end and some asking for the intervention to continue, in line with the 'adjourning' stage of the GDM (Tuckman & Jensen, 1977).

The qualitative data collected by observers supports the quantitative data on their form. It is clear to see from their observations why they gave average scores reflecting the behaviour they had seen. There is a clear progression seen throughout the intervention from observation data, with slight dips in concentration at the start of the final observation. Overall all three areas of the research were improved according to the perceptions of teaching staff who observed the groups. In order to further corroborate this trend, the next section will review the post-intervention questionnaire results from participants. It would be expected, from observation data, that an improvement in students' self-reporting should be seen.

### **4.3 Analysis of post-intervention questionnaire results**

The post-intervention questionnaire was conducted by all participants and separated into the drumming and control groups. The two groups will be compared with each other at the post-intervention stage and also with the data collected at the pre-intervention stage to understand any changes that may have taken place throughout the twelve weeks of the intervention.

The overall score on the questionnaire as a mean average from participants in both the control and drumming groups shows almost no difference in scores following the intervention. Whilst the control group had a slightly lower, and therefore better, score of 8.86 the drumming group only rated themselves on average slightly behind this with a score of 9.06. If this is further compared with the pre-intervention results then a slight difference can be seen in the control group, a changing increase of 0.29 suggesting that the control group has scored almost exactly the same as before the intervention took place. This was perhaps to be expected as they had not participated in any more or less music than they would have otherwise done. The drumming

group shows a dramatic improvement in their overall score throughout the intervention. From a starting point of 12.53 they reported a significantly better score of 9.06 by the end of the intervention, a changed average improvement of 3.47. This indicates that drumming could be a factor in reducing this score and improving the concentration, self-confidence and mental wellbeing of participants. If this were not the case then I would expect to see either more of a change in the control group or no change in the drumming group.

Each section of the questionnaire can be further broken down and explored to see whether there is variation between the different areas that it explores. To support the overall average scores, I would expect to see little to no change in the control group scores but an improved score in the questionnaire data from the drumming group.

For self-confidence the control group scored 3.5 out of 10 in the post-intervention round and this represents a slight change from 3.29 before the intervention. If this is compared with the drumming group then a much larger positive change can be seen, from 4.11 to 3.06. Not only does this indicate a marked improvement in self-confidence for participants who were involved in drumming, as self-reported by the participants, it shows that the drumming group overtook the control group. There is certainly correlation here with the scores reported by observers, who also perceived an increase in self-confidence from watching participants. In combination, these findings strongly support each other and build the case for providing evidence for drumming having a positive effect on self-confidence.

A similar pattern can be seen in the results from the questions that focused on mental wellbeing. Again, the control group changes very little throughout the duration of the intervention, from 2.64 before to 2.57 after. This is not significant when compared with the difference seen in the drumming group, which was 3.43 to 2.11. The lower number following the intervention here indicates an improvement for these students. Using the data available at this point, combining observation and student questionnaires, it is possible to see that the drumming

has most likely had a positive influence on the mental wellbeing of the participants. As with self-confidence, the participants in the drumming group also overtook the control group with a better score for mental wellbeing following the intervention. This is significant and raises further questions about the effects of group music, especially drumming, that are often more inclusive than the school orchestra for example (Kertz-Welzel, 2022).

Whilst an improvement was observed in the score for concentration, this was the only section where the drumming group still scored worse than the control group. It is worth noting that the intention was not to overtake the control group, only to see whether an improvement could be detected. What can be seen in the control group is another similar result that shows almost no change from 2.64 to 2.79, whereas the drumming group showed improvement by decreasing their score from 5 to 3.9. This score remains the highest by the end of the intervention, although it was by far the highest to start with. Interestingly the control group remained almost exactly the same for all sections of the questionnaire, suggesting that it has good reliability. It is not possible to demonstrate this with only 33 participants and one short study but for a questionnaire devised for this research it appears to have provided some useful data that will support answering the research questions. This data can be used in conjunction with the qualitative data presented in the next section to understand the students' perspectives on whether the intervention had a positive impact on them or not.

#### **4.4 Analysis of focus group qualitative data**

Following session 12 of the intervention, after students had completed the questionnaire for the second time, the drumming group was asked to take part in a focus group interview that involved just five questions. This section will review some of the data collected during this stage of the research and compare it with all previous data presented above.

When the focus group was asked “how have you found the drumming sessions over the last 12 weeks?”, there were a number of positive responses that should be noted. The first answer indicated that student 6 had found the sessions ‘fun’ and this was supported by all other participants agreeing with them. This would suggest that the sessions could have positively impacted the mental wellbeing of the students in terms of their enjoyment of school-based activities. Students 17 and 15 built on this by saying that it was interesting and something they had not tried before. It must be considered here that with curriculum barriers to music as mentioned in the introduction and literature review (Wright, 2002) (Hargreaves, 1982) (Paterson, 2020), these students who previously had low participation in music indicated that this was a musical activity that was engaging for them. Students 3, 13 and 19 all mentioned that either their focus or concentration had been positively affected by the drumming work they had done, this will be further explored in the following paragraph with a specific question relating to concentration. Although, I feel that by mentioning this as an answer to the first question, students had noticed a personal impact specific to concentration that they feel relates directly to this intervention.

The second question in the focus group interview dealt directly with research question 1 and asked students “has drumming made you feel more confident? If yes, then how?”. Student 17 believed it had and specifically mentioned that they had to drum in front of others which may have contributed to why they felt like this. Students 16 and 7 agreed, with student 7 mentioning a drumming performance which had directly built their confidence. This can be compared with Martin and Wood’s (2017) research where in one setting a performance was missed but all others performed, despite a performance being a component of Wood’s (2017) project. Perhaps this opportunity to perform, something the participants had not experienced before, is also a key element in building confidence. Student 5 suggested that, whilst they felt their confidence had been boosted “quite a bit”, the intervention had not made them confident to try all other things.

As they had noticed an increase in confidence, they were further asked “we’ve only done 12 weeks. Do you think if we did it for longer that might help?” to which they answered “yeah”. This supports much of the discussion in the literature review and methodology (Venkit & Godse, 2013) (Cahart et al., 2022) (Maschi, MacMillan & Viola, 2013) where the duration of the intervention was found to affect the possible impact of the study. It would be interesting to follow this up if the student were to continue with drumming, although the nature of this research and development project unfortunately means that this is not possible due to time constraints. Both students 10 and 19 shared their feelings of being nervous before drumming in front of others, but both agreed that this had ultimately boosted their confidence. The opportunity to be successful at something musical and try performing as a group where there is support could be factors that led to this feeling (Tuckman, 1965).

The third question dealt with concentration and was aimed at collecting data to support an answer for research question 2 “How much do you have to concentrate during drumming? Does it help you to concentrate?”. Although some students had mentioned concentration in their answer to question one it was important to get some more specific answers from others in the focus group in order to answer the research question more thoroughly. Student 12 makes the suggestion that their concentration has improved, perhaps due to focussing on their part in the drumming ensemble whilst other parts are happening at the same time. As well as concentration, this is an important musical skill and could be transferred to wider skills needed for learning, such as listening to others and working as part of a team (Tuckman & Jensen, 1977). Student 3 found that other rhythms distracted them, by noticing this they would have to use more concentration to keep their part together. Students 15 and 16 found that they needed more concentration to begin with and then “got used to it”. This could be that they have improved their skills on the drums throughout the intervention or that they had just learned the parts needed. Students 9 and 18 expanded on many of these answers and explained that they

had noticed an impact on their concentration outside of drumming. Student 9 mentioned being able to concentrate on more than one thing at a time, which again is a useful musical skill but transferable to many aspects of life. Student 18 specifically mentioned struggling to concentrate in lessons, drumming seemed to be an outlet for them, however it is difficult to judge how helpful this could be for their work in other subjects. This demonstrates the final stage of Tuckman's Group Development Model, 'adjourning', showing a feeling of satisfaction that students had achieved throughout the intervention (Tuckman & Jensen, 1977).

The fourth question was "Do you enjoy the drumming sessions? Why?". Again, some answers are similar to those for question 1, 'fun' and 'exciting' for example. Student 16 suggested that they enjoyed the sessions as they got to miss part of other lessons. This shows that the participant has a reason to want to be missing other lessons, perhaps being overwhelmed, bored or confused. They clearly feel that the drumming session was preferable to being in a normal lesson and could be a reason for increased wellbeing, although this is difficult to fully understand with the data that was collected in this study. Student 14 made the point that with everyone playing together it "sounds really nice", the group work and feeling of creating something together are supportive of improved mental wellbeing and further evidence of the 'performing' stage of the Group Development Model in action (Tuckman, 1965).

The final question in the focus group interview asked "Would you recommend drumming to other students? Why?". The data here suggest that some students would recommend it to others as they feel it could have an effect on their confidence. Students 15, 3 and 5 all mentioned confidence or nervousness. Student 5 specifically mentioned a friend who is musical but not confident and felt that drumming in this way would support them in feeling more confident. Student 9 mentioned that many of their friends "sit around on their phone all day" and felt that drumming is a good way to engage with others, this connects well with research question 3 focussing on mental wellbeing. The range of answers clearly demonstrates that

many student participants would recommend the intervention to others and the reasons they have given support other data that have been collected. A positive engagement with the intervention has shown that students feel their concentration, mental wellbeing and confidence have been improved. This correlates well with the quantitative data collected from observers and participants as well as the observations made during weeks 1, 6 and 11 of the drumming sessions.

## **4.5 Answering the research questions**

### **4.5.1 Research Question 1**

This question set out to ask “to what extent does group drumming affect the self-confidence of students?” and, in order to answer this, data will be drawn together from all data sources presented above. According to the participant questionnaire, the control group showed very little change throughout the intervention, a slight decrease was reported. On the other hand, those who participated in drumming sessions self-reported a visible improvement in their confidence. This quantitative data is supported by student views collected in focus group interviews. Some students mentioned feeling more confident generally, whereas one said they would have benefitted from a longer intervention of more than 12 sessions. When this data is used in conjunction with that collected by observers, it becomes apparent that the drumming intervention most likely positively affected the students’ self-confidence. All data show a positive trend and slight increase throughout the study. Once this is established, it is important to understand the extent to which this has been achieved. This can be shown numerically from the self-reported participant questionnaire, where an improvement of 1.05 out of 10 was recorded over 12 weeks. In addition to this the observers recorded a huge increase of 2.34 out of 5 over

the course of the study. Significantly, self-confidence was the lowest score in the teachers' observations to start with and rated quite low by students themselves. These results represent a significant positive impact on students' self-confidence. Interestingly, the fact that many students mentioned confidence at the beginning of the focus group interview, before it had been directly asked, shows that many of the participants had recognised this themselves. This further supports findings from previous research (Slattery, 2018) (Faulkner et al., 2012) (Wood et al., 2013). If the extent of improvement can be demonstrated so significantly over a 12 week intervention, then it must be considered that with extended time and perhaps more performance opportunity self-confidence could be further improved. Mullen & Badger (2023) suggested that developing self-confidence in teaching music is a key component to successfully engaging disinterested students.

#### **4.5.2 Research Question 2**

This question asked "does group drumming positively impact students' concentration in their music sessions and beyond?". According to participant questionnaires, this was the lowest area scored by the drumming group and was significantly worse than the control group. A positive improvement was detected in the drumming group during the post-intervention questionnaire representing an increase of 1.1 out of 10. Although this is small, when compared with the control group, who remained fairly consistent between the pre- and post-intervention questionnaires, it does show that the drumming could have impacted positively on the students' concentration. The questionnaire dealt with concentration more generally so it is important to connect this with data gathered directly in the intervention session from observers. Of the three areas researched, concentration was rated by observers as having the smallest improvement of just 0.33 out of 5. Whilst this shows a positive impact, it is perhaps not large enough to say that it was directly impacted by the drumming sessions. In focus group interviews the theme of

having to concentrate a lot at the beginning but getting used to the new skills was mentioned. As students improved they may have not needed to concentrate as much and this is possibly reflected in the observation results. This could have been affected by introducing more difficult content each week to challenge concentration, but in turn could have negatively impacted confidence or wellbeing. According to the Group Development Model, this sense of being able to do the task is to be expected as students are more familiar with the work and the group (Tuckman, 1965). The improvement seen here supports findings by Faulkner et al. (2012) and Slattery (2018) although I would suggest that measuring concentration comes with some limitations and in these cases, as well as in my study, relies heavily on participant self-reporting.

### **4.5.3 Research Question 3**

The third research question relates to mental wellbeing and asked “to what extent can a positive impact on mental wellbeing be shown following regular weekly drumming sessions?”. The most telling data for this question in terms of showing a before and after effect comes from the student questionnaire. This shows a dramatic improvement in student mental wellbeing from those who participated in the drumming. Starting initially with a mean score of 3.43 out of 10, this improved to just 2.11. The final score self-reported by drumming participants had overtaken that of the control group. In combination with the fact that the control group showed little overall change, a slight improvement of 0.07, this indicates that drumming had a positive effect on these students, in particular on their mental wellbeing.

It is important when using a mixed methods design to combine the data sources when answering these research questions (Guest, 2017). In the observation data, it is also clear to see a progression and improvement in the way students respond in drumming sessions. The connection between enjoyment or satisfaction from a task and mental wellbeing has been discussed (Madsø et al., 2022) (Arslan, Allen & Ryan, 2020) and it can be assumed that with

observation data such as “obvious enjoyment throughout”, “desire for more” and many wanting to continue, that drumming was a positive experience for most students. There was some observation data recorded that suggested a few students did not seem totally engaged, further demonstrating the challenges of making observations about something such as wellbeing.

## **4.6 Limitations of the study**

A study of this nature presents a number of limitations which will be outlined in this section. Whilst it was possible to answer the research questions through collecting and analysing data, there are some issues that, if resolved, would have contributed to a more reliable study. In the early stages of the study it was important to recognise that as a teacher in the school setting conducting research there is a level of familiarity with the students and therefore participants. As the researcher, I already knew things about these participants from seeing them interact and learn in school. Likewise, they will have had expectations about me as a teacher and how to behave in my classroom and around school that almost certainly had an impact on the way participants engaged with the intervention. As a teacher researcher certain decisions in planning could have been affected, especially in balancing work in the classroom with time to ensure that the research is ongoing. One example of this is the observations collected from colleagues. It was assumed that they had sufficient professional experience and practice in observing lessons. Therefore there was no specific training involved and the quantitative data collection relied only on their perception of how the group interacted with the intervention tasks.

Conducting research as part of a part-time course demands a high level of time management and unfortunately time constraints have an impact on the study in order to allow for deadlines to be met. A number of studies in the literature review discussed the length of various studies (Maschi, MacMillan & Viola, 2013) (Slattery, 2018) (Martin & Wood, 2017)

(Venkit & Godse, 2013) and how this might have affected research findings. I feel that 12 weeks was not too bad in comparison with previous studies and under the circumstances. However, I would also argue that over a longer period of time (Shirilla, Solid & Graham, 2022) it may be possible to see different or more reliable results from a drumming intervention. In addition to the overall time frame of the study there were also significant time constraints when gathering data during the school day. This required strong communication with colleagues and participants to ensure that data gathering was complete on time and as many participants turned up to each drumming session. Some examples of the challenges of conducting research in school that interfered with the running of the project were student absence, assessment week, timetable changes and sports fixtures.

In this research the participants were all self-selecting. This meant that for the drumming group they most likely already had a desire to learn to drum, or participate in music; or, as some reported, to miss lessons. It is possible that with randomly selected participants from school the results would be different. Perhaps there would be a reluctance to participate and possible challenges with behaviour that were not encountered during this research. It is therefore difficult to say whether the findings would be replicable if the study was repeated without self-selecting participants. The original plan was for a sample of 40 participants, 20 in drumming and 20 in the control group. This was unfortunately not possible and one drumming participant left early due to a clash with a favourite lesson and there were challenges recruiting participants for the control group. Therefore in total only 33 participants were involved. This presented some issues with statistical analysis, especially as the groups were not evenly sized. In relation to previous research this was, however, not a high drop-out rate (Martin & Wood, 2017) (Ho et al., 2011). To counteract this the results were compared using mean averages. It might have been possible to compare the two groups in different ways had they been more even or larger and it could have produced slightly different data, especially as the control group questionnaire data were so

consistent. The addition of a third group, or 'active control group' as suggested by Cahart et al. (2022), where participants take part in an activity that is not music related would have provided a further dimension to this study to see how unique these benefits are to drumming or whether other activities could have had a similar impact.

## **4.7 Wider impact of the intervention**

It is difficult to gauge the long term impact of such an intervention, but there are several examples that show the drumming intervention has sparked interest. Firstly, before actually starting the project, a number of parents who had heard about what was involved expressed their interest and suggested they also felt this was very positive for the school. I sent a message to all teaching staff asking for volunteers to observe and this also generated positive feedback and interest in the project. Many people expressed that they could see value in what was planned, but I felt it needed to be supported by data as evidence for the positive effects of group drumming.

By the time the first session had been completed it became apparent that the intervention was stimulating musical interest, although this was not something specifically looked at in the study. One student immediately asked if they could join the school orchestra, and a number of weeks later they had signed up for violin lessons. By session 3 there were two more students who had asked about starting instrumental lessons. Whilst the goal of this study was to look at the wider benefits of drumming in an intervention group, clearly for music in school and the musical experiences of these young people there is a potentially huge impact to be explored here in future research. The framework provided by the Group Development Model can be seen in the way the drumming group engaged and flourished throughout the intervention (Tuckman, 1965). Beyond the actual intervention sessions, 12 of the drummers performed in the school spring concert, which for most of them was the first experience of this kind. The final

performance in this concert involved all musicians and, despite me telling the drummers they did not have to join in, all of them chose to sing with the choir. Although not part of the methodology, many of them mentioned this particular experience during the focus group interviews and it is clear how it directly impacted their confidence. Perhaps a performance should be integrated in future similar projects to see whether this has particularly positive benefits for participants, such as in Martin and Wood's (2017) study. An end goal is suggested in the Group Development Model to mark the completion of the task and a performance would suit this well, especially as by this stage the group should see improved performance abilities (Tuckman & Jensen, 1977). Another performance opportunity came at the end of term assembly and most of the participants joined in with this too. By week 9 of the intervention all drummers were asking to continue with the project, it was therefore decided that this would be possible. Only one participant left following data collection, as they began taking drum kit lessons, the remaining participants continued attending drumming sessions until the end of the academic year.

Some further considerations about the wider impact of this study are the number of participants who had a special educational need diagnosis or were in receipt of pupil premium funding. These two groups can often be underrepresented in extracurricular music in my setting, however 30% of the drumming intervention group had an SEND diagnosis and 35% of the group was in receipt of pupil premium funding. This demonstrates the inclusive nature of the intervention and how a cost effective music programme has the potential to reach many more students and have a positive impact on their school experience. At least 4 of the drumming participants are now taking instrumental lessons and it is hoped the intervention will run again next year. Generally, I have observed that the participants seem more confident and engaged in their curriculum music lessons and some have reported an increase in their assessment marks for music.

## 5. Conclusions and Implications

Since completing the research there have been several opportunities to present some of the initial findings. Firstly, this started in school with colleagues who had shown an interest in the research or who had assisted with observation. The company 'Drums for Schools' who had loaned the drums were also interested to find out how the research had gone. In addition to this, fellow students on the MSc in Learning and Teaching were able to view my research poster and ask questions about the project. This research sharing reflects the highly collaborative nature of the project undertaken and demonstrates that I was able to generate some interest in the work that was being completed.

As mentioned in the previous section, it was decided that the drumming intervention should continue in my school and we therefore had to generate funding for the drums. I initially wrote to the school's PTA and asked whether they could donate some money towards purchasing the drums to be used permanently in school. I was invited to meet with them and discuss the intervention further. During the meeting I presented some of the key findings and, after answering any questions they had, the PTA decided to fully pay for all of the drums. The implications of carefully planning, initiating and presenting this research had brought real-life benefits for the students in my school who wanted to continue with this project. One of the criteria of the funding was that we use the drums to promote inclusive music and that they are used for various performances throughout the year. This presents a number of considerations for further research beyond what this study aimed to achieve. With some focus on including those who, until now, had not participated in extracurricular music this project had created an entire new element of music being offered in my school (Kertz-Welzel, 2022). After encouragement from a number of interested parties, I have also been invited to submit an article to 'Impact' (the journal of the Chartered College of Teaching) and share a case study of the research conducted here.

Away from these wider implications, the three research questions that focussed on concentration, mental wellbeing and self-confidence in the participants were all answerable from the data collected. The evidence that these were all positively affected by group drumming in this particular study is a clear reason for interest in the project and why many would like for it to continue. The nature of the research, undertaken by a teacher researcher, meant that there are some issues with the findings and the project itself. Having had to devise all parts of the research; work collaboratively with many different parties; and actually lead and plan the intervention sessions, there is certainly some bias that I wanted this project to be successful at all costs. Whilst I could tell from engaging with existing literature and combining this with personal experience as a musician and teacher that there was huge value in this intervention, the passion I had for finding positive results could have impacted how I implemented the research. On the other hand, the findings do correlate with much of the previous research. It is a setting specific study and I am certain that the findings provide valuable and interesting results that can influence how planning in my setting is carried out in the future. This would provide my students with broader and, for some, more engaging opportunities within music at school. There are a number of changes that I would make if I were to repeat the project. Firstly, I would try to use more participants who I did not already teach in curriculum lessons as this may have affected how they performed in sessions and during data collection. The duration of the project could have been longer to show longitudinal effects, this would take considerably more planning and may present other issues such as retaining participants. Integrating a drumming performance into the research and data collection would have provided an extra depth to the study, although in this case it developed naturally from the planned intervention sessions. Finally, I would also be interested in repeating the study with more schools involved simultaneously. This would provide both a larger sample size and answer the question as to whether other non-specialist teachers could implement an intervention like this successfully.

Moving forward, there is scope to persuade others to try two things; to consider whether a similar intervention may be valuable in their own setting; and to possibly try a similar study of their own, looking at gathering similar data in a wider variety of settings to look for potential correlation.

I feel that for music in my school this intervention paves the way for a more holistic and inclusive approach to music education (Kertz-Welzel, 2022). Whilst I acknowledge the importance of teaching academic and theoretical skills in the music classroom, especially in terms of increasing uptake and success in KS4 music, there is value in increasing participation. The fact that this project demonstrates that an intervention of this kind is relatively easy to integrate into a school music department for little cost is hopefully something that will encourage others to try a similar approach in their own settings. The work required is minimal for the positive changes that have been observed in the data collected and the wider impact on the participants' engagement with instrumental learning and music more generally. As proven by data collected using a range of methods, there are a number of benefits to students' mental wellbeing, concentration and self-confidence. In addition, the intervention removes a number of barriers that present in music education (Collins, 2016) such as funding for instrumental lessons or cultural expectations when western classical music is predominantly studied in certain curricula (Kertz-Welzel, 2018).

Starting with the literature relating to previous drumming interventions, discussed in section 2 of this dissertation, this study has succeeded in developing and building on this research to explore possibilities within a mainstream state secondary school. Findings from Faulkner et al. (2012), Slattery (2018) and Perkins (2016) for example led to the idea that an intervention of this sort could be useful for my particular setting. All of those studies had been conducted outside of the UK and, whilst there is a growing body of research in this area within the UK (Cahart et al., 2022), I felt it was important to add to this from the perspective of

benefiting those lacking music despite being in a mainstream system (Kertz-Welzel, 2018). The findings of the research show clearly that this was a useful undertaking for my setting. In addition, the study demonstrates a connection to and support for Tuckman and Jensen's (1965) (1977) research into small group development. Throughout the planning stages of the intervention this provided a useful framework and it was possible to see the stages of the Group Development Model as the intervention progressed (Tuckman & Jensen, 1977).

Through this engagement with previous research and collaboratively working with colleagues to establish this intervention, the findings have shown that my students directly benefited from participating in this research. With previous research showing that wellbeing in school has declined in recent years (Hume, Brown & Mahtani, 2023), it is important to discover actions we can take as teachers that could reverse this trend. Likewise, following the Covid-19 pandemic, now is the right time to show the value of engaging with the arts and the benefits this can bring to young people. Evidence collected during lockdowns shows a decrease in young peoples' engagement in the arts (Mak, Bu & Fancourt, 2022), whereas this study provides reasons why we should be delivering similar interventions in schools to counteract this. I intend to share this widely with the hope that other state secondary schools can use similar, but setting specific, interventions to support as many of their students as possible in a musical way. This study has shown that those participating in regular extracurricular music believed they had, and displayed, a higher level of concentration, self-confidence and mental wellbeing than those who were not. An intervention of this kind opened that opportunity to others and had a direct impact on their school experience. This is something all mainstream state music departments should be able to offer and perhaps an increase in exploring music further and supporting students more generally will be achievable.

**Word Count - 19415**

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## 7. Appendices

### Appendix 1: Observation Data

#### Week 1 observations by teaching colleagues:

##### Confidence:

- Lots of students did not seem very confident at the start of the session.
- Most students were happy to improvise a rhythm in front of the class, two or three students didn't want to do this.
- During the improvised task, lots of students struggled - they didn't know when to start playing, or what to play.
- Some dominant students showing off, making jokes, but others much quieter.
- Bit nervous when put on the spot doing something on their own ("I don't know what to do" "pass")
- Students looked quite nervous at the beginning - little conversation between students.
- Pacing of this session was slow as students were struggling with basic tasks (i.e. playing with the correct hands).
- Two students chose to not improvise their own rhythm. Some students really struggled with the improvised task.
- Two students passing doing something on their own.
- Next time round one of those then had a go, but some others who had gone at first passed.
- Some students whispering to each other, but not confident to shout out or ask a question.

**Average perceived confidence: 1.83 / 5**

##### Concentration:

- Concentration increased as the session went on.
- Lots of students watching the teacher, not distracted by hitting the drums.
- Some students were very tempted to hit the drums when they weren't supposed to.
- As the session progressed, students followed the teacher's instructions very well - all on task and completed the call & response task fairly accurately.
- Finding it hard to stop drumming or playing when explanations are taking place.
- Not all students always fully listening to (or at least carrying out) instructions. For example one student was hitting with his whole hand rather than just the fingers (although he corrected this later on).
- Much more focused when the drumming is actually taking place - watching other people's hands.

- In comparison to the first group, students were much quicker to respond to teacher instructions at the beginning of the session, particularly when being directed to stop playing. Students' ability to follow instructions improved as the session went on.
- Some people started playing when they first receive the drum when they've been told not to.
- Stopping really well on countdown
- All students were using drums appropriately at all times.
- No off topic questions. Some quiet talking between students.
- Students were rarely looking round out of the circle (despite two observers and people walking past the classroom). Focus remained in the room.

**Average perceived concentration: 3.67 / 5**

**Wellbeing:**

- Lots of smiles towards the end of the lesson. Students were very chatty at the end as they were packing up, suggesting a positive attitude.
- One student looked disinterested through[out], but this may be due to his high-ability in comparison to the rest of the class.
- Another student seemed under-confident throughout and therefore I was unsure if she was satisfied with the task. When asked if she would turn up again next week, she said yes.
- Excited about being given the drums. Some smiling but others' expressions more neutral. Some students got something wrong, but didn't seem very anxious about this. and could laugh it off.
- Lots of nervous-looking faces throughout - there were much more smiley faces in the first group!
- One student seemed to enjoy the task quite a lot.
- Students seemed a bit more cheery at the end of the session, but less animated than the last group.
- Girls nodding and smiling to each other after everyone had played the open sound in turn.
- Lots of enthusiasm for being given a big drum.

**Average perceived satisfaction: 3.5 / 5**

## **Week 6 observations:**

### **Confidence:**

- Full participation.
- Interested in taking different roles - huge self confidence in comparison with curriculum lessons, even looking for support to start the role.
- Incredible to witness. Also instantly taking lead when given bass role.
- Very much wanting to be a part of the performance quickly.
- Smiling and nodding. Students seemed relaxed. Student doing solo part on high drum. A few rhythm mistakes.
- Most students playing loudly (and confidently) with a few playing very quietly (fear of mistakes?).
- Students frequently looking at teacher for direction. Tendency for students to speed up. Students remembered call and response to the whistle well.
- All students attempting every rhythm (no opting-out). Very good response to changing dynamics. Student leading rhythms. Students generally playing loudly and confidently. Students playing different drums. Using student examples to explain to the rest of the group. Some nervous body language from students.
- Students less likely looking to others' performance, much more self-focused which led to beats out of sync.
- As session went on and more complex beats were introduced alongside previous sections students became much better at looking at each other.

**Average perceived confidence: 3.83 / 5**

### **Concentration:**

- Excellent focus on tasks, not getting distracted despite being amongst friends.
- Although sometimes long periods of time on one particular drum (bass) leading to students drifting concentration; this was spotted and roles shifted to support concentration.
- Completely focused on teachers' lead - when whistles introduced students were attentive to shifts in drumming pattern.
- Eye contact with the teacher. Focus on the teacher's drum. Stopping very quickly on instruction. Students concentrating on each other when asked.
- Very quick response to instruction.
- Some students not watching teacher example.
- Student arriving late not distracting others (rhythm still being held).
- Students watching teacher to correct mistakes when going out of time.
- Some students occasionally going out of time due to lack of concentration.
- Some students showing excellent focus throughout (including when teacher is talking and when people are playing). Other students fidgeting and playing different parts to the other students.

- As more students arrived concentration became greater as they were seeing others thrive and perform confidently.

**Average perceived confidence: 3.38 / 5**

**Wellbeing:**

- Students really looking to perform well, and perform well as a group. Often attempting to catch each others' eyes if out of time so as to address the united sound.
- Body language - calm focused, eyes either on their own drum or on others'.
- Students fully engaged. Students turning and smiling at one another during task.
- Students arriving late. Student having so much fun they lost track of time and missed an appointment by 10 mins.
- Not much reaction from students. Some yawning and looking slightly disinterested. Students nodding along to the rhythm. Students picking up new patterns quickly.
- One student obviously taking great pride in 'leadership' role, excellent to see in comparison with curriculum lessons.
- Often getting frustrated (facial change) when other bass players were not following his lead.
- Not much facial expression from others, unsure if this is due to lack of enjoyment or greater struggles.
- Students seeming to just get on with it, rather than enjoying general process of practice; although once full piece came together they enjoyed it more.

**Average perceived satisfaction: 3.67 / 5**

**Week 11 observations:**

**Confidence:**

- Lots of hitting drums during explanations, eager to get ahead and start themselves but actually disrupting the supportive explanations. Mainly from one year group of boys who were obviously excited to be drumming again. Although this did stop once more difficult piece of music was introduced, almost as if students were realising that they were not instantly ready for the piece.
- Students playing loudly and confidently. Looking at each other to stay in time. Students speeding up and struggling to maintain pace. Students playing over the teacher talking. Students who lost the pattern were able to watch and get it back. Difficult choice of pattern to play with hard rhythms.
- Students understand their own drumming ability, quick to join in and support but more respectful of trusting the process. Nervous with new piece as it was pitched as a "hard piece", but again trusting of process given previous "wins" they'd experienced through performances and sessions.

- Students all attempting the call and response rhythms even when they progress in difficulty. Students wanting to lead a rhythm and the rest respond. 2 students passed out of a group of 10. Students playing loudly with the group, but less confident when on their own (but still giving it a go!). Students recognising rhythms from a few weeks ago without needing to see the teacher demonstration. Students able to build up and play without teacher playing along.
- Students sped up when changing to the rhythm in 6. Facial expressions of shock/doubt when hearing the harder rhythm.

**Average perceived confidence: 4.17 / 5**

**Concentration:**

- Concentration was lower initially with some students being distracted by the enjoyment of hitting the drums. Although as the session carried on their concentration increased which was due to the introduction of a tough new piece of music. Less fidgeting, less looking towards others, more towards teacher.
- One student was completely out of time, but with teacher's help was able to get in time. Lots of student eye contact with teacher during call and response and clear focus on their faces. One student turning around due to observers in the room. All other students completely unphased by additional adult presence. Immediate recognition and response to teacher whistle signals.
- Obvious focus on teacher drumming to make sure first performance post-break was good, which really paid off! Such a lovely start to session.
- Really strong consistent concentration across group with all happy to watch whichever of them was "doing best" in each performance and follow their lead which only helped the entire group. This even occurred naturally in the middle of performing when students noticed they were off-beat. They looked to those next to them for guidance, taking a moment to observe before joining at an appropriate beat.
- Whole group focus led to a spectacular performance of the "hard" piece within 5 minutes of starting it - simply wonderful to see!
- Immediate transition to half speed during warm up task (and again back to tempo).
- Student behaviour during teacher talk is excellent and they are all focussed.
- Students watching each others' drums and the teacher and not being distracted by other adults in the room.
- Students watching each other to help stay in time. Students notably changing their concentration levels when playing a harder, unfamiliar piece (clearly thinking harder about how to play). Students incredibly focussed on teacher during the harder rhythm.

**Average perceived concentration: 4 / 5**

### **Wellbeing:**

- Obvious enjoyment throughout. Students asking questions before session began, when things were going well students looked to each other for recognition of positivity.
- Students nodding along and enjoying the music. Students smiling at each other. Some slumped body language from students. Students looking a bit disinterested at times. One student was having the time of his life (even if they weren't playing the correct part).
- Students thanking the teacher at the end.
- All a little sad at the potential end of sessions, one student even asking if they can continue sessions beyond the allotted time-frame. Obvious enjoyment, and desire for more!
- Students offered the opportunity to play their own piece, which almost all had a go at. All replying with pieces even if they did not offer one.
- Students asking if they can continue drumming despite next week being the last one. Strong show of hands when asked who wants to carry on. Students nodding along. Students smiling. Students playing loudly and confidently.
- Positive body language - students all facing the teacher. Students clearly enjoying themselves and having fun. Students dancing and laughing with each other.

**Average perceived satisfaction: 4.5 / 5**

## Appendix 2: Transcripts of Focus Group Interviews

### **1. How have you found the drumming sessions over the last 12 weeks?**

Student 6: Fun

Who else found it fun?

10 hands up

Anything else we can add to that?

Student 17: I thought it was a bit interesting. Like I hadn't really done it before.

Student 15: it's like a different experience, something new.

Student 13: I had to concentrate

You had to concentrate a lot?

Yeah

Do you think it helped your concentration? Yeah, I found it difficult

Anything else, Student 3?

Student 3: It helped me, um, concentrate on one thing.

Student 18: okay, i think it's been like like one of actually like a pretty enjoyable experience.

Student 2: Really like enjoyable and engaging

Student 19: It's helped me to like focus more cus like I get distracted very easily and like it's been a good opportunity as well.

Do you think that's helped you concentrate outside of drumming as well? Or just in here?

Student 19: yeah

Who else found it fun? All hands went up

## **2. Has drumming made you feel more confident? If yes then how?**

Student 17: I think, yeah, cus you have to do it in front of other people. And then like yeah [not heard]

Student 16: Just saying I agree

Student 7: I think like doing the assembly and things that helps with like your bravery to be in front of people.

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Student 5: Well, it's made me feel slightly more confident but not like confident enough to do anything I like, but it's boosted my confidence quite a bit.

Interviewer: We've only done 12 weeks. Do you think if we did it for longer that might help?

Student 5: Yeah

Student 14: It's helped my confidence because when we've done shows in front of other people that's helped.

Student 10: Yeah I felt more confident in because when i did the um show thing i felt really confident i was scared but I felt confident at the end.

Student 19: Yeah like before the um concert i was like kinda nervous but towards the end I felt more confident.

## **3. How much do you have to concentrate during drumming? Does it help you to concentrate?**

Student 12: Um, it helps me concentrate because, um, I sometimes it's a bit difficult when you're working on your own thing and there are other sounds as well. You get a bit mixed up.

Student 16: Also at first I found it hard but then I kinda just got used to it.

Student 15: Um, i think like at first you do need to concentrate to get into the rhythm but afterwards you just do the same thing so it gets easier.

Student 3: Sometimes I forget to concentrate and I get distracted. I get distracted by other rhythms.

Student 10: I agree with Student 16, but there's people playing different parts and you're like you know trying to figure out which one to play.

Student 3: I thought it was um, I feel like if you get into a beat then it's like then you don't have to concentrate as much. Like you have to concentrate until you're playing like consistently then you can let your hands do the work.

---

Student 2: it's helped me with concentrating cus when you drum you have to use your fingers in time to make it sound nice and have to concentrate on what's going on.

Student 9: I mean like you have to concentrate on everyone at once. It does help like outside of school too since you're able to concentrate on more than one thing.

Student 18: Yeah, I think it's helped me to concentrate a bit more cus sometimes in lessons I fidget and now I can just bang on the drums.

#### **4. Do you enjoy the drumming sessions? Why?**

Student 3: It's exciting

Student 4: Yeah it's fun and interesting

Student 16: You get to skip lessons

---

Student 10: I do very much, it's very fun and you learn something new while it's really fun. You learn to play an instrument, it's really fun.

Student 18: Yeah it's great I like playing the drums

Student 14: I like playing because it's fun with all the different drums um playing together it sounds really nice.

#### **5. Would you recommend drumming to other students? Why?**

Student 16: First of all if I redo it I would like most of my friends to do it too.

Student 15: Um I would recommend it especially if you get nervous about things because you can kind of like just focus on something that isn't that and just bash it out on the drums.

Student 7: I would recommend it

Student 3: I recommend it because it will boost their confidence in standing on stages and playing in a group.

---

Student 19: Yeah like I would definitely recommend drumming to my friends cus it's like something that's really good to do and it's a good thing to play.

Student 10: Yeah I would recommend it to all my friends cus it's a really really good thing to learn about and it's really fun.

Student 5: I'd definitely recommend it to my friends because one of them is into music but at the same time she doesn't feel confident so she wants to try something that would boost her confidence, so I would recommend drumming to her.

Student 9: um maybe recommend it to my friends who don't have much to do at home and just like sit around on their phone all day because they would be able to engage with like people who like the same stuff as them.

### Appendix 3: Student Questionnaire

Please complete the questionnaire.

You may only tick one answer for each statement.

Please inform the researcher if you no longer wish to participate.

<b>Statement</b>	<b>Not True</b>	<b>Somewhat True</b>	<b>Certainly True</b>
I've been nervous in new situations			
I think before I do things			
I've been dealing with problems badly			
I've been feeling confident in front of others			
I've not been feeling relaxed			
I finish the work I am doing			
I am good at trying new things			
I've been restless			
I've been feeling cheerful			
I've been feeling good about myself			
I've been worrying a lot			
I am constantly fidgeting			
I have many fears			
I've been feeling useful			
I've been easily distracted			

## Appendix 4: Raw Quantitative Data

## Questionnaire Results

## Drumming Group Before:

	Overall	Self-Confidence	Concentration	Mental Well-being
Student 1	7	3	3	1
Student 2	5	3	1	1
Student 3	15	4	8	3
Student 4	14	4	8	2
Student 5	18	3	9	6
Student 6	9	3	0	6
Student 7	11	4	4	3
Student 8	14	6	5	3
Student 9	11	1	9	1
Student 10	1	1	0	0
Student 11	16	9	2	5
Student 12	26	8	9	9
Student 13	8	1	5	2
Student 14	15	5	6	4
Student 15	14	3	8	3
Student 16	11	3	4	4
Student 17	8	3	3	2
Student 18	21	9	6	6
Student 19	14	5	5	4
Mean Average	12.53	4.11	5	3.43

## Control Group Before

	Overall	Self-Confidence	Concentration	Mental Well-being
Student 20	4	3	0	1
Student 21	16	5	5	6
Student 22	10	3	3	4
Student 23	8	2	2	4
Student 24	11	8	2	1

<b>Student 25</b>	9	1	6	2
<b>Student 26</b>	5	2	1	2
<b>Student 27</b>	6	1	2	3
<b>Student 28</b>	7	1	4	2
<b>Student 29</b>	6	4	0	2
<b>Student 30</b>	5	3	1	1
<b>Student 31</b>	8	4	3	1
<b>Student 32</b>	16	5	5	6
<b>Student 33</b>	9	4	3	2
<b>Mean Average</b>	<b>8.57</b>	<b>3.29</b>	<b>2.64</b>	<b>2.64</b>

### Drumming Group After

	<b>Overall</b>	<b>Self-Confidence</b>	<b>Concentration</b>	<b>Mental Well-being</b>
<b>Student 1</b>	8	3	4	1
<b>Student 2</b>	5	3	0	2
<b>Student 3</b>	8	3	4	1
<b>Student 4</b>	13	5	6	2
<b>Student 5</b>	16	4	8	4
<b>Student 6</b>	15	5	5	5
<b>Student 7</b>	14	2	9	3
<b>Student 8</b>	4	1	3	0
<b>Student 9</b>	6	2	1	3
<b>Student 10</b>	5	0	5	0
<b>Student 11</b>	12	5	4	3
<b>Student 12</b>	3	0	2	1
<b>Student 13</b>	7	5	2	0
<b>Student 14</b>	8	3	3	2
<b>Student 15</b>	12	4	6	2
<b>Student 16</b>	6	2	2	2
<b>Student 17</b>	7	3	2	2
<b>Student 18</b>	16	5	6	5
<b>Student 19</b>	7	3	2	2
<b>Mean Average</b>	<b>9.06</b>	<b>3.06</b>	<b>3.9</b>	<b>2.11</b>

**Control Group After**

	<b>Overall</b>	<b>Self-Confidence</b>	<b>Concentration</b>	<b>Mental Well-being</b>
<b>Student 20</b>	3	2	1	0
<b>Student 21</b>	18	5	7	6
<b>Student 22</b>	11	3	5	3
<b>Student 23</b>	6	3	1	2
<b>Student 24</b>	12	7	2	3
<b>Student 25</b>	8	1	5	2
<b>Student 26</b>	3	1	1	1
<b>Student 27</b>	4	3	1	0
<b>Student 28</b>	6	2	2	2
<b>Student 29</b>	7	5	2	0
<b>Student 30</b>	7	3	0	4
<b>Student 31</b>	15	5	4	6
<b>Student 32</b>	17	7	6	4
<b>Student 33</b>	7	2	2	3
<b>Mean Average</b>	<b>8.86</b>	<b>3.5</b>	<b>2.79</b>	<b>2.57</b>

**Mean Averages for both groups before and after**

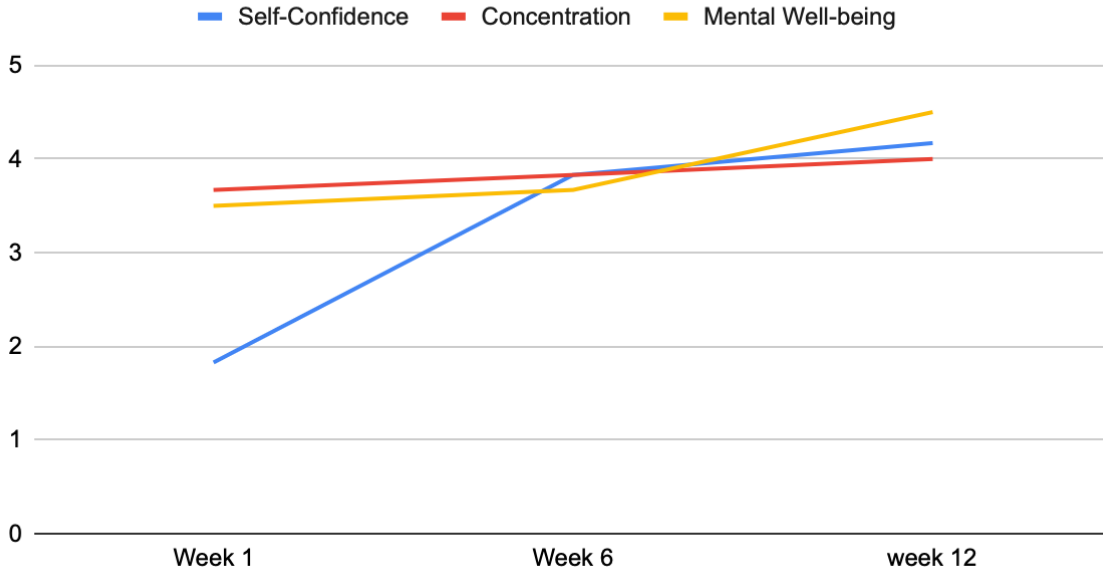
Overall	Control Group	Drumming Group
Before	8.57	12.53
After	8.86	9.06
Self-confidence	Control Group	Drumming Group
Before	3.29	4.11
After	3.5	3.06
Concentration	Control Group	Drumming Group
Before	2.64	5
After	2.79	3.9
Mental Wellbeing	Control Group	Drumming Group
Before	2.64	3.43
After	2.57	2.11

**Mean averages of Teacher Observations**

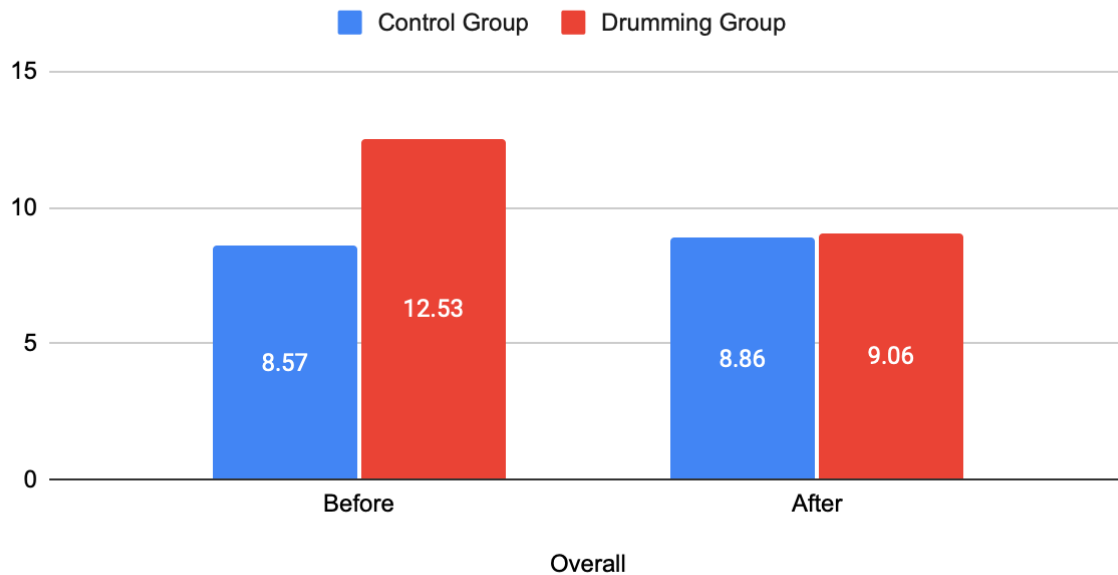
	Self-Confidence	Concentration	Mental Well-being
Week 1	1.83	3.67	3.5
Week 6	3.83	3.83	3.67
week 12	4.17	4	4.5

## Appendix 4: Mean averages of raw data presented in graphs

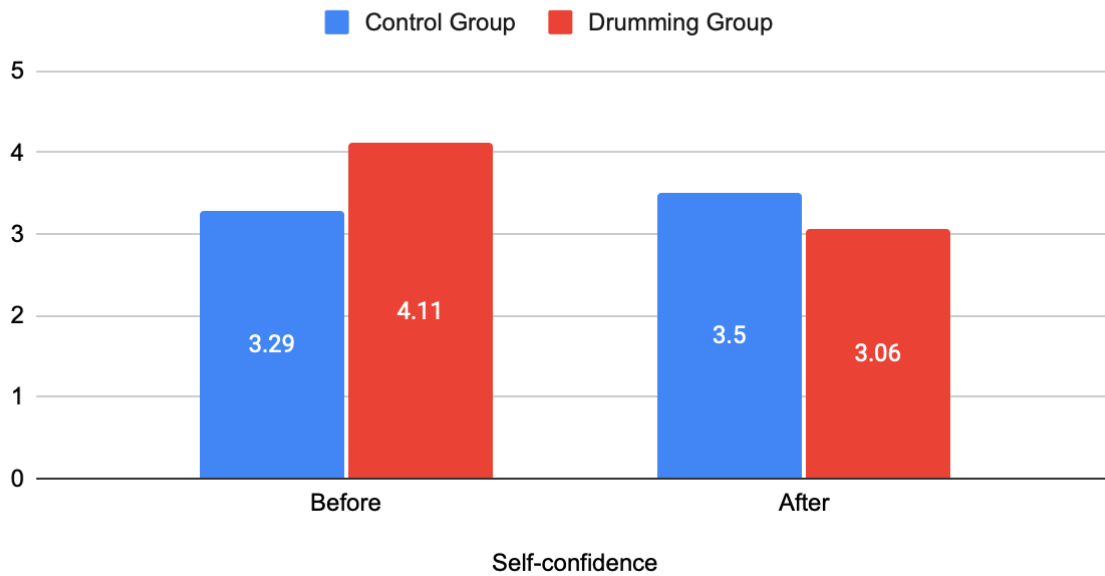
A graph showing mean average for teacher observations during the course of the intervention.



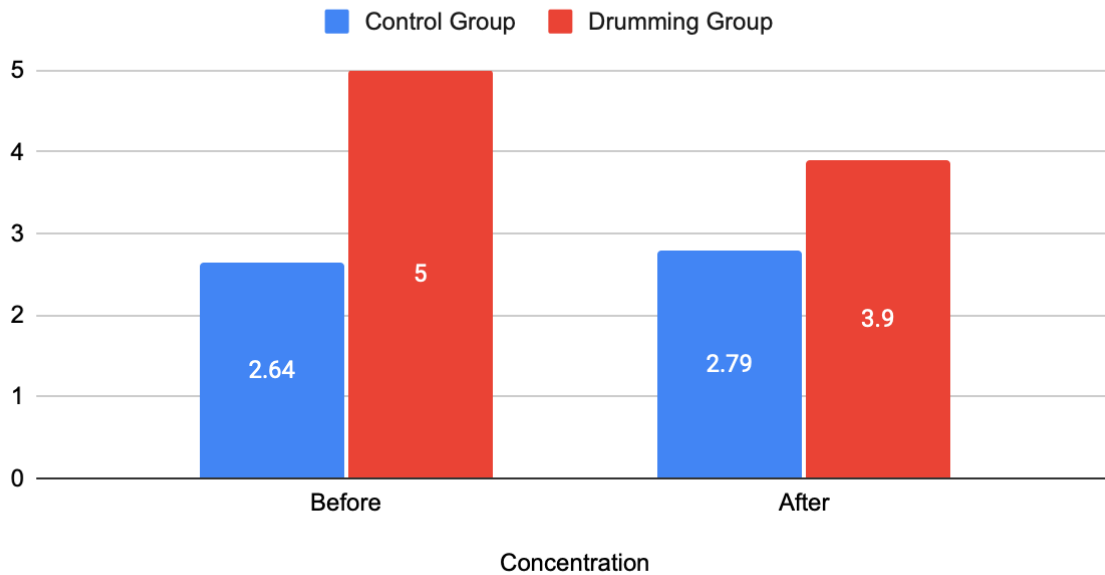
A graph to show results of the student questionnaire - a mean average of all overall scores.



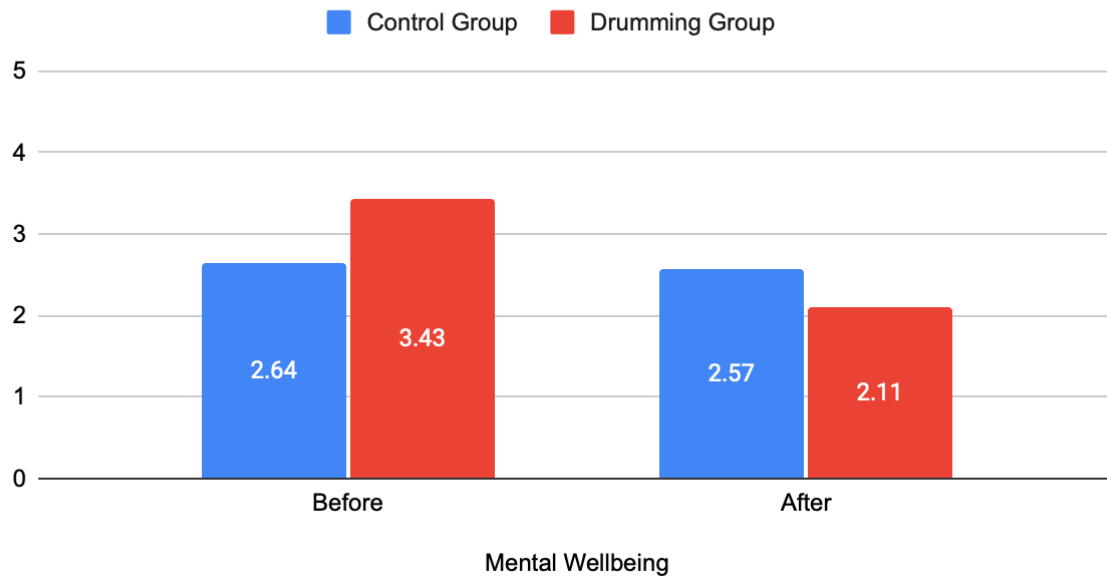
A graph to show the results of the student questionnaire - a mean average of scores for self-confidence.



A graph to show the results of the student questionnaire - a mean average of scores for concentration.



A graph to show the results of the student questionnaire - a mean average of scores for mental wellbeing.



## Appendix 5: Ethical Approval Letter

**UNIVERSITY OF OXFORD**

DEPARTMENT OF EDUCATION

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DREC Chair: Professor Liam Gearon



**CONFIDENTIAL**



22 Dec 2022

Dear 

**Research Ethics Approval – CUREC 1a**

**Ethics Approval Reference: EDUC-C1A-2223-032**

**Study Title:** The impact of a group drumming intervention on concentration, self-confidence and mental well-being.

The above application has been considered on behalf of the Departmental Research Ethics Committee (DREC) in accordance with the procedures laid down by the University for Ethical Approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to the DREC, the proposed research has been judged as meeting appropriate ethical standards, and accordingly, approval has been granted.

Please continue to follow *COVID-19: CUREC guidance on research involving human participants* <https://researchsupport.admin.ox.ac.uk/governance/ethics/coronavirus>

If relevant, please also check the CUREC website for their **best practice guidance**: <https://researchsupport.admin.ox.ac.uk/governance/ethics/resources/bpg>

**Amendments**

Should there be any subsequent changes to the study, you should submit details to the DREC for consideration and approval. Details of changes must be listed on an amendment form.

Please do not hesitate to contact me if you have any queries.

Good luck with your research study.

Yours sincerely,



On behalf of the DREC Team