In The Groove: A Case Study into Drumming and Student Engagement

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Abstract

Student engagement has gained growing, global interest within the field of education, particularly as research continues to uncover positive relationships between school engagement and success in learning and life. Although the power of musical instruction to engage students on a multitude of levels has been quite well documented, there is a dearth of studies that have investigated specific types and styles of music in relation to multidimensional student engagement. One type of musical instruction that is gaining popularity for school music and intervention programs is African drumming. This case study inquiry, conducted in a primary school in regional Victoria, utilises a multidimensional model of student engagement to investigate how and why African drumming engages primary school students.

Multiple data collection methods were utilised to gain insight into drumming and student engagement from student, teacher and parent perspectives. Observations were undertaken of the school drumming program in action; focus group interviews were conducted with participating students; a voluntary questionnaire was administered to parents of the participating students; and an interview was held with the school music teacher who developed and facilitated the drumming program. The data were collected and coded across behavioural, cognitive and affective engagement domains. Due to the significant overlap between engagement domains, the findings were then synthesised to generate six overarching themes in relation to drumming and student engagement.

The findings from this study reveal that African drumming engaged students powerfully across all engagement domains, due to being: accessible, physical, therapeutic, social, challenging and transferable. Specifically, this study revealed that African drumming engages primary school students because it:

- Enables participation through offering accessibility to all students.
- Allows for physicality and embodied cognition.
- Fosters positive emotion and supports emotion regulation.
- Acts as a vehicle for mindfulness and flow.
- Encourages social interaction and instils a sense of belonging.
- Builds persistence and learning resilience.
- Equips students with cognitive skills that support learning.
- Provides powerful metaphors and analogies that enrich understanding of self and others.

The findings from this study provide valuable insight into how and why African drumming engages primary school students and the potential for the drum to be utilised as a powerful tool for enhancing student engagement.
(i) This thesis comprises only my original work towards the Master of Education degree.

(ii) Due acknowledgement has been made in the text to all other material used.

(iii) This thesis is fewer than 26 000 words, exclusive of tables, bibliographies and appendices, as approved by the Research Higher Degrees Committee.

**Brianna Slattery**  
*July, 2018*
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Chapter 1: Introduction

Learning experiences should engage every way in which a child learns. Music is a brilliant example of a way to provide these kinds of total learning experiences… If we were to model all learning – maths, chemistry, languages, technology – on the kind of holistic experience of learning involved in playing a musical instrument, then we would have an education system that engaged mind and body, which was simultaneously systematic and expressive, personal and social. (Leadbeater, 2014, p.9)

Setting the Scene: Student Engagement in Music Education

Music possesses universal and timeless potential to influence how we behave, feel and think (Hallam & MacDonald, 2013). In The Oxford Handbook of Children’s Musical Cultures, Campbell and Wiggins (2012) emphasise that “children’s engagement with music is universal – they are awash with music” (p.1). Leadbeater (2014) suggests that playing a musical instrument epitomizes a total learning experience, as it engages mind and body in a holistic manner. The power of musical instruction to engage students on a multitude of levels is currently of interest in the field of educational research (Caldwell & Vaughan, 2011; Hallam & MacDonald, 2013; Parliament of Victoria Education and Training Committee, 2013; Thompson, 2015). However, there is a dearth of studies that have investigated specific types and styles of music in relation to multidimensional student engagement (Bundick, Quaglia, Corso, & Haywood, 2014; Fredricks, Blumenfeld & Paris, 2004).

When looking at student engagement within the context of music education, the academic literature provides some guidance regarding which styles of music and music instruction are most effective in engaging students. Recent studies have indicated that students are more engaged by informal styles of musical instruction (Evans, Beauchamp & John, 2015) that are accessible (Buchan & Rankin, 2015), allow for student collaboration (Barrett & Bond, 2015) and tap into popular culture and world music (De Vries, 2010; Folkstead, 2002). One specific musical style that incorporates each of these elements is African drumming. Drumming is an important part of African tradition and culture and permeates every aspect of life. As it has distinct social functions, African drumming has evolved into a style of music that is interactive, participatory and communicative in nature (Joseph & Hartwig, 2015).

The potential of drumming is gaining attention in the academic literature, as it is proving to be an effective mode of delivery for school music and intervention programs that yields a broad range of benefits, including: the engagement of at-risk and disengaged students (Faulkner, 2012; Faulkner, Ivery, Wood & Donovan, 2010;
Faulkner et al., 2012; Hallam, 2015), social skills development (Barbe, 2013; Camilleri, 2002; Faulkner et al., 2010; Faulkner et al., 2012; Mackinlay, 2014; Wood et al., 2013) and self-esteem and emotional development (Clements-Cortes, 2013; Mackinlay, 2014; Snow & D’Amico, 2010; Wood et al., 2013). These studies present a strong case for the value of drumming but do not examine in any depth how and why drumming is engaging, taking into account multiple dimensions of engagement and enabling conditions. In exploring the potential for drumming to enhance students’ school experience, this study investigates African drumming and student engagement.

**Study Purpose and Significance**

This study contributes to a gap in school engagement research, by determining *how* and *why* school drumming programs impact on student engagement. It is driven by two key questions:

1) How does African drumming engage primary school students?
2) Why does African drumming engage primary school students?

The first question (How?) examines the way or manner in which African drumming engages students; whereas the second question (Why?) is about determining the reasons for and purpose behind engagement in African drumming. Although important to distinguish what is meant by *how* and *why* in relation to this study, the two questions are inextricably linked. Therefore, the one research question that overarches this study is:

How and why does African drumming engage primary school students?

Investigating student drumming, this study examines the multiple dimensions of engagement, and the positive characteristics and values associated with drumming. This research offers theoretical insights relevant to curriculum design, policy making and setting educational priorities for music education. Specifically, it will inform teacher understandings of how and why students engage in African drumming.

**Research Design**

This case study examines an African drumming program conducted at a regional primary school in Victoria. Participants included the school music teacher, students involved in the drumming program and the parents of participating students. Multiple data collection methods were utilised, namely: observations of the program in action; focus group interviews with participating students; an interview with the music teacher; and a questionnaire administered to parents. A tri-dimensional model of student engagement was utilised to guide data collection, coding and analysis.

The findings present eight key themes providing insight into how and why African drumming engages primary school students.
Overview of Thesis
The structure of this thesis consists of five chapters.

- *Chapter One* provides a brief contextual background on engagement through music; outlines the purpose of the study and the key guiding questions; and provides an overview of this paper.

- *Chapter Two* presents a review of the literature, which describes the current state of student engagement in schools; defines the conceptualisation of student engagement used to frame this study; presents considerations for measuring student engagement; and investigates what is currently known about student engagement in the broader context of music education, as well as the specific context of drumming programs. Finally, an overview of the musical characteristics of African drumming and reasoning for the growing popularity of African drumming in Australian schools is provided.

- *Chapter Three* presents the methodological framework for this study in detail. This includes a description of the case for this study and the methods employed for data collection and analysis.

- *Chapter Four* reports on the findings obtained in relation to the tri-dimensional student engagement model used for this study. This chapter examines how and why African drumming engages primary school students behaviourally, cognitively and affectively.

- *Chapter Five* discusses the findings in a thematic manner and provides links to supporting literature, in addressing how and why African drumming engages primary school students. Contextual considerations and limitations in relation to this study are also discussed, before concluding with recommendations for further research.
Chapter 2: Literature Review

2.1 THE CURRENT STATE OF STUDENT ENGAGEMENT IN SCHOOLS

The concept of student engagement has gained growing, global interest within the field of education, particularly as research continues to uncover positive relationships between student engagement and: motivation (Martin, 2013; Nagel, 2010), academic achievement (Chase, Hilliard, Geldhof, Warren & Lerner, 2014; Fredricks et al., 2004; Klem & Connell, 2004; Lee, 2013), positive behaviour (Wang & Fredricks, 2014), school success (Hattie, 2008), wellbeing (Pietarinen, Soini & Pyhalto, 2014) and life satisfaction (Lewis, Huebner, Malone & Valois, 2011). Concurrently, one of the greatest and ongoing challenges facing schools at present is the issue of increased student disengagement (Loader, 2012; Slee, 2014; Washor & Mojkowski, 2014). The global relevance of this issue, particularly within the Western world, is evidenced through the many educational policies that have been developed specifically to address student disengagement (Smyth & Robinson, 2014). This bears true in Australia, where approximately 20 per cent of school students are consistently disengaged (Hancock & Zubrick, 2015).

The engagement construct has evolved from its roots in school dropout prevention and is now considered a key educational issue for enhancing outcomes across academic, social, behavioural and emotional domains for all students (Christenson, Reschly & Wylie, 2012; Reschly & Christenson, 2012). Now at the forefront of current educational discourse, increased attention has been directed to defining the broad and multidimensional student engagement construct.

2.2 DEFINING STUDENT ENGAGEMENT

Student engagement is essentially a disposition towards learning (OECD, 2003) requiring both physical and psychological energy (Janosz, 2012). Therefore, in a school context, engagement refers to “the intensity and emotional quality of children’s involvement in initiating and carrying out learning activities” (Skinner & Belmont, 1993, p.572). Today, student engagement is considered as a metaconstruct - due to its complex, multidimensional, multilayered and malleable form.

Although researchers have reached consensus that student engagement is multidimensional, agreement differs on the number and types of engagement dimensions, which ranges from two to four (Appleton, Christenson & Furlong, 2008; Christenson et al., 2012). However, there is general agreement that engagement is comprised of participatory behaviour and some affective component (Christenson et al., 2012; OECD, 2003; Skinner & Belmont, 1993; Skinner, Furrer, Marchand & Kinderman, 2008). Finn’s (1989) Participation-Identification Model explains how these participatory and affective components of student engagement interact to impact the likelihood of success. In defining the participatory and affective components of
engagement, some conceptual models add cognitive engagement (Appleton et al., 2008; Fredricks et al., 2004) and/or divide behavioural engagement into two subtypes: academic and behavioural (Appleton et al., 2008). However, a majority of authors ascribe to a conceptual model of engagement that consists of three domains: behavioural, cognitive and affective (Bundick et al., 2014; Corso, Bundick, Quaglia & Haywood, 2013; Davis, Summers & Miler, 2012; Fredricks et al., 2004; Furlong et al., 2003; Jimerson, Campos & Greif, 2003; Janosz, 2012; Osterman, 2006; Reschly & Christenson, 2012). In particular, Furlong et al. (2003) and Fredricks et al. (2004) offer a comprehensive description of this tri-dimensional conceptualisation of student engagement, which can be summarised as the following:

- Behavioural engagement encompasses students’ active participation, effort, overall conduct, focus and application to tasks. It involves students being engaged in action.
- Cognitive engagement encompasses students’ interest in learning, the thought processes they engage in, and the skills and strategies that they apply. It involves students being engaged in thought.
- Affective engagement encompasses students’ emotions and feelings, sense of belonging, personal growth and social skills. It involves students being engaged in feeling.

Figure 2.2.1 presents a diagrammatic summary of the tri-dimensional model of student engagement. This model has been developed for the purposes of this study and is based on descriptions of student engagement compiled from the academic literature (Bundick et al., 2014; Corso et al., 2013; Davis et al., 2012; Fredricks et al., 2004; Furlong et al., 2003; Janosz, 2012; Jimerson et al., 2003; Osterman, 2006). The arrows indicate that all three dimensions of student engagement impact each other. This tri-dimensional model of student engagement was developed and used to guide the data collection and analysis for this study.
Behavioural, cognitive and affective dimensions of engagement overlap conceptually, which can create a degree of ambiguity when defining each dimension (Stephansson, Gestsdottir, Geldhof, Skulason & Lerner, 2016). Researchers have therefore frequently identified specific aspects of each dimension of engagement and then used these attributes as indicators of general school engagement (Stephansson et al., 2016). This study adopts the same approach; identifying ways in which drumming engages students on a behavioural, cognitive and affective level, in order to comment generally on how and why drumming engages students. The following summary addresses each component of the tri-dimensional model of student engagement and briefly describes the indicators of each engagement domain.
Behavioural Engagement

Behavioural engagement is concerned with student action. Student actions that determine engagement include their participation, attention, effort and conduct (Figure 2.2.2).

Figure 2.2.2: Components of Behavioural Engagement

Active participation and the degree of involvement invested in an activity have been identified as key determinants of students’ behavioural engagement and school success (Appleton et al., 2008; Skinner et al., 2008). Participation includes involvement in school-related activities, attending and contributing to classes, completing tasks and assignments, as well as the time spent on additional study and exercises (Bundick et al., 2014). The degree of attention, focus and absorption demonstrated by students whilst participating in an activity is another indicator of behavioural engagement (Fredricks et al., 2004; Skinner et al., 2008; Skinner & Pitzer, 2012). Students engaged in their learning focus their attention on the task at hand and strive to avoid distraction (Reeve, 2012). In their motivational conceptualization of engagement, Skinner et al. (2008) identify effort and persistence as behaviours that are displayed by students who are engaged. Similarly, Hughes, Luo, Kwok and Loyd (2008) describe effortful engagement as an aspect of involvement that includes trying hard and not giving up in the face of difficulty. Therefore, students’ ability to persist when they encounter difficulties and seek help if required is an important aspect of behavioural engagement (Schunk & Mullen, 2012). Finally, behavioural engagement can also be defined in terms of student conduct. This includes the degree to which students follow the rules and adhere to classroom norms; as well as the absence of disruptive behaviours such as getting in trouble and skipping school (Fredricks et al., 2004).
**Cognitive Engagement**

Cognitive engagement encompasses students’ thoughts and thought processes, including: their will to learn; the degree to which they seek challenge and apply higher-order thinking; the skills and strategies they employ; and their ability to self-regulate their thinking and learning (Figure 2.2.3).

Figure 2.2.3: Components of Cognitive Engagement

Martin (2013) and Hughes et al. (2008) identify that volitional involvement is an important motivational factor in determining student engagement. As such, the degree of interest that a student displays in relation to an activity can be indicative of their level of engagement. Highly engaged students are “interested, curious and personally invested in the quality of their work” (Dunleavy, Milton & Willms, 2012, p.2). Students are more likely to show interest and a greater degree of engagement when educational experiences are challenging, enriching, and extend their abilities (Zepke & Leach, 2010). Studies show that those who engage with higher order thinking such as analysing, synthesizing and evaluating are most deeply engaged (Coates et al., 2008). Engaged students also employ a range of skills and strategies to support their learning and keep them motivated, including: task management, organisational skills, problem-solving and solution-seeking, memorising and recalling skills, and utilising a variety of learning and studying tools (Barkley, 2010). Additionally, highly engaged students demonstrate an ability to cognitively manage, monitor and self-regulate their own learning. This includes the intentional application of engagement strategies, including: strategic thinking, self-reflection and ongoing evaluation during the learning process (Cleary & Zimmerman, 2012; Lichtinger & Kaplan, 2011). Enabling students to take part in learning programs that encourage self-regulation has shown to have a positive impact on learning outcomes and engagement (Dignath, Buettner & Langfeldt, 2008).
**Affective Engagement**

How students feel about their learning, themselves and others is also an important determinant of their degree of engagement. Positive emotion, feelings of belonging, social support and opportunities for personal growth are constituents of affective engagement (Figure 2.2.4).

**Figure 2.2.4: Components of Affective Engagement**

Frequent positive emotions during school are associated with higher student engagement and performance (Pekrun, 2014; Reschly, Huebner, Appleton & Antaramian, 2008). Positive emotions such as enjoyment of learning can boost student engagement through preserving cognitive resources; focusing attention on learning tasks; promoting interest and intrinsic motivation; and having positive effects on students’ self-regulation (Pekrun, 2014). Similarly, studies have also found that the general emotional climate of the classroom plays a pivotal role in determining student engagement levels and academic achievement (Reyes, Brackett, Rivers, White & Salovey, 2012). Having a sense of membership and connectedness to a learning community is also linked to engagement, with students’ sense of belonging at school being an important measure of student engagement (Furlong et al., 2003; OECD, 2003; Sharkey, Quirk & Mayworm, 2014). Socio-emotional factors, including the quality of peer relationships and positive student-teacher relationships have also been largely researched in relation to student engagement (Furlong et al., 2003; Sharkey et al., 2014). Students’ social competence can also influence their engagement levels (Furlong et al., 2003). As well as these social influencers, the self-theories that learners possess are also important mediators of their achievement and engagement (Yorke & Knight, 2004). In particular, self-belief has been identified as a key attribute of affective engagement (Zepke, 2010). Therefore, students with a higher self-esteem and a positive learning mindset are more likely to be engaged.
Contextual Levels of Student Engagement

As well as being multidimensional, scholars also describe engagement as a multilevel construct, referring to the hierarchy of contexts within which engagement can be applied. Student engagement literature focuses on three levels in relation to school engagement. The first level represents student involvement within the school community; the second narrows the focus to the classroom or subject domain; and the third level examines student engagement in specific learning activities (Wang & Degol, 2014). Figure 2.2.5 provides a representation of the multi-level contexts at school that impact upon student engagement.

Figure 2.2.5: Contextual Levels of Student Engagement

Contextual Levels of Student Engagement

As engagement is not independent of the context to which it refers (Janosz, 2012), it is a construct that features great malleability (Fredricks et al., 2004) and can be influenced and shaped by variations across these different contexts. Fullarton (2002) describes these variables as student-level and school-level factors that influence engagement. Student-level factors include: gender, indigenous status, parents’ educational background, socioeconomic status, language background, achievement in literacy and numeracy, and student aspirations. School-level factors are determined by: the school sector and type, school size, school and classroom climate, parental
involvement, management of resources, rapport between teacher and students and teacher effectiveness (Fullarton, 2002). It is therefore important to consider research findings in relation to the particular contextual factors that could influence student engagement for each case.

2.3 MEASURING STUDENT ENGAGEMENT

A key difference among various scholars’ conceptualizations and measures of engagement is whether engagement is viewed as measured on a single continuum (Appleton et al., 2008; Finn, 1989; Reschly & Christenson, 2012), or whether engagement and disengagement are separate continua (Martin, 2007; Skinner et al., 2008). Many recent studies argue that disengagement is more than merely a lack of engagement (Wang & Degol, 2014) and therefore researchers are ascribing to a conceptualisation of engagement as separate and distinct from disengagement. This has particular ramifications for the measuring of student engagement, as measures examining a lack of disengagement do not necessarily reflect a students’ engagement (Jimerson et al., 2003). Furthermore, Burns et al. (2008) acknowledge that as well as determining what causes experiences of disengagement; research should place greater focus on seeking to understand what promotes engagement.

A popular method for measuring student engagement has been through the use of self-report scales. Self-report scales that are currently being utilised by researchers include the Student Engagement in Schools Questionnaire (Lam et al., 2014); The Motivation and Engagement Scale (Liem & Martin, 2012); and the Student Engagement in School Success Skills instrument (Carey, Brigman, Webb, Villares & Harrington, 2014). Many of these existing engagement measures are quite general, rarely focusing on specific tasks, situations, or subjects (Eccles & Wang, 2012). Student engagement is a complex construct to measure. Some indicators of academic and behavioural engagement are observable, whereas many indicators of cognitive and affective engagement are internal, requiring student perspective as the source of information (Christenson, 2009; Reschly & Christenson, 2012). Reschly & Christenson (2012) posit the inclusion of the student perspective as a critical source of engagement data, as their reports are likely to be more accurate and offer greater insight into the contextual facilitators of their engagement. Additionally, Fredricks et al. (2004) encourage the use of multi-method approaches to data collection and pattern-centred, analytic techniques for interpreting the data, in order to gain greater insight into the interactions and synergy that influences student engagement. Adopting a multi-method approach also enables for multiple perspectives to be obtained through involvement of multiple informants (eg. student, teacher, parent). Distinguishing between the different layers (classroom, subject/domain, school) and time frames of student engagement (in-the-moment task engagement versus longer term engagement/commitment to a particular subject area) helps build an understanding of how these different experiences integrate to impact students’ overall school engagement (Eccles & Wang, 2012).
2.4 MUSIC & STUDENT ENGAGEMENT

There is a large body of recent research regarding the links between participation in music learning and student engagement at school (Cleaver & Riddle, 2014; Croom, 2015; Devroop, 2012; Eerola & Eerola, 2014; Ewing, 2010; Mellor, 2011; Monk et al., 2013; Strean, 2011; Vaiouli, Grimmet & Ruich, 2015; Wood et al., 2013). In particular, many studies have investigated the impact of school music intervention programs on a range of social, emotional and behavioural outcomes. Most of these programs have been developed for students at-risk of disengagement from school. Results from these studies report improvements across a broad range of aspects related to student engagement.

Music-based intervention programs have the capacity to support many aspects of students’ emotional and psychological wellbeing, including building confidence and self-esteem (Clements-Cortes, 2013; Darrow, Novak & Swedberg, 2009; Faulkner, 2012; Faulkner et al., 2012; Shields, 2001; Snow & D’Amico, 2010; Wood et al., 2013) and encouraging self-expression, self-awareness and personal empowerment (Clements-Cortes, 2013; Eren, 2015; Shields, 2001). Music has also shown to have a positive impact on social skill development, through improving social interaction (Eren, 2015), strengthening communication skills (Chong & Kim, 2010; Shields, 2001), enriching relationships with others (Faulkner, 2012; Faulkner et al., 2012) and enhancing students’ sense of belonging (Wood et al., 2013). Participation in music programs has also reduced problem behaviours (Chong & Kim, 2010; Wood et al., 2013) and brought about positive behavioural changes, including increased participation (Snow & D’Amico, 2010). Croom’s (2015) study into music practice and participation yielded correlations between engagement with music and every aspect of Seligman’s (2011) framework for wellbeing.

The impact of music learning stretches beyond social and emotional aspects of engagement. As noted by the Australian Curriculum Music Rationale (ACARA, 2015), music also has a positive impact on the cognitive competencies of students, and provides “access to knowledge, skills and understanding which can be gained in no other way” (Music Rationale section, para. 3). Studies are also uncovering a multitude of ways in which music can enhance cognitive agility and competence – thus enhancing students’ capacity for cognitive engagement (Perret & Fox, 2004; Raucher & Hinton, 2011; Thompson, 2015).

2.5 DRUMMING & ENGAGEMENT

The academic literature on drumming programs uncovers great potential in relation to drumming and a range of aspects of engagement. In particular, there are a number of reports on the positive impact that drumming can have on community building, mental wellbeing, and engaging at-risk youth.
Drumming can facilitate connections between people from different walks of life, builds collective self-esteem, and creates and strengthens community (Stone, 2005). In reflecting on a community-drumming project, Stone (2005) notes that drumming creates a safe transitional space, where drums become transitional objects that help to foster meaningful connections between drummers. Drumming can therefore be utilised as a means of building solidarity between people from diverse backgrounds and is often associated with teambuilding and empowerment initiatives (Govender & Ruggunan, 2013). Drumming has been utilised to foster community connections across various contexts, including: town communities (Clare, 2008; Stone, 2005), workplaces (Govender & Ruggunan, 2013), schools (Barbre, 2013; Branscombe, 2016; Camilleri, 2002; Mackinlay, 2014) addiction rehabilitation facilities (Winkleman, 2003), hospitals (Friedman, 2011), nursing homes (Hull, 2006) cultural groups and indigenous tribes (Freidman, 2011). As a result, drumming is becoming increasingly recognised as an effective tool for strengthening communities through generating unity and connectedness (Hull, 2006).

Drumming has also proven to be very beneficial to mental health and overall wellbeing. In particular, the drum’s ability to assist with emotion regulation and reducing stress and anxiety is supported by research across various contexts, especially in mental health settings (Fancourt et al., 2016; Sideroff, 2013; Slotoroff, 1994) and schools (Clements-Cortes, 2013; Faulkner 2012; Faulkner et al., 2012; Janse van Rensburg et al., 2016; Snow & D’Amico, 2010; Wood et al., 2013). In his book “The Healing Power of the Drum”, Friedman (2011) provides many anecdotal accounts of how the drum is being used as a tool for enhancing the mental and physical wellbeing for a range of specific populations.

Many of the studies into the impact of drumming have been on targeted groups of at-risk youth and the potential of the drum to assist them to re-engage with school or the wider community. In Australia, DRUMBEAT has become a popular drumming intervention program for schools and other organizations working with young people, with over 5000 DRUMBEAT facilitators having received training to deliver this program (Holyoake, 2017). The DRUMBEAT program integrates hand drumming with cognitive behavioural therapy and is aimed at disengaged young people who are alienated from the school system. This program has proven to successfully deliver a range of social learning outcomes, including emotional control, improved relationships and increased self-esteem (Faulkner et al., 2012; Wood et al., 2013). It has also improved the school attendance and behaviour of participants (Faulkner et al., 2010; Wood et al., 2013). The success of the DRUMBEAT program provides promising evidence for the use of the drum as a tool for enhancing student engagement.
2.6 CHARACTERISTICS OF AFRICAN DRUMMING

Interestingly, all but one (Slotoroff, 1994) of these programs under study utilised a hand drumming style, many of which specified the use of an African djembe drum (Barbre, 2013; Branscombe, 2016; Clare, 2008; Fancourt et al., 2016; Govender & Ruggunan, 2013; Janse van Rensburg et al., 2016; Mackinlay, 2014; Snow & D’Amico, 2010; Stone, 2005). A number of these programs also used African rhythms in the delivery of the drumming content (Barbre, 2013; Branscombe, 2016; Govender & Ruggunan, 2013; Mackinlay, 2014; Stone, 2005). The success of these programs could be largely attributed to the type of rhythms being played and the contexts enabled by this specific form of music. As this study also investigates a program based around the use of African djembe drums and the teaching of West African rhythms, it is important to understand the characteristics of this particular musical style.

African drumming has unique points of musicality that sets it apart from other musical styles, including: polyrhythmic complexity; syncopation; rhythmic interrelationships and communication; a structure marked by repetition and continuity; and an emphasis on a participatory, social culture of music making. Although music making varies considerably across different regions of Africa, these common rhythmic characteristics can be identified across Sub-Saharan African musical traditions (Turino, 2017; Kauffman, 1980). In particular, West African drumming ensembles probably provide the best illustrations of African rhythm practice (Kauffman, 1980). The following musical features are evident in musical traditions across Sub-Saharan Africa and feature prominently in West African drumming, which is the style of drumming observed in this study.

**Polarhythmic Complexity**
African drumming is characterized by ‘multirhythms’, or ‘polyrhythms’, where multiple rhythmic parts are played simultaneously over the top of each other, creating a rich percussive texture which can be felt as well as heard (Chernoff, 1991). These multiple rhythmic parts may have different starting points, different timing, and consist of a combination of symmetrical patterns with asymmetrical ones (Chernoff, 1991; Petersen, 2014). The polyrhythmic nature of African drumming creates a “complicated and delicate interplay of rhythms” (Jones, 1949 [as cited in Agawu, 1995, p.381]) where the various composite patterns are heard in integration with each other, rather than as isolated units (Anku, 1997).

**Syncopation**
One of the most common descriptions of African rhythm is that it is syncopated (Kauffman, 1980). A rhythm is syncopated when the pattern deviates from the regularly paced accents or beats, resulting in patterns that tend to have an unevenly spaced or asymmetrical configuration (Kauffman, 1980). In African drumming, shorter notes and parts of the pulse that fall off the beat are often accented, adding to a sense of the
rhythms falling ‘around’ the beat in a heavily syncopated fashion (Chernoff, 1979; Kauffman, 1980).

**Repetition and Continuity**
Rather than taking on a linear structure, African rhythms flow in unceasing cycles that provide the foundation for the music (Bilderback & Woelfel, 2012). Chernoff (1991) notes that the uniformity of sound created by a repetition of rhythmic patterns is responsible for the powerful pull that drumming has in capturing and dominating our attention.

**Rhythmic Interrelationships & Connectedness**
Understanding the relationship between different rhythmic parts is imperative in African drumming, as they are defined with reference to one another (Chernoff, 1991). Anku (1997) identifies the different relationships (overlapping, interlocking, adjacency, alternation) that can exist between the composite patterns of an African rhythm. The most ubiquitous form of rhythmic relationships found in African music is the ‘call and response’ or ‘question and answer’ pattern (Kauffman, 1980), where one part responds to, echoes or builds on another. Chernoff (1991) points out that rhythmic meaning is comprehended through understanding these relationships between the various rhythm parts. This relational, cross-rhythmic aspect is one of the key ingredients of the African drumming style (Kauffman, 1980). Patterns that are quite simple in isolation can take on a special quality when played in cross-rhythmic relationship to each other (Kauffman, 1980). As such, an awareness of all of the different rhythmic components (rather than just your own) is essential to being able to enter into an African rhythm. Rich communication can occur between parts through rhythmic devices such as call & response patterns, which encourages communal participation in the music.

**Participatory Context**
Musicologists have noted that the use of rhythms in African music is a socializing element that patterns interaction and enhances a sense of togetherness at community events. (Chernoff, 1991). African musical activity is often described as participatory in nature. Rather than dividing performers and spectators, African musical contexts exhibit a high degree of integration of spectators into the music-making process (Chernoff, 1991). Chernoff (1991) notes “the aesthetic principles that make African music work reflect the manner in which the music has been institutionalized to provide frameworks for participation” (p.1094). The participatory framework provided by drumming could be a key reason as to why it is becoming a popular activity in a variety of education and community settings.
2.7 AFRICAN DRUMMING IN AUSTRALIAN SCHOOLS

African drumming has been taken up by a number of Australian schools, largely due to the social and emotional benefits it provides to students. The academic literature provides some clues as to why this may be the case. Joseph (2004) conducted a study into the results and implications of using African song and drumming in teacher education. This study found that the use of African music facilitated effective rhythmic learning, motivated students’ interest and promoted their intercultural engagement. Extending upon this study, Joseph (2006) researched African music in primary and secondary schools in Melbourne. This study revealed that African drumming is elected by schools because it supports cross-cultural engagement and learning and motivates students to learn about musical concepts through enjoyable and active learning experiences.

A search of Australia’s leading African drumming school program providers reveals that the majority of these companies advertise the social and emotional benefits of drumming (African Drumming, n.d.; Afrobeat, 2018; Akwaaba African Drumming, n.d.; InRhythm, 2014; Rhythm Connect, n.d.; Rhythm Culture, 2017; Soul Drummer, 2017). The benefits of drumming as promoted by these companies include: enhancing positive emotion; boosting confidence and self-esteem; developing focus and concentration; facilitating mindfulness; building perseverance and resilience; aiding communication; fostering inclusion, belonging and connectedness; strengthening teamwork and collaboration; and encouraging acceptance of diversity.

2.8 SUMMARY

The academic literature reflects that student engagement is currently a key concern in education both within Australia and across the globe. There is currently a dearth of studies that have investigated the impact of specific learning contexts on multidimensional student engagement (Bundick et al., 2014; Fredricks et al., 2004). Therefore, there is a need for qualitative studies that capture the nuances in student engagement across differing perspectives and contexts.

As music is proving to have a range of benefits in relation to engagement and learning, finer focus can now be applied to discerning particular forms and approaches to music in relation to student engagement. One form of music that has been gaining attention in the academic literature in relation to student engagement, is drumming. African drumming appears in the literature as a popular style of drumming utilised to boost school and community engagement. It has been taken up by a number of Australian schools, largely due to the social and emotional benefits it provides to students. This prompts further investigation into characteristics of this style of music that may be conducive to encouraging engagement with the activity.
The research reviewed predominantly focuses on the impact of drumming on social and emotional outcomes, which constitute the affective engagement domain. There is therefore a need for further research into the impact of drumming on behavioural and cognitive engagement domains. At the time of this literature review, no studies could be identified that investigate the impact of drumming on multidimensional student engagement. This study aims to address this gap in the academic literature, through investigating the impact of a school African drumming program across behavioural, cognitive and affective student engagement domains.
Chapter 3: Methodology

3.1 BACKGROUND

Socio-Constructivist Framework
This study is framed by a socio-constructivist ontological viewpoint that is concerned with a collective generation of meaning (Kim, 2014). This position stipulates that we each construct our own knowledge that is heavily influenced by the social contexts in which we are involved (Wells, 2015). In this view, the co-construction of knowledge and the development of shared understanding occur through collaboration and sustained dialogue (Nuthall, 2015). This methodology has shaped the research including: the case study design; researcher reflexivity; the positioning of participants as co-researchers; the gathering of multiple perspectives through a multi-method approach; and the emphasis given to thematic and inductive analysis.

Researcher Background
In my role as researcher, I bring my own experiences as a primary school teacher and a background in drumming with children and adults across various contexts. Corbin and Strauss (2012) encourage researchers to draw upon personal experience in order to obtain insight into what participants are describing and experiencing. Similarly, Donmoyer (2000) values the opportunities presented by qualitative research to see through the researcher’s eyes, and highlights this as offering valuable insights that we may have otherwise missed. In line with this thinking, I have decided to intermittently report on this study in an active voice, at times incorporating personal reflections and “drawing myself into the writing” (Lichtman, 2013, p.297).

3.2 CASE STUDY

Design
Case study was chosen for this research, as it is a particularly helpful approach where the aims of the research are “understanding, extension of experience, and increase in conviction in that which is known…” (Stake, 2009, p.21). Yin (2003) claims that the case study approach is particularly suited to investigating “how” questions. This is due to the way in which a case study yields richly detailed data that assists the reader to develop an understanding of a particular context, and may also prompt the generation of hypotheses for further research (Kervin, Vialle, Herrington & Okely, 2006). Case study serves the explanatory purpose of this research (Hamilton & Corbett-Whittier, 2013; Yin, 2003), generating a deeper understanding of drumming and student engagement.

Stake (2009) recognises the specificity of a case study as one of its key strengths, as it is a research approach that allows for “full and thorough knowledge of the particular” and the depth of understanding required to apply this knowledge to new contexts (p.22). He suggests that the degree of detail offered by a case study actually enables for “naturalistic generalizations” to develop. These naturalistic generalizations derive from a tacit knowledge of “how things are, why they are, how people feel about them, and how these things are likely to be later or in other places with which this person is familiar”
(Stake, 2009, p.22). This knowledge allows for the transferability of case study findings, based on “fittingness” – which is the degree to which the situation studied matches other situations in which one is interested (Lincoln & Guba, 2009), enabling generalization across similar cases (Stake, 2009) and theory formation (Kervin et al., 2006).

Adopting a case study design for this research heavily influenced the methodological approach to participant recruitment, data collection, data analysis, and the way in which findings were communicated. As defined by Stake (2009), a case study approach calls for descriptions that are complex and holistic, and a writing style that is informal and characterised by devices such as narrative, verbatim quotation, and even allusion and metaphor. The degree of contextual detail, direct participant involvement and rich, conversational style of communicating findings allowed by the case study method is a valid way in which to investigate the phenomenon of drumming and can shed light on how various types of engagement develop and interact (Fredricks et al., 2004). This study aims to inform this area of knowledge through exploring it within the specific context of a school African drumming program.

**Site Selection**
Initially, I had planned to conduct this study around my own teaching practice with drumming in schools. However, after some consideration, I decided that taking on an observer role and conducting the research in an unfamiliar setting would allow for greater researcher objectivity. Through word of mouth in the local community, I had heard of a school in the area that had a music program with a good reputation that offered drumming opportunities to students. Online research confirmed that this school had in fact received quite a bit of attention in the local media, due to student drumming performances in the wider community, as well as program initiatives that brought together students and community members to drum together. As well as this, drumming was advertised on the school website as being a core element of the school music program. The fact that this school offered regular drumming opportunities to students, ran specialised drumming programs, and fostered community connections through drumming, made it a very suitable environment to conduct the study.

**Case Description**
The site chosen for this study is a regional public primary school (P-6) in North East Victoria. This school is located in a town and suburb locality with a medium socio-economic status (Australian Bureau of Statistics, 2013). At the time of this study, the school enrolment was approximately 350 students. As well as the core curriculum areas of literacy and numeracy, the school also offers a number of specialist programs, including music, visual art, Italian and physical education.

This study focussed specifically on the context of the drumming programs offered as part of the specialist music program. All of these drumming programs were created and implemented by the school’s current music specialist teacher, who has taught specialist music for 16 out of the 17 years they have been at the school. The music teacher began the core school-drumming program in 2009, so it has been running consecutively for 8 years. Over this time, a number of other drumming programs have developed as outlined in Table 3.2.1. This study focuses specifically on the senior and intermediate African drumming groups, and their experiences of drumming and engagement. The students
participating in these drumming groups elected to participate after initial selection by the music teacher. It could be deduced that these students would have particularly high levels of engagement, due to a high level of competency and agency in relation to the drumming (Bundick et al., 2014). As such, this student cohort provided an opportunity to investigate students who were likely to be engaged in drumming, and if so, allowing frequent opportunities to ascertain how and why drumming enabled this engagement.

Table 3.2.1 – Drumming Programs Offered at the School Site Under Study

<table>
<thead>
<tr>
<th>Drumming Program</th>
<th>Description</th>
<th>Student Participants</th>
<th>Year Established</th>
</tr>
</thead>
</table>
| **Senior African Drumming Group** | The school’s senior drumming group highlights the exceptional skills of some students. This select group of students play the djembe along with other African percussion. They regularly perform for the school and local community and run workshops and drum circles for local kindergartens, nursing homes and retirement villages, universities and local charity organisations. The group meets once a week during their lunch break for rehearsals. | 9 participants  
- Grades 4-6  
- 2 male, 7 female  
These students were invited by the music teacher to join the group, based on her assessment of their rhythmic ability. | 2009             |
| **Intermediate African Drumming Group** | The intermediate drumming group is a development program for younger students, in preparation for involvement in the senior performance group. The group meets once a week during their lunch break for rehearsals. | 14 participants  
- Grades 2-4  
- 4 male, 10 female  
These students were invited by the music teacher to join the group, based on her assessment of their rhythmic ability. | 2010             |
| **Classroom Music Program** | African drumming and drum circle work are a fundamental component of the general music program. All students are given the opportunity to play the djembe and learn basic drumming skills. | The whole school attends with their regular class (approx. 350 students). | 2000             |
| **Neuro Support Program** | This is a community partnership program between the school, local health department and a community neuro support group. The program involves students from the senior drumming group working with adults who have suffered a stroke or brain injury.  
Neuro support classes occur weekly during class time. In this class, the students are paired with an adult, and mentor them through the drumming class, led by the music teacher. Physios and Occupational Therapists involved with the neuro support group often take part in the sessions as well. | All students from the senior performance group.  
Adults requiring neuro-rehabilitation from the local community and their carers.  
Physiotherapists and Occupational Therapists. | 2010             |
This group has also performed at regional and international conferences on Neuro-rehabilitation, and presented to Occupational Therapy students at a local University.

| **Reading Support Program** | This is a new, innovative program devised by the music teacher. It is based on current research indicating a correlation between reading ability and beat synchronisation / rhythmic skills (Kraus & Anderson, 2015). The music teacher works with selected students individually or in pairs, for three 30-minute sessions a week. During these lessons, reading isn’t taught explicitly. Rather, the focus is on developing beat synchronisation skills and rhythmic ability (whilst incorporating some basic language/literacy skill content) under the premise that the building of these skills will in turn enhance the students’ capacity for reading development. | 3 student participants (aged 7 years). These students have been identified as requiring reading support. | 2016 |

It must also be noted that although this study focuses on a single aspect of the school’s varied drumming programs, it has been conducted with an awareness of the wider drumming contexts at play within the school, in recognition of the significance of the contextual levels of engagement that influence overall student engagement (Wang & Degol, 2014; Furlong et al., 2003).

**Description of the School’s African Drumming Program**

The school’s African Drumming program is the focus of this study. This program occurs during the students’ lunch break, and is broken into two groups: intermediate and senior. The intermediate group consisted of 14 students from grades 2-4 (4 males, 10 females), whereas the senior group had 9 students from grades 4-6 (2 males, 7 females). The students in these drumming groups were invited to join by the music teacher, based on their rhythmic ability. Both groups rehearsed one lunchtime per week for approximately 40 minutes. There a number of features of these drumming sessions which determine the unique contextual setting for this study, which must be considered in relation to the findings.

**Djembe Drums**

Students primarily played djembe drums. The djembe is a goblet shaped drum with a timber shell and goatskin head, originating from West Africa (Figure 3.2.1). The djembe drum is struck with the hands and held between the legs. There is therefore a high degree of physicality involved with playing the djembe, as well as a great deal of sensory feedback through feeling the drum vibrations.
Group Formation
The drumming sessions were conducted with students seated in a circle, along with their teacher. An interactive, social layout is characteristic of African music, which is played with others, rather than for others (Joseph & Hartwig, 2015).

Informal Lesson Structure
These drumming sessions were conducted in an informal and relaxed manner, with students often suggesting which rhythms to rehearse and the teacher taking on a facilitation role. Some sessions incorporated some introductory rhythm games or a group improvisation session.

Explicit Rhythm Instruction
Despite classes being informal in nature, the music teacher still explicitly taught rhythm content each lesson. The rhythms being learnt consisted of set rhythm parts, which were taught by the music teacher. Figure 3.2.2 provides an example of one of the West African rhythms that was taught, rehearsed and performed as part of the drumming program. This differs greatly to “drum circles”, which consist of free improvisatory playing without any explicit instruction (Hull, 2006).
Figure 3.2.2 – Notated rhythm example. An excerpt from two of the rhythms learnt by the students during the drumming program. Source: African Drumming (2017, p.11 & p.17). Used with permission.

African-style Rhythms
During the drumming sessions, students learnt and rehearsed West African rhythms. As explored in the literature review, African drumming is characterised by: polyrhythmic complexity; syncopation; rhythmic interrelationships and communication; a structure marked by repetition and continuity; and an emphasis on a participatory, social culture of music making. The African rhythm content of the drumming program sets up opportunities for unique learning experiences and potential catalysts for student engagement.

Participants
The following participants were invited to take part in this study:

- Music Teacher
- All school staff
- Students participating in the specialised lunch time drumming program (intermediate and senior groups)
- Parents of students participating in lunch time drumming programs
All participation in this study was voluntary, with participant identity to remain anonymous (however, participant consent forms acknowledged that anonymity could not be guaranteed, due to the small number of participants involved in the study).

Music Teacher
Upon approaching the music teacher regarding the study, they received the proposed research concept with great enthusiasm and expressed a willingness to have the school involved and participate as a co-researcher. They were also present during the focus group interviews with student participants. An in-depth, semi-structured interview was also conducted with the music teacher, which was followed up with some further reflections via email, as well as continued discussion as co-researchers.

Other School Staff
All staff at the school were invited to take part in the study through the completion of a brief questionnaire. I presented at one of the school staff meetings, briefly outlining the study aims and approach and provided Plain Language Statements detailing the study. It was hoped that staff members would participate in the questionnaire to provide insight into whether students’ engagement in drumming had any potential impact on their classroom learning; however, no school staff chose to contribute to the study.

Drumming Students
All students participating in the school’s lunchtime African drumming program (intermediate and senior groups) were invited to participate in the study through taking part in a focus group interview. Students provided consent themselves and also obtained parental consent to take part in the group interviews. Of the 14 students in the intermediate group, 12 consented to being interviewed; and of the 9 students in the senior group, all consented to taking part in the focus group interview. Students in both of these drumming groups were also observed on a number of occasions during their regular lunchtime drumming sessions.

Parents
Parents of the students invited to take part in the study, were also invited to contribute themselves through a questionnaire that was sent home. In total, 8 parent questionnaires were completed and returned. These contributions offer yet another perspective and further insight for developing an understanding of drumming and student engagement.

Participants as Co-researchers
In light of the socio-constructivist approach, Kim (2014) stresses the importance of the relationship between the researcher and research participants. In honouring the value of multiple perspectives in qualitative research, the music teacher was encouraged to play an active role as a co-researcher or co-investigator (Lichtman, 2013). I encouraged this involvement through regular discussions with the music teacher during school visits, engaging in communication via email, encouraging their presence during focus group interviews with the students, and providing the opportunity for them (along with the students) to member-check the data as it was collected.

Student participants were also acknowledged as co-investigators in the study. A common criticism of engagement research is that students are often omitted from the discourse on the topic (Murphy, 2001). Giving voice to students, and paying attention to what they say and think, is actually integral to constructing an understanding of
authentic student engagement (Zyngier, 2008). The active involvement of students in the study was deemed necessary for producing trustworthy findings, as they are the only participants able to provide true insight into the nature of their engagement whilst drumming. During the focus group interviews, I informed students that I perceived them as experts on drumming and their own engagement, and expressed a keenness to learn from them. Enabling students to present as experts on the topic is empowering for them – but also allows for a more authentic insight into their experience (Winlow, Simm, Marvell & Schaaf, 2013).

3.3 METHODS

One of the keys to an effective, rigorous case study is utilising multiple data collection sources (Kervin et al., 2006). In order to provide an in-depth description and accurate interpretation of drumming and student engagement for this case study, it was crucial to allow for multiple perspectives to be voiced and represented through the data. As such, a multi-method approach was adopted, involving observations, informal conversations & correspondence, focus group interviews, 1-1 interviews and questionnaires. Utilising a range of data-collection methods not only enabled for multiple perspectives to be shared, but also allowed for certain themes and findings to be confirmed, extended or challenged by different participants. This is a defining quality of qualitative research, where a holistic approach is implemented in order to study “a situation or thing in its entirety” (Lichtman, 2013, p.19). It is hoped that the multiple perspectives presented in this study, and the way in which participants were empowered to share their own ideas and experiences in relation to drumming and student engagement combine to provide a holistic interpretation of the impact of drumming at this particular school.

Utilizing multiple sources of data collection also allowed for triangulation of the data, which offers greater assurance of its ‘synchronous reliability’ (Silverman, 2001). Through triangulation of data collected from multiple sources of information (students, parents, teacher) as well as through multiple collection methods (observation, interview, focus groups, questionnaire), a ‘more accurate picture’ (Lichtman, 2013) of drumming and student engagement can be conveyed. Table 3.3.1 illustrates the various data collection methods utilised to gather information from each of the participant groups in this study.
Table 3.3.1 – Data Collection Methods Employed and Participant Involvement

<table>
<thead>
<tr>
<th>Data Collection Method</th>
<th>Duration</th>
<th>Participants Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Students (n=21)</td>
</tr>
<tr>
<td>Observations (Conducted by researcher)</td>
<td>1 X General observation</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>3 X Scaffolded observations of Intermediate drumming group.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 X scaffolded observations of Senior drumming group</td>
<td></td>
</tr>
<tr>
<td>Interview</td>
<td>Completed in one sitting. 3 hours duration with a break.</td>
<td></td>
</tr>
<tr>
<td>Focus Group Interviews</td>
<td>2 X 30 minute sessions with Intermediate drumming group.</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>2 X 30 minute sessions with Senior drumming group.</td>
<td></td>
</tr>
<tr>
<td>Questionnaire</td>
<td>5 questions (1 X closed and 4 X open/extended).</td>
<td></td>
</tr>
<tr>
<td>Informal Conversation &amp; Correspondence</td>
<td>Occurred incidentally during researcher visits to the school.</td>
<td></td>
</tr>
</tbody>
</table>

**Observations**

Observations are integral to case study research, as they guide the researcher to a deeper understanding of what is happening as it is embedded within the context in which it naturally occurs (Kervin et al., 2006). In order to develop a greater contextual understanding of drumming and student engagement, observations were conducted of two different drumming groups during their lunchtime rehearsals: the senior African drumming group, and the intermediate African drumming group. Prior to conducting any formal observations, I attended a few drumming classes and participated in the session, so that students were able to build a sense of familiarity and trust with me being in the room. In doing so, it was hoped that this would limit any ‘destabilising factors’ (O’Toole & Beckett, 2013) as a result of me being in the room. After first conducting a general observation, I then conducted three scaffolded observations for each drumming group. The first observation focussed on all indicators of behavioural engagement, the second focussed on indicators of cognitive engagement, and the third focussed on indicators of affective engagement. The aim of these observations was not to quantify the data, but to provide an idea of which indicators of each type of engagement were evident during the drumming sessions.

These observations were conducted in a systematized, guided manner in order to enhance the reliability of the recorded data (Silverman, 2001; Hamilton & Corbett-Whittier, 2013). Scaffolds were utilized to guide my observations to thoroughly address the broad range of indicators for each dimension of engagement: behavioural, affective and cognitive (Appendix 1). These indicators were determined through reviewing key
literature on student engagement (as detailed in Literature Review chapter). Breaking engagement into these three dimensions, and observing just one at a time, enabled me to ensure that I was looking for all aspects of engagement, rather than overlooking particular indicators due to my own preferences and assumptions. However, this table of indicators was not prescriptive, and there were a number of times where indicators were added to the list as a result of having observed them in action. In this way, the criteria that were guiding my observations evolved as I added to my own understanding of the context being observed. These observations were conducted informally via non-participant observation, where I sat outside the group and watched the session unfold. When an indicator of engagement was clearly evident in multiple instances in any one observation a tick was recorded. Table 3.3.2, 3.3.3 and 3.3.4 provide an outline of the indicators utilised to guide observations.

Table 3.3.2 – Behavioural Engagement Observable Indicators

<table>
<thead>
<tr>
<th>Initial Indicators as Informed by Academic Literature</th>
<th>Participation</th>
<th>Effort</th>
<th>Attention</th>
<th>Conduct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>Time on task</td>
<td>On-task behaviours</td>
<td>Positive body language</td>
<td></td>
</tr>
<tr>
<td>Involvement</td>
<td>Re-attempting tasks</td>
<td>Maintaining attention / focus</td>
<td>Positive verbal exchanges / interactions</td>
<td></td>
</tr>
<tr>
<td>Initiation of action</td>
<td>Seeking / accepting challenges</td>
<td>Clarifying / asking questions</td>
<td>Follows rules / instructions / classroom norms</td>
<td></td>
</tr>
<tr>
<td>Sharing of ideas / contribution to discussion</td>
<td>Effort &amp; persistence</td>
<td>Flow – absorbed in activity</td>
<td>Positive choices / decision making</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Completion of tasks</td>
<td></td>
<td>Manners</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators added inductively during observations.</th>
<th>Awareness</th>
<th>Leadership skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will</td>
<td>Skills &amp; Strategies</td>
<td>Self-Regulation</td>
</tr>
<tr>
<td>------</td>
<td>---------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Initial Indicators as Informed by Academic Literature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest / curiosity / enthusiasm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thoughtful energy – involvement in class discussion / questioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follow-through &amp; thoroughness – attention to detail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resilience – dealing positively with mistakes &amp; setbacks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisational Skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem solving / solution seeking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision making</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memorization skills/ strategies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chunking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repetition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbalising</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progress monitoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-correcting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expressing relevance of work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Providing / seeking / responding to feedback</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expressing ownership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussing the Learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrating mastery / deep understanding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seeking challenge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrating a desire to go beyond requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indicators added inductively during observations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creativity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modelling &amp; mimicking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifying patterns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physicalizing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synchronizing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multitasking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building upon existing knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adapting / differentiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watching the learning in action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning transfer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3.3.4 – Affective Engagement Observable Indicators

<table>
<thead>
<tr>
<th>Initial Indicators as Informed by Academic Literature</th>
<th>Positive Emotion</th>
<th>Belonging</th>
<th>Social Support</th>
<th>Personal Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enthusiasm &amp; interest</td>
<td>Positive interactions / interpersonal skills</td>
<td>Support</td>
<td>Self-awareness of feelings</td>
<td></td>
</tr>
<tr>
<td>Enjoyment, happiness &amp; satisfaction</td>
<td>Awareness of others</td>
<td>Trust</td>
<td>Responsibility for learning</td>
<td></td>
</tr>
<tr>
<td>Pride &amp; sense of accomplishment</td>
<td>Teamwork skills / collaboration</td>
<td>Risk-taking</td>
<td>Confidence</td>
<td></td>
</tr>
<tr>
<td>Optimism &amp; positive self-talk</td>
<td>Conflict resolution skills</td>
<td></td>
<td>Responsible decision making</td>
<td></td>
</tr>
<tr>
<td>Valuing school</td>
<td>Open communication</td>
<td></td>
<td>Coping skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Listening</td>
<td></td>
<td>Empowerment / self-belief</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Encouragement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Empathy</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Of course, observing indicators of cognition and affection presents challenges regarding the reliability of the researcher’s interpretations. When observing affective dimensions of engagement, I had to very much rely on my own interpretation of what emotions students were experiencing, based on their body language, what they were saying, and how they interacted with others in the group. Similarly, in observing cognitive dimensions, I looked for clues that indicated particular cognitive processes – such as students tapping out rhythms lightly on their drums or legs to demonstrate recall & memorization, or discussions they had with each other regarding the practice and mastery of particular rhythm parts. My interpretations of the observation data were confirmed/contested by checking them against the data collected from all other sources, namely: focus group interviews with student participants; interview with the music teacher; and questionnaire responses provided by the parents of participating students.

Post-Observation Interview
A semi-structured interview was conducted with the music teacher. This provided the opportunity for any unexpected insight to be noted, to seek further clarification of a response, or to explore an idea in greater detail (O’Toole & Beckett, 2013). The questions asked endeavoured to provide insight into: the contextual background of the drumming classes; the teacher’s own observations of student engagement; the way in which the teacher was utilising the drum as an engagement tool; and how the drumming fits into the overall school culture (see Table 3.3.5 – Interview Guide). This interview was conducted at the conclusion of the data collection process, which allowed a rapport to build with the teacher prior to the interview. It also allowed for greater researcher familiarity with the context, enabling for the extraction of richer answers and a deeper understanding of responses (O’Toole & Beckett, 2013). Allowing for this interview to take place retrospectively also enabled various insights, observations and reflections to
be discussed at length. The interview was recorded and then transcribed for data analysis.

Table 3.3.5 – Interview Guide

<table>
<thead>
<tr>
<th>Opening Question</th>
<th>How did your interest in drumming originate?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment of drumming programs</td>
<td>Tell me about how drumming started at this school.</td>
</tr>
<tr>
<td></td>
<td>Can you talk me through the different drumming programs offered at this school, and what prompted you to start each of them?</td>
</tr>
<tr>
<td>Student engagement</td>
<td>What has the student response been like to the drumming programs?</td>
</tr>
<tr>
<td></td>
<td>Have you witnessed a change in student engagement levels during their involvement in the drumming programs? If so, in what ways?</td>
</tr>
<tr>
<td></td>
<td>Student engagement is multifaceted, and today, is commonly defined using three key categories: behavioural engagement, cognitive engagement, and social/emotional engagement…</td>
</tr>
<tr>
<td></td>
<td>Behavioural engagement entails the degree of student participation, effort, attention and conduct. Have you witnessed any evidence of students’ behavioural engagement during drumming classes?</td>
</tr>
<tr>
<td></td>
<td>Cognitive engagement entails students’ will to participate, their application of learning skills and strategies, and evidence of self-regulation and deep learning. Have you witnessed any evidence of students’ cognitive engagement during drumming classes?</td>
</tr>
<tr>
<td></td>
<td>Affective engagement entails positive emotion, feelings of belonging and connectedness, social support and personal growth. Have you witnessed any evidence of students’ social/emotional engagement during drumming classes?</td>
</tr>
<tr>
<td>Transfer of engagement / learning</td>
<td>Have you received any feedback or evidence of students transferring skills and attitudes developed during drumming classes to other areas of their learning at school?</td>
</tr>
<tr>
<td>The drum as a teaching tool</td>
<td>How do you use the drum as a tool in your teaching?</td>
</tr>
<tr>
<td></td>
<td>Can you give some examples of strategies you use with the drum to engage students in their learning?</td>
</tr>
<tr>
<td></td>
<td>Why have you chosen the drum as one of your primary teaching tools?</td>
</tr>
<tr>
<td>Success stories / specific cases</td>
<td>Can you share some of your success stories (specific cases) of how drumming classes have affected students’ engagement or learning?</td>
</tr>
<tr>
<td>School culture</td>
<td>Do you believe that the drumming has had an overall impact on the school culture in any way?</td>
</tr>
<tr>
<td>Closing question</td>
<td>Is there anything else you would like to add about the drumming programs that we have failed to cover?</td>
</tr>
</tbody>
</table>

*NB – These questions were used as a guide only, as the interview was conducted in a semi-structured manner.

Informal Conversation & Correspondence

Continual reflective practice and professional discussion took place with the music teacher throughout the course of this study. Informal conversations regarding ideas and observations were shared before and after observation visits; email correspondence was utilised to follow-up on topics discussed; and ideas and perspectives were shared through the exchange of written notes and programming documents.

The music teacher and myself shared a number of commonalities with regards to our professional backgrounds and interests. This enabled us to work as co-researchers with greater ease, due to sharing a similar perspective and having worked in comparable contexts. This also aided with professional discussion, as conversation tended to flow freely, which resulted in many opportunities to pick up on extra, anecdotal musings to support the data being formally collected for the study.
Focus Group Interviews
Students participating in the Senior and Intermediate African drumming groups were invited to take part in a focus group interview (see Table 3.3.6 – Focus Group Participants). The focus groups were facilitated utilising a semi-structured approach (see Table 3.3.7 - Focus Group Discussion Guide). These interviews were conducted over two sessions, during the students’ regular lunchtime drumming lesson, so as not to disrupt their school routine or learning in other subjects. The numbers of participants in each focus group varied across sessions, due to some students being absent on interview day. This was taken into consideration in the follow-up session, where some key ideas/questions were briefly re-visited, to allow students who were absent in the previous session to share their thoughts. The focus group interviews were recorded and transcribed.

Table 3.3.6 – Focus Group Participants

<table>
<thead>
<tr>
<th>Focus Group</th>
<th>Participants</th>
<th>No. Of Students Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Session #1</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Duration approx. 30 mins)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Duration approx. 30 mins)</td>
</tr>
<tr>
<td><strong>Focus Group #1</strong></td>
<td>Intermediate Drumming Group</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Music Teacher</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Researcher</td>
<td></td>
</tr>
<tr>
<td><strong>Focus Group #2</strong></td>
<td>Senior Drumming Group</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Music Teacher</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Researcher</td>
<td></td>
</tr>
</tbody>
</table>
Table 3.3.7 – Focus Group Discussion Guide

<table>
<thead>
<tr>
<th>Opening questions</th>
<th>Tell me about your school. (Prompt: What are some of the things you like about it? Is there anything you don’t like about it?). Are you involved in any extra things at school, outside of normal class? (eg. sporting teams, music groups, clubs, community groups, etc.).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition questions</td>
<td>Why did you decide to take part in drumming at school?</td>
</tr>
<tr>
<td>Key questions: general</td>
<td>What do you enjoy most about drumming? What sorts of things do you learn about in your drumming classes? What can you tell me about how drumming at school may have changed you?</td>
</tr>
<tr>
<td>Key questions: specific</td>
<td>What skills do you use when you are drumming? What sort of thinking do you do when you are drumming? How does drumming make you feel? Tell me about the other people you drum with. What is the most important thing that you have learnt from the drumming classes here at school?</td>
</tr>
<tr>
<td>Closing questions</td>
<td>If somebody was thinking about joining a drumming group, what advice would you give them? Imagine your school principal was deciding whether or not to continue with the drumming at your school and asked for your advice. What would you say to them?</td>
</tr>
<tr>
<td>Final question</td>
<td>Is there anything else you would like to tell me about the drumming at your school?</td>
</tr>
</tbody>
</table>

Following data analysis, the results were shared with the student participants, as well as the classroom teacher, in order to determine if interpretations were accurate. This was conducted in two separate sessions: the first with all students and the classroom teacher together; and the second with the classroom teacher alone. During these sessions, I shared with the participants the final themes that I had arrived at as a result of my data analysis process. I explained each of these themes to the participants, and then provided them with the opportunity to review the findings; add any additional information; and clarify any ambiguities (Kervin et al., 2006). This process of member checking further validates the interpretation of data and subsequent findings (Arthur, Waring, Coe & Hedges, 2012). This session was audio recorded, in order to keep accurate record of the feedback received from the participants.

The student perspective is an integral and necessary component to this study – as the students themselves are the only ones truly able to describe their engagement. Offering student participants the opportunity to contribute to a focus group discussion provided them with a sense of shared responsibility for the research and empowered them with opportunities to guide the interview direction and process (Ryan, Gandha, Culberson & Carlson, 2013; Sheppard & Jones, 2013). The focus group method was chosen over one-on-one interviews for a number of reasons. Firstly, focus groups are beneficial in situations where students are required to reflect on their experiences and provide rich responses (Winlow et al., 2013), which was critical to answering the how and why questions framing this study. Another advantage of focus groups is that they allow for participants to express both their personal opinions and their collective experiences as a group (Ryan et al., 2013). As the students participated in the African drumming program as a group, maintaining the same group dynamic was seen as beneficial to capturing insight into their collective experience of drumming. The group setting provided by
focus group interviews also promotes a greater sense of security for the students and a
safe environment (Then, Rankin & Ali, 2014; Winlow et al., 2013), where the time
available for reflection and the ideas offered by other group members allows them the
opportunity to give a fuller, more considered response (Sheppard & Jones, 2013).
Finally, on a practical level, conducting focus group interviews presented minimal
disruption to school and class timetabling.

**Questionnaire**
Parents of participating students were invited to complete a questionnaire regarding their
own thoughts and observations in relation to their child’s participation in the drumming
programs at school. This questionnaire consisted of 5 questions – one being a closed
question, and the remainder were open – requiring an extended response, as detailed
below in Table 3.3.8.

Table 3.3.8 – Questionnaire Items

<table>
<thead>
<tr>
<th>PARENT QUESTIONNAIRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) What drumming group or groups is your child involved in at school? (Please circle)</td>
</tr>
<tr>
<td>• Senior performance group</td>
</tr>
<tr>
<td>• Neuro support group</td>
</tr>
<tr>
<td>• Intermediate performance group</td>
</tr>
<tr>
<td>• Reading support drumming program</td>
</tr>
<tr>
<td>2) What has your child shared with you regarding their drumming experiences at school?</td>
</tr>
<tr>
<td>3) Have you witnessed your child develop any of the following skills as a result of their involvement in school drumming? (Please detail next to relevant headings).</td>
</tr>
<tr>
<td>• Thinking &amp; Learning Skills</td>
</tr>
<tr>
<td>• Behavioural Skills</td>
</tr>
<tr>
<td>• Social &amp; Emotional Skills</td>
</tr>
<tr>
<td>4) Has involvement in the drumming changed your child’s attitude to school in any way?</td>
</tr>
<tr>
<td>5) Are there any other comments you would like to make regarding your child’s involvement in drumming at school?</td>
</tr>
</tbody>
</table>

The questionnaire method was utilised to collect data from parents, as it offered
administrative flexibility in terms of distribution and time allocation for completion.
This flexibility was considered important in terms of encouraging and allowing for
parental involvement in the study.
3.4 DATA ANALYSIS

A coding process was utilised to organise, categorise and analyse each set of data. Waring (2012) describes coding as a “complex operation by which data are broken down, conceptualised and put back together in new ways” (p.301). Similarly, Thornberg (2012) describes the process of coding as consisting of three phases: initial coding, focused coding and theoretical coding. The coding process for this study very much followed this pattern:

1) **Initial Coding:** Data gathered from each separate collection method was coded initially to be broken down into one of the three dimensions of engagement: behavioural, affective or cognitive. These general coding categories were derived from the literature, as a dominant conceptualisation of student engagement. Thus, I used these categories to guide the initial coding of data.

2) **Focused Coding:** Within these categories, data was then open-coded and conceptualised into emerging themes. To guide the open-coding process, the indicators of student engagement used to scaffold observations (see Tables 3.3.2, 3.3.3 and 3.3.4) were also utilized to “sensitize” the researcher to possibilities in the data during analysis (Corbin & Strauss, 2012, p.66). This helped to ensure that certain concepts weren’t overlooked, due to researcher assumptions or bias. However, during this process, there were also a number of new codes that arose inductively, as they had not been previously extracted from the literature.

3) **Theoretical Coding:** The data collected from all sources was then merged and put back together in new ways – to arrive at a set of general findings or overarching themes. This involved a process of integrating categories, whereby themes/codes are linked around a core category and refined and trimmed, resulting in theoretical construction (Corbin & Strauss, 2012).

Figure 3.4.1 summarizes the process followed for data collection and analysis:
Figure 3.4.1 – Data Collection & Analysis Process

DATA COLLECTION & ANALYSIS PROCESS

Various perspectives and experiences of drumming and student engagement:
- Researcher
- Drumming Students
- Music Teacher
- Parents

Focus group interviews with students involved in the drumming program

DATA COLLECTION

Researcher observations of drumming classes in action

Music teacher interview

Parent questionnaire

DATA ANALYSIS

Each set of data is coded according to three modes of student engagement:

Behavioural Engagement
- Active Participation
- Effort & Persistence
- Attention, Focus & Flow

Cognitive Engagement
- Skills & Strategies
- Thoughtful Energy & Deep Learning
- Learning Transfer

Affective Engagement
- Positive Emotion
- Social Interaction
- Personal Growth & Empowerment

These categories are used to present the results of the data analysis.
### KEY THEMES IDENTIFIED

Relationships are identified between the data categories generated across the three modes of student engagement. These categories are merged into six overarching themes which summarise the ways in which African drumming engages students. Eight statements have been used to articulate why African drumming engages in these ways.

Drumming is engaging because it is:

**Accessible**
- Enables participation through offering accessibility to all students.

**Physical**
- Allows for physicality and embodied cognition.

**Therapeutic**
- Fosters positive emotion and supports emotion regulation.
- Acts as a vehicle for mindfulness and flow.

**Social**
- Encourages social interaction and instils a sense of belonging.

**Challenging**
- Builds persistence and learning resilience.

**Transferable**
- Equips students with cognitive skills that support learning.
- Provides powerful metaphors and analogies that enrich understanding of self and others.

These themes guide the discussion of the findings.
3.5 **TRUSTWORTHINESS**

In formulating the methodology for this study, I consistently reflected upon ways in which to ensure the reliability and validity of the findings. These considerations have been mentioned in the above description of the methods employed for data collection and analysis. However, in summation, each of these considerations will be revisited briefly in relation to Guba’s (1981) criteria for trustworthiness in naturalistic inquiries: credibility, transferability, dependability and confirmability.

The credibility of the findings is strengthened through the triangulation of data collection methods, as well as triangulation of sources of data. Respondent validation was sought from all interview participants following analysis of the data. Finally, I have aimed to provide as much “structural corroboration” (Guba, 1981) as possible through clear communication of study details in tables and charts; and sharing all data collection materials in reporting on the study.

The decision to adopt a socio-constructivist, case study approach to my methodology was largely influenced by the accessibility that this approach affords. Focussing on a single case and purposively sampling a select group of participants allowed for opportunities to collect rich data through interviews and focussed observations, thus creating opportunities to communicate findings through ‘thick description’ (Geertz, 1973; Guba, 1981). Incorporating interviews (both individual and focus group) as a data collection method allowed for participant perspectives to be more accurately presented through using direct quotes. The reliability of interview data was also further assured in this study, by: having the same mediator/facilitator for all interviews; transcribing interviews in their entirety; and reporting on findings using multiple, rich extracts of interview data. (Silverman, 2001). This attention to the particular allows for transferability of the findings and ‘educative authenticity’ (Lincoln & Guba, 1986), as the reader is able to develop a full understanding of the research context and how the findings may apply to similar contexts.

Finally, dependability and confirmability is sought once again through the triangulation of methods and sources, as well as the provision of an audit trail. Also, utilising an active voice in reporting and discussing the findings has allowed me to practice ‘reflexivity’ (Guba, 1981) and offer transparency with regards to my orientation and interpretations of the data.

3.6 **ETHICS**

This study has been approved by: the University of Melbourne Human Research Ethics Committee (Ethics ID: 1545556.1); the Victorian Department of Education and Training; and the principal of the school site in which this study was conducted. Key ethical considerations for this project included: providing clear information about the study; obtaining participant consent from all those involved in the study; and protecting participant anonymity and privacy.

All participants and the parents of participating students were informed of the study through an official Plain Language Statement (Appendix 2). Separate adult and student
Plain Language Statements were distributed, to ensure that information was pitched at a level that both provided detailed information, but was age appropriate for understanding. An introductory letter introducing the researcher and the study were sent home along with the Plain Language Statements for participating students and their parents. Student participants were informed about the study in a lunchtime meeting with the researcher and music teacher. The entire school staff were informed about the study through a presentation at a staff meeting. In both cases, participants were invited to ask questions to clarify any details regarding the study. Parent participants were invited to inquire about the study, with researcher phone and email contact details provided on the Plain Language Statement and accompanying letter.

Participants were informed during these meetings and through the Plain Language Statement, that their anonymity and the confidentiality of their responses would be protected to the fullest possible extent. Participants’ names were stored separately from any data they supplied in a secure manner. Those completing a questionnaire could choose to remain anonymous. No participant names or identifying information have been used in this thesis, nor will they be used in any subsequent research publications in relation to this study. However, participant consent forms did acknowledge that given the small number of participants involved in the study, absolute anonymity could not be guaranteed.

The consent forms signed by all participants clearly outlined: the purpose of the research; the way in which they would be involved in the study; the use of recording devices in focus group discussions and interviews; the voluntary nature of participation and the option to withdraw at any time; the way in which data would be stored securely; and the confidentiality of information provided. Informed consent was gained from all participants, and parental consent was also obtained for all student participants.
Chapter 4: Findings

How and why does African drumming engage primary school students behaviourally, cognitively and affectively?

The findings from this study will be reported in three stages, reflecting the three dimensions of engagement used to guide data collection and analysis: behavioural engagement, cognitive engagement, and affective engagement. In reporting the findings, key data gathered from all sources will first be summarised in thematic tables, in order to clearly communicate the different perspectives expressed by each participant group.

The data will then be cross analysed and combined into major themes, which will be presented in rich detail, provided through direct quotations from participants and a thorough description of researcher observations. These major themes are outlined below in Table 4.

Table 4 – Findings as Engagement Themes

<table>
<thead>
<tr>
<th>Behavioural Engagement</th>
<th>Cognitive Engagement</th>
<th>Affective Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Participation</td>
<td>Skills &amp; Strategies</td>
<td>Positive Emotion</td>
</tr>
<tr>
<td>Effort &amp; Persistence</td>
<td>Thoughtful Energy &amp; Deep Learning</td>
<td>Social Interaction</td>
</tr>
<tr>
<td>Attention, Focus &amp; Flow</td>
<td>Learning Transfer</td>
<td>Personal Growth &amp; Empowerment</td>
</tr>
</tbody>
</table>

4.1 HOW AND WHY DOES AFRICAN DRUMMING ENGAGE STUDENTS BEHAVIOURALLY?

The following tables (4.1.1, 4.1.2, 4.1.3, 4.1.4) indicate the behavioural engagement themes that emerged from each data collection source.

Observations
Observation data reveals that positive examples of a broad range of behavioural engagement factors were evident in the drumming classes, including: active participation, sustained attention and effort, and positive conduct.
Table 4.1.1 – Observations: Behavioural Engagement Themes

<table>
<thead>
<tr>
<th>Behavioural Engagement</th>
<th>Participation</th>
<th>Attention</th>
<th>Effort</th>
<th>Conduct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement &amp; Contribution</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Initiative &amp; Interactions</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Movement &amp; Physicality “Hands-on”</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Accountability</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Focus &amp; Concentration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Flow</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Perseverance “Getting back on track”</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Practice &amp; Seeking Challenge</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Positive Body Language, Posture &amp; Contact</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Positive Exchanges / Interactions</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Positive Decision / Decision Making</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Focus Group Interviews

Examining the data from the focus group discussions reveals some strong themes expressed by students in regards to their behavioural engagement. In particular, many points were made in relation to the degree and nature of attention and effort experienced whilst drumming. Students’ comments about: focus, concentration and flow; perseverance, practice and challenge will be communicated in greater depth in the combined analysis later in this chapter.

Table 4.1.2 – Focus Group Interviews: Behavioural Engagement Themes by Question

Music Teacher Interview

Discussion with the music teacher emphasised the themes of accessibility and physicality in relation to student engagement. The unique ability of the djembe drum to provide sensory feedback and gain attention also emerged as a key theme for the music teacher. As with the students, the music teacher also spoke about how drumming can conjure up effortful behaviours such as persistence and perseverance, seeking challenge...
and practice. The music teacher also drew a link between drumming and positive student conduct.

Table 4.1.3 – Interview (Music Teacher): Behavioural Engagement Themes

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Participation</th>
<th>Attention</th>
<th>Effort</th>
<th>Conduct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountability &amp; inclusivity</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Physicality &amp; Flow</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Feedback &amp; Practice</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Positive Engagement/Interaction</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Parent Questionnaire
Parents shared a similar view to the music teacher in highlighting the positive impact that drumming had had on their children’s conduct – particularly through the development of leadership skills and the fostering of a greater sense of responsibility as a result of being part of the African drumming groups at school. Some parents also noted a change in their child’s ability to focus since their involvement in the drumming. Interestingly, the theme of attention – particularly in relation to focus and concentration, emerged as a main theme across every data collection source.

Table 4.1.4 – Parent Questionnaire: Behavioural Engagement Themes by Question

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Participation</th>
<th>Attention</th>
<th>Effort</th>
<th>Conduct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra-curricular involvement</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Task &amp; Consequences</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Perseverance &amp; ‘Going Back on Track’</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Practice &amp; Seeking Challenge</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Responsibility, Dependability &amp; Accountability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisational Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What has your child shared with you regarding their drumming experiences at school?</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Have you witnessed your child develop THINKING &amp; LEARNING SKILLS as a result of their involvement in school drumming?</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Have you witnessed your child develop BEHAVIOURAL SKILLS as a result of their involvement in school drumming?</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Have you witnessed your child develop SOCIAL &amp; EMOTIONAL SKILLS as a result of their involvement in school drumming?</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Has involvement in the drumming changed your child’s attitude towards school in any way?</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Are there any other comments you would like to make regarding your child’s involvement in drumming at school?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
COMBINED ANALYSIS OF BEHAVIOURAL ENGAGEMENT DATA

This data will now be presented in greater detail, according to the three major behavioural engagement themes that emerged from the combined analysis of all data collection sources: active participation; effort and persistence; and attention, focus and flow.

**Active Participation**

When observing the drumming sessions in action, what was most striking, was students’ energy and enthusiasm towards the activity. I noted the students’ punctuality, as they seemed to arrive right after the bell, juggling their lunches and carrying big smiles on their faces. At the beginning of each session, the room was always a buzz of excitement and activity. Students would be hurriedly finishing their lunch so that they could get to work setting up the room with chairs and drums – ready for the lesson. On every occasion, in the time before the lesson started, a student who was ready early would start rehearsing a rhythm on a drum. Other students would spontaneously join in as they finished their lunch, resulting in an improvised jam. Each time this happened, I noted that the students would join in with the same rhythm, or a complementary rhythm – playing together in unison, rather than just doing their own thing.

During the drumming session, students expressed a great eagerness to continue, with pleas of “can we do another one?” or suggestions of which rhythm to play next. It would be quite common for them to respond with enthusiastic shouts of “hooray/yay!” after the teacher announced the next piece up for practice. The students would scramble to ready themselves on their allocated instrument for that rhythm: ‘I’m on the duns!; I’m on djembe!; Who’s on the bell for this one?’ All students were very on-task and there never seemed to be any behavioural issues. The music teacher confirmed that they saw “very little negative behaviour or negative emotion when doing drumming”. They emphasised the fact that they “very rarely have any behavioural issues when doing drum circles” and that even students who were behaviourally challenging in other classroom settings didn’t exhibit these difficult behaviours during drumming lessons. In fact, the music teacher was of the opinion that there was something so intrinsically motivating and engaging about the act of drumming, that students who would normally display challenging behaviours and disengage from tasks, would actually make positive modifications to their behaviour, in order to remain a part of the drum circle:

“I think it’s really interesting that they’re able to modify their behaviour in relation to that. And I think it’s got to do with the gratification they get. You get fairly instant gratification from playing the drum. And there’s the knowledge, too, that if I don’t do what’s required, I can miss out... And there’s obviously something in them that wants to participate within that [drumming] context...You put them in the social context of the drum circle, and they begin to modify their behaviour.”

The students themselves provided some insight into why drumming encourages active participation – naming accessibility and physicality as two clear reasons for the appeal. One student articulated that the drum is “the best instrument that you could play” because “once you get the hang of it, it’s not that hard”. Another student clarified that it is the simplicity of the drum that makes it such an accessible instrument to learn:
“If you played the flute of something, then you would have to hold on to the holes and stuff and then it would be really hard to hold onto the holes… and this [the drum] you can just play.”

The music teacher also described the accessibility of the drum in a similar fashion:

“I think the drum is accessible. So if you were playing mallet percussion, it sort of becomes a bit more complex because you’re having to deal with melody as well… so [with the drum] we’ve taken melody out of the picture – we don’t need to worry about different notes… You can sound relatively good fairly quickly - you can move faster with it.”

In fact, the music teacher had even experienced the accessibility and fast learning curve associated with the drum themselves through their own drumming journey. They recalled when beginning the African drumming program they “had no idea how to play”, “didn’t have any African drum rhythms” and spent the summer holidays “finding stuff and doing little YouTube lessons” to skill themselves up before having to teach the students. The music teacher also described how the djembe drum was such an accessible teaching and learning tool, as drumming activities can be quite easily differentiated for a broad range of ability levels as you can “create levels of complexity” within the rhythms:

“If somebody is struggling... how can I make it simpler, or how can I get them to do something where they’re participating – but it’s not as complex as the other things? So if it just means playing the beat on the bass – then that’s what happens. And you would have noticed that for some people, that’s what they did. Or, let’s just make that beat just a little bit more complex – let’s just shift our hand from bass to tone, bass to tone, so we’re getting that movement happening.”

Interestingly, when seeking respondent validation from the students and presenting the key findings of the study to them, I asked them which of our discoveries best described their drumming experience. Accessibility was one of the most mentioned points. It was also more frequently mentioned by the students from the younger, intermediate drumming group. In providing this response, the students verified that the accessibility of the djembe drum is a particularly strong source of engagement for students who are less experienced with drumming – most likely due to the success and fast learning curve it affords them.

According to the study participants, accessibility alone is not the key to the djembe drum’s appeal as a teaching and learning tool. The students articulated that it is the physicality of drumming that sets it apart from nearly all other learning that occurs at school. Students expressed that they liked drumming because “you move your body” and “it’s a hands-on experience” that encourages active involvement. The music teacher also noted that the physicality of drumming seemed to appeal particularly to boys, who seem to naturally crave active, tactile, physical experiences:

“Boys will ask for it [drumming lessons] more than girls... and it’s probably the physicality of it that attracts the boys... I think it’s just the nature of how boys are. I mean, they will come into the music room when there’s an open space and
they will do a commando roll and tackle each other... So when you give them something like this, it's really tactile and you can actually hit this thing quite hard... Yeah, I think the boys do quite like just hitting it!"

Taking the idea further, the music teacher drew on her own experiences of drumming to describe not just an ‘active’ physicality, but also a ‘sensory’ physicality that comes from drumming:

“I went to see the Japanese Taiko drumming once and I remember feeling – when they played the really big drums – you actually felt it right in your chest. And I think the kids actually talked about that, too. They are actually physically feeling it. So, I think there is something about the drum – particularly when you hit the bass, and you hit it well. You're holding it, you're touching it, and you're feeling it in your body. It is very physical”.

This prompted a discussion in our interview about the physical and sensory feedback that you receive from a drum when you play it, with the music teacher further articulating the sensory experience of African drumming:

“You’re holding it between your legs, your hands are on it. It’s like an extension of your body... it creates vibrations and those vibrations you can feel in your body... You feel it. You don’t just hear it – you actually feel the feedback as well. I think that’s probably one of the things that makes it [the drum] quite accessible, that makes it a great tool, that makes it engaging.”

The participatory behaviour displayed by the students during drumming classes indicated a high degree of involvement and an eagerness to take part. The students and teacher discussed the ease with which they could participate due to the accessibility of the djembe drum, as well as the high degree of physical activity and sensory experience that is associated with learning on the drum.

**Effort & Persistence**

Effort & Persistence

It became quickly apparent to me whilst watching the students drumming, that there’s no opportunity to hide behind a drum. There’s really no way in which you can struggle along quietly or hide mistakes. Mistakes are very much out in the open! On numerous occasions, I noted the visibility and audibility of mistakes, and the way in which students dealt with them. I watched students who were struggling with rhythms stop, watch for a while, and then re-attempt the rhythm. In my notes, I also made frequent reference to the way in which students seemed comfortable with practicing and drilling a particular rhythm part on their own in front of the group. They certainly didn’t appear fearful of getting bits wrong, and were relatively unfazed by their own errors, as well as the errors of others. There was a general willingness to give things a go and a high degree of persistence was evident from the group in general.

When asked what advice they would give someone wanting to give African drumming a go for the first time, many of the students referred to the perseverance required to succeed, offering encouragement such as: “don’t give up on it... keep trying even though you feel like you can’t do it”; “don’t worry if you can’t do it, just have a go”; and “if you lose track, you can always keep in time again”. They also shared great insight into
the ineffectiveness of comparing your self to others, suggesting that drumming participants should just “try your best... don’t try to be the best” and stressing “it doesn’t matter if you’re the best or worst in the group, as long as you try”. In response to the questionnaire item about drumming and thinking/learning skills, one parent raised the possibility that drumming had improved their child’s “ability to apply themselves and stick at tasks”. Similarly, in their interview, the music teacher spoke to quite some extent about the nature of drumming as an activity that is conducive to setting up a healthy degree of challenge for students. They attribute the repetition that is required for learning rhythms as great training for building perseverance and creating a determined mindset:

“We know that repetition is important, so at some point, it’s going to become a little bit more automatic. But at that point, that’s where you need to move on and go to the next point, where it’s getting a bit more challenging... I think that’s really visible in music.”

When asked about the kinds of skills that they utilise when drumming, many of the students made reference to a range of skills and techniques that they were using in order to persevere through the challenges presented by African drumming. In particular, they provided varied examples of how to get back on track when they made a mistake, including: “wait until the start, and then come back in from there”; “look to the side for other people who know it [the rhythm] off by heart”; “listen to the beat other people are playing on their drum... so you can get back into your rhythm”; and to “keep in step with the beat...so you know where the beat is... so you know where to come back in”.

In many of these responses, the students refer to the beat as being something they pay particular attention to when persevering through a rhythm. Similarly, the music teacher referred to the driving force of the beat transferring to greater drive and motivation in the drummer to succeed:

“When you’re playing a rhythm and there’s a beat, there’s some underlying foundation that you can connect with. And if you’ve got that, that makes it easier for you to do things often, you know, if there’s a beat or a rhythm. It’s the same when you do exercise – that’s why people exercise to music – because you’ve got this underlying beat that motivates you...”

When asked about what their child shares with them in regards to school drumming, a number of parents commented on their child’s keenness to practice “a lot” of drumming at home and “entertain the whole family with drumming beats” they had learnt at school. One parent also noted how their child “has shown other family members how to play different drumming beats”. Parents also noted that the students “speak about their drumming practices and performances” often with their family. The students themselves also conveyed a sense of enjoyment in relation to practicing their drumming skills, due to the challenge that it provides and the satisfaction felt when a rhythm is finally mastered:

“I like it because it gives you something like ah... to work on. Like if you have them at home, anytime you can just pick up the drum and start playing to make up your own tunes.”
“Now I can entertain myself by playing beats on anywhere – it doesn’t have to be a drum or anything. I just like playing beats.”

These responses, along with my observations of the drumming sessions in action, indicate that: the drum seems to motivate students to practice; it provides a learning environment where they can work on building their perseverance skills; and provides them with enough of a challenge, in an enjoyable setting, to build a resilient attitude towards their learning.

Attention, Focus and Flow
On multiple occasions during my observations, I noted the intense look of focus on students’ faces whilst they were drumming and the way in which the drum seems to command their attention. Whenever the teacher began a drum call, the students seemed to tune-in and demonstrate great focus. Just the sound of the drums also seemed to have quite a powerful influence on many students outside who could hear the drumming from the playground. Each time the drumming groups rehearsed at lunch, there would always be a few students from the playground who were drawn in by the sound of the drum - their faces squashed up against the windows to catch a glimpse of the drumming action inside. Parents also attributed their child’s involvement in drumming to enhanced focus, concentration and listening skills.

Not only did the drum seem to gain the attention of individuals, but the act of drumming also appeared to have a significant impact on the degree of focus amongst the group as well. I made note of the focussed connection that existed between students and the teacher whilst they were drumming. One key indicator of the focus in the room was the strong eye contact occurring amongst the group and the high degree of attention on the teacher as they facilitated the drumming. On one occasion, I noted, “the group appears very connected – intuitively speeding up and slowing down together in order to keep in time with each other”.

Interestingly, I also had a couple of conversations with the music teacher, where they brought up comments from other teaching staff at the school regarding how serious the students always look when they are drumming. At times, students had been criticised for not smiling whilst performing. The students themselves also discussed these reactions to their “concentration faces” by their parents and other members of the school community. They explained “it is very hard to smile while you’re drumming because you’re doing so much concentration” and that sometimes they “stare into nothing” when they are drumming as they are focussing on remembering the rhythms. The students identified focus as one of the most important skills they had acquired from drumming. They explained “you really need to concentrate to stick in to the rhythm” and that focus was essential if you didn’t want to “stop playing” “go out of time” or “muck it up”.

However, students didn’t describe their experiences of this intense focus as being draining. Rather, they seemed to describe how drumming enabled them to enter a state of flow - a form of optimal experience that can be defined as “a complex and positive state characterised by deep involvement and absorption” (Delle Fave & Bassi, 2016, p.3). Many of the students referred to this experience as “zoning out”, when the “mind is literally empty” and “you’re not stuck or anything, it just flows”: 
“Sometimes I kind of just like... “zone out”. Like, I'm just playing the drum and then I kind of like... forget about everything – I don't even really know what’s happening. I just drum and... my hands are just moving without really thinking.”

“I’ll just be playing a rhythm and then all of a sudden I’ll just sort of like, blink – and then I realise – Oh – I was just playing a rhythm without even thinking about it. Like, cause sometimes when you just play the rhythm continuously all over and over again, you sort of, you know, get used to it – and then you’re just playing it for a little while and you... zone out – then a couple of seconds later, you come back in and you just – you realise that it was a bit odd – you were playing without really even thinking about it.”

The music teacher was also very aware that the students often reached a state of flow whilst drumming – explaining “it gets to a stage where the kids are in the groove” and “they get a bit lost in it”. During the focus group interview, they pointed out to the students that it was interesting that many of them talked about “zoning out” whilst drumming, before describing the experience as “actually ‘zoning in’ to something really specific, which is why it seems like you’ve zoned out of everything else”. Similarly, in my own observations, I noted instances where the group appeared to be highly focussed, very “lost in the moment” - where students appeared to be “completely absorbed by the activity” and “almost in a meditative state”. They were sometimes “playing with their eyes shut” or simply “staring at a spot on the ground”. Whilst drumming, students were displaying an intense degree of concentration that could be described as being “in the zone”.

The drum also seemed to have the power to re-engage students and regain their attention whenever it was lost. There were a number of times where I observed moments where students lost focus, only to be quickly snapped back to attention by the sound of the drum:

“One students’ concentration lapsed during the session. He started to use his drum quietly miming as a machine gun. As soon as the teacher started drumming again, he was straight back into it and resumed a high level of focus”.

“One student appeared to lose focus during the course of the lesson. She was lying across her chair whilst the teacher was talking. As soon as the drumming started again, she was instantly re-engaged.”

These findings indicate that African drumming has the potential to engage students behaviourally in a number of ways, including through: encouraging active, physical participation; building students drive, effort and persistence; and commanding a high degree of focus and concentration.
4.2 HOW AND WHY DOES AFRICAN DRUMMING ENGAGE STUDENTS COGNITIVELY?

The following tables (4.2.1, 4.2.2, 4.2.3, 4.2.4) indicate the cognitive engagement themes that emerged from each data collection source.

Observations
The scaffolded observations of cognitive engagement revealed that students were employing a vast range of cognitive skills and strategies whilst drumming. In particular, students appeared to be engaging in a strong set of thinking and rehearsing strategies during drumming classes. There was also a large amount of self-regulation evident, where students consistently demonstrated self-correction and progress monitoring as they were drumming. Students’ willingness to rehearse indicated a desire for mastery with their drumming.

Table 4.2.1 – Observations: Cognitive Engagement Themes

Focus Group Interviews
Discussion with the students revealed that they were very aware of the musicianship skills that they were gaining from their involvement in drumming. During the respondent validation meeting, many of the students in the intermediate African drumming group named the development of skills and strategies (specifically, musical skills) as the most important part of their drumming experience. Students indicated that deep learning was taking place through the mastery of drumming skills and complex rhythms. In general, students spoke less about broader cognitive skills being utilised during drumming classes. However, a strong key theme that emerged from student responses was the thinking skills that they had to employ in order to have success with drumming. Thinking skills that were mentioned frequently by the students were automaticity and “quick thinking”, as well as memorising and recalling strategies.
Table 4.2.2 – Focus Group Interviews: Cognitive Engagement Themes by Question

Music Teacher Interview
Discussing the cognitive skills and strategies utilised when drumming with the music teacher elicited a similar response to that of the students – with their emphasis being on the thinking skills involved, particularly memorising and pattern recognition. However, the music teacher also emphasised instances where drumming could be utilised as a medium for learning transfer to support learning in other subjects – especially in literacy. They also spoke a lot about the coordination and physicality required for drumming as a form of embodied cognition. Ways in which drumming cognitively readied students for learning and empowered them with opportunities to self-regulate their learning were also key points for the music teacher.

Table 4.2.3 – Music Teacher Interview: Cognitive Engagement Themes

Parent Questionnaire
The parent questionnaire responses in relation to cognitive engagement confirmed key points made by both the students and the music teacher. Parents named pattern recognition and memorising skills as key thinking strategies students had developed from drumming. They also identified the acquisition of musical/rhythmic skills as an area of cognitive growth for students. Parents also confirmed ideas shared by the music
teacher regarding the transfer of skills learnt through drumming to other learning contexts.

Table 4.2.4 – Parent Questionnaire: Cognitive Engagement Themes by Question

<table>
<thead>
<tr>
<th>Questionnaire Item</th>
<th>Thinking</th>
<th>Rehearsing</th>
<th>Doing</th>
<th>Acquiring Musicianship Skills</th>
<th>Learning How to Learn</th>
<th>Learning Transfer</th>
<th>Learning Readiness</th>
</tr>
</thead>
<tbody>
<tr>
<td>What has your child shared with you regarding their drumming experiences at school?</td>
<td>✔️</td>
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<td>✔️</td>
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<tr>
<td>Have you witnessed your child develop any THINKING &amp; LEARNING SKILLS as a result of their involvement in school drumming?</td>
<td>✔️</td>
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<td>Have you witnessed your child develop any BEHAVIOURAL SKILLS as a result of their involvement in school drumming?</td>
<td>✔️</td>
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<td>Have you witnessed your child develop any SOCIAL &amp; EMOTIONAL SKILLS as a result of their involvement in school drumming?</td>
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<td>Are there any other comments you would like to make regarding your child’s involvement in drumming at school?</td>
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COMBINED ANALYSIS OF COGNITIVE ENGAGEMENT DATA

This data will now be presented in greater detail, according to the three major cognitive engagement themes that emerged from the combined analysis of all data collection sources: the application and acquisition of cognitive skills and strategies, investment of thoughtful energy, and opportunities for deep learning.

Skills & Strategies

Whilst observing the drumming sessions for evidence of cognitive engagement, I noted a broad range of cognitive skills and strategies that were being employed by the students. These skills and strategies fit into one of three categories: thinking, rehearsing and doing.

Thinking strategies were observed through noting the memorising and recalling skills used by students, as well as opportunities for them to apply creativity and problem solving skills to their drumming. In my notes, I recorded that students were “practicing the skill of memorising in a multitude of ways” including “playing, verbalising, counting out, feeling through muscle memory, miming, watching and listening”. I also noted that through engaging in these memorising skills and strategies, students were “training the brain to remember quickly under pressure”. Students discussed how for drumming “you need good memory” so that they can “keep the rhythms in our heads for other weeks”. They described how after drumming for some time, they were able to “automatically remember” rhythm parts that eventually got “stuck in your head”. Students also acknowledged how drumming engaged the use of both mental memory and physical memory:

“Well... Your brain is getting your hands and stuff going, and then you have to remember the rhythm... there’s a lot involved! And it’s very difficult sometimes!”
The music teacher also named memorising as a key skill required for, and built through drumming. They identified the strategy of recognising patterns as being key to developing a rhythmic or musical memory:

“There are repeated patterns that come up, so you start to get a feel for those, and it’s not as if everything you play is entirely new, you know. You see patterns that emerge in the music... I often talk to kids about how you’ve got to look for the patterns in the music, because when you find the patterns, then you begin to see the cycles that occur in music and you’ll memorise things quicker... So you can start to see a pattern, visualise a pattern, and then you can learn the things quicker.”

In one lesson that I observed, the music teacher instructed the students to “listen to where the pattern is – you can’t just come in anywhere”. In another class, the music teacher presented rhythmic patterns visually using coloured cones. It was evident that a range of teaching strategies were being utilised to engage the students in building their pattern recognition skills. In my notes, I recorded that the students were working with patterns all of the time during drumming classes, and were “demonstrating a strong ability to recognise, reproduce and make patterns”. Parent questionnaire responses also identified “following patterns” and “memorising” as thinking skills that their child had strengthened as a result of drumming.

Students also spoke with great enthusiasm about the ways in which drumming was training their brains to think quickly, recall information instantaneously, and think clearly under pressure. They found these ideas challenging to articulate – but the conversation always became quite dynamic around this topic:

“[Drumming] is sort of this thing to help you think. So, it does help you think... but it’s hard to describe HOW it helps you think.”

“Yeah – I think it [drumming] gets your brain thinking because, like, it’s something to remember... it’s like your brain needs to remember it so it gets your brain working to remember that rhythm to play it...”

“Quick thinking. Because if you’re playing a tune and some signals come up quick, you have to like... “Oh - okay I have to do this now”... so it’s changing over from one thing to the next.”

“I don’t know, because you’re like... your brain is working, so you’ve got to go from one spot to the other spot and you’ve got to keep changing to different rhythms...”

One student attributed the movement and physicality of drumming in assisting with the flow of thought processes, as “when you move it helps your brain and gets it working... so you’re not stuck or anything – it just flows”. Interestingly, another student described how he used the action of drumming his fingers on the table to help get his mind into the flow of thinking:

“It [drumming] helps me sometimes... like sometimes when I’m working out a maths question... I just think about it [showing how he taps his fingers on a
surface]... just tap my hands for a little while... go “oh – I’ve got it!”... write it down – then read the next one and then I’ll start tapping again!”

The use of drumming to aide thinking was also noted by one of the parent respondents who noted when their daughter is “thinking of things, she taps on things like she is drumming”. This notion of utilising drumming to help with thought processes was widely supported by the students, as they very enthusiastically discussed the habit of “tapping on things” that all of them had experienced, and also observed in others. They noted, “When people do this [tapping on things]...it helps a lot as well”. These observations and participant insights point to the way in which drumming demands the application of memorisation skills and quick thinking, and seems to promote a “flow” of thought processes when focussed, deep thinking is required.

Observing the students during their drumming classes also revealed a variety of rehearsing strategies that students were employing when learning new rhythms. I made frequent notes about students appearing to engage in mental practice strategies. I could see that students were practising rhythms by: verbalising rhythm patterns under their breath/in their head; air drumming (going through the physical motions of drumming without actually touching the drum); and by lightly tapping on their drums or legs in between playing. I also observed that students were pre-rehearsing in their minds and softly on the drum before having to play with the whole group.

One key strategy used by the teacher and students to learn, rehearse and remember rhythms, was through allocating words to the rhythms and verbalising them aloud. The music teacher would say to the students “if you can say it, you can play it” and acknowledged the use of speech patterns as being a very effective strategy for learning and playing rhythms. Figure 4.2.1 provides examples of some verbalised rhythms used in the classes. Not only did these verbalisations assist with rehearsing and learning complex rhythms – but they also added humour and fun to the lesson.

Figure 4.2.1 – Examples of some of the verbalised rhythm patterns used during the drumming classes.

“Where’s the microphone 1, 2, 3, 4”

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Where’s the microphone 1 2 3 4

“Candy candy cane, cha cha”

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Can- dy can- dy cane cha cha

“1, 2, 3, 4, get down and play the drum”

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1 2 3 4 Get down and play the drum
Another rehearsing strategy that was employed regularly in the drumming classes was the use of repetition. I observed that as rhythms were repeated, the students became more confident, as indicated through their body language and the strength of their drumming. In fact, the students seemed to be incredibly motivated to practice their drumming skills, as they spoke about instances where they rehearsed their drumming at home on “the kitchen bench”, “the table”, “the car door” or “absolutely anything!” One student noted that drumming had given them the ability to “entertain myself by playing beats on anything”. Responses from the parent questionnaire also indicated the enthusiasm with which students rehearsed their drumming at home. They noted that their children had “been very keen and proud to show new rhythms and skills” and “quite often entertains the whole family with drumming beats they are learning at school”. Not only were students keen to practice their drumming, but they also seemed to be learning some key rehearsing strategies as a result, including verbalising and repetition.

The final type of drumming skills observed and discussed with participants were active and kinaesthetic in nature. The physicality of drumming offers a unique kinaesthetic learning style, which seemed to provide opportunities for the development of coordination and multitasking skills, and an awareness of posture and body language. Students spoke of feeling like they were “sitting up straighter”, “not slouching down” and using “good posture” as a result of drumming. They often made references to djembe drumming technique and demonstrated a particular awareness of the physical techniques required for drumming, such as how “you’ve got to have really strong hands” and utilise power “from your elbows” to get a desirable sound. Students also talked about a variety of gross motor skills that they utilised whilst drumming, including fast reflexes, correct hand movements, muscle memory and coordination.

The challenge presented by drumming was also discussed by the students – particularly in relation to the way in which playing the drum simultaneously activates mind and body:

“Well… Your brain is getting your hands and stuff going, and then you have to remember the rhythm... there’s a lot involved! And it’s very difficult sometimes!”

“Your brain is working, so you’ve got to go from one spot to the other spot and you’ve got to keep changing to different rhythms…”

The music teacher also acknowledged the high degree of multitasking skill utilised in drumming, once again highlighting the marriage between thinking skills of the mind and kinaesthetic skills of the body:

“So, you’re having to know what the rhythm is, so you’re having to remember a speech pattern; and you’re having to coordinate that speech pattern with your hands; and you’re having to put that rhythm into different places on the drum – so you’re having to shift your hands in that way. And if you’re using both your hands, you have to use left/right alternating when you play as well. So... coordination-wise, you’re actually doing quite a lot!”
During my observations of the drumming sessions in action, I also noted that the students seemed to become very aware of their bodies whilst drumming. They would take on a confident yet relaxed posture; the eye contact in the room would become intense; and they would move in time to the music as they played. I noticed that there was also a great deal of physical synchronicity amongst the group, as students would move in time together. It also became evident that the physical nature of drumming allowed for modelling and mimicking strategies to come into play. Students would watch the teacher and each other very closely, and pick up rhythmic patterns by mimicking the physical movements of others. In fact, students seemed to be modelling and mimicking constantly: through air drumming, tapping on objects, utilising body percussion and playing on their drums. In my notes, I reflected upon this high degree of physicality afforded by drumming, and how this contrasted with the typically stagnant learning that occurs with many academic subjects that constitute classroom learning.

Overall, the skills and strategies that the students demonstrated and discussed in relation to their drumming were vast and numerous: from thinking skills such as memorising, recalling and recognising patterns; to rehearsing strategies such as repetition and verbalising; and kinaesthetic skills including body awareness, coordination, multitasking and mimicking.

**Thoughtful Energy & Deep Learning**

Observations of the drumming sessions in action revealed the high degree of thoughtful energy that students invested into their drumming. In between drumming rhythms, students would energetically discuss with their peers and their teacher details regarding the execution of the rhythms:

“What was my part again?”

“What’s that thing again?” [Moving hands in the pattern of the rhythm]

“I remember... yes...”

“I was thinking about that...”

“They were doing the opposite of us again!”

It was also evident that a high degree of mental preparation, planning and creative energy was invested during drumming classes. In one rhythmic improvisation session, the music teacher instructed students to “When you’re ready, come up with something”. One student responded with “I’ve already got mine planned”, whilst others appeared to be engaged in deep, focussed thinking – quietly tapping out rhythmic ideas on their drums or listening intently to the rhythmic ideas already being played. Thoughtful energy was also demonstrated through many instances of self-regulation and progress monitoring. During the drumming class, it was clear that students were deconstructing the learning process in an attempt to identify what was challenging them with particular rhythms (“It’s hard because...”). There were times when I watched students stop playing in order to listen to the ensemble and find their place within the rhythm (“I’m not sure if this is always in time...”). There were also instances where students would choose to play a different rhythmic part – self-differentiating the parts they took on...
according to their rhythmic ability (“Can I change to the other group?”). At other times, I witnessed students self-correcting their rhythm in order to fit in better with the rest of the group, or group-correcting, where they would come up with an altered rhythm to support a peer who was getting a little out of time. In discussing the cognitive aspects of drumming with the music teacher, they too acknowledged the way in which it developed students’ self-awareness and ability to self-regulate:

“I will teach all of the parts to all of them. And then it’s a case of: “Now you play what’s most comfortable for you”... I can recall one of the girls who acknowledged herself and probably was the first one to do so, that she needed the assistance of others – she needed to watch what someone else was doing. And I think she also acknowledged that she actually never plays the more complex parts – and she’s fine with that... I think they’re fairly good at knowing what they’re good at. And sometimes someone will say “I want to play this” and I’m thinking, “Oh... I don’t know” [doubtful expression] – but I give them a shot, and sometimes I’m amazed – they surprise me!”

Having both had experience facilitating drumming groups with adults and children, the music teacher and I discussed how difficult it is for individuals to acknowledge and accept their true level of competency. We noted that the students in the drumming group seemed to demonstrate a very accurate perception of their drumming skills and ability, and would differentiate for themselves accordingly during the lesson:

“I noticed with the group of kids that you’re working with, that they were very good at going: ‘This part is too difficult for me – I will go back and play that part because I feel more confident within it and the music’s going to sound better if I do that’. They just had an awareness that shocked me!”

The music teacher noted that the ensemble style of a drumming circle means that it is okay to not be brilliant at everything on your own; that regardless of the part you are playing “you’re still a part of the bigger picture” and you can use the diverse abilities within the group to layer together parts to create complex and exciting rhythms.

As well as self-regulating when required, I noted that students were very much striving for mastery of the drumming rhythms, and were committed to continual improvement. In my discussions with the students, they articulated that a large engagement factor for them was purely in striving to “learn to play an instrument” and “learning new rhythms”. They also discussed how they enjoyed the challenge of mastering rhythms of greater complexity – as “it’s not always a simple rhythm” and “it gives you something to work on”. Students also described in great detail the importance of “knowing your rhythm” and understanding the timing of the music.

Despite having witnessed the students overcome the challenges presented by the complexities of the West African rhythms they were playing, it was quite surprising to discover that they didn’t actually perceive their learning as all that challenging. When asked if what they were doing on the drum was easy, the students acknowledged that the rhythms were challenging – “but because we know we’ve done it for a very long time, it’s easy for us”. Here, they display a sense of pride in their mastery of rhythms. The students explained how once a degree of mastery has been achieved with the rhythms, it opens up opportunities to learn other kinds of skills through drumming:
“Maybe because we’ve been in drumming for quite a long time... we don’t really know that we’re learning anything from it, it’s just like... a rhythm and so... you’re probably learning other stuff.”

This was certainly supported by student responses during our respondent validation meeting, where younger students believed that gaining musical skill was one of the most important aspects of their drumming experience; whereas the more experienced students from the senior drumming group identified focus and flow, as well as working within a team environment as being key to their drumming experience.

**Learning Transfer**

Participant responses suggest that beyond the mastery of drumming rhythms, lies opportunities for the knowledge and understanding gained from drumming to be transferred to other learning contexts. The music teacher also expressed a belief in the broader cognitive benefits associated with drumming as they discussed their own professional reading and reflection:

> “Researchers say when you’re actively engaged in music making – particularly when you’re making it up yourself – it fires more neurons in your brain than any other activity. So, in a music context, you’ve got to say that if more neurons are sparking in your brain, then, I mean your brain is getting a pretty good workout! I often say that to kids. ‘You realise, what you’re doing now is firing up your brain more than anything else’.”

In our informal discussions after drumming sessions, the music teacher, on numerous occasions, spoke about a state of “learning readiness” that seemed to be prompted through engagement in drumming. They spoke of students who they had worked with in small group drumming sessions, who would transition from seeming “incredibly vacant” to “coming alive” after drumming. Classroom teachers had also told the music teacher that students returned from drumming sessions “more settled”, “more able to engage in the learning”, “able to contribute to class discussions” and more “able to make connections between the new learning and previous learning”. One parent also noted connections that their child was making between lessons learnt in drumming and everyday learning challenges:

> “She quite often compares everyday activities to drumming scenarios. She approaches new things more sensibly. Breaking them down and then completing them as a whole – much like a new tune!”

The students also often referred to learning in their drumming classes metaphorically – explaining the importance of “knowing your rhythm”, “being aware of other people’s rhythms” and “keeping in time with the rhythms of others”. This further highlights the potential for learning transfer between drumming and other learning contexts.

Investigating African drumming in terms of cognitive engagement factors has suggested ways in which the djembe drum might aide the development of a broad range of skills and strategies, allow for thoughtful learning processes, and empower students to engage in deep learning.
4.3 HOW AND WHY DOES AFRICAN DRUMMING ENGAGE STUDENTS AFFECTIVELY?

The following tables (4.3.1, 4.3.2, 4.3.3, 4.3.4) indicate the affective engagement themes that emerged from each data collection source.

**Observations**

Conducting scaffolded observations of the affective aspects of the drumming classes drew my attention most strongly towards the social interactions that were in play, including instances of: positive interaction and communication; teamwork and cooperation; support and trust; and social connection and awareness. A high degree of positive emotion was also evident, as well as indicators of student empowerment.

Table 4.3.1 – Observations: Affective Engagement Themes

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<thead>
<tr>
<th></th>
<th>Positive Emotion</th>
<th>Belonging</th>
<th>Social Support</th>
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<td>Senior Drumming Group</td>
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**Focus Group Interviews**

Emergent themes from the focus group interviews reveal that students also place a great deal of emphasis on the social aspects of the African drumming experience. They consistently referred to the positive emotion that they experienced as a result of drumming. Aspects of personal growth were also discussed – particularly the sense of empowerment gained from African drumming.
Music Teacher Interview
Discussion with the music teacher also covered a broad range of affective engagement factors. In particular, the music teacher raised the positive emotion felt by students in relation to drumming a number of times. Also frequently mentioned, were themes pertaining to social support.

Table 4.3.3 – Music Teacher Interview: Affective Engagement Themes
Parent Questionnaire

Parent questionnaire responses also acknowledged a high degree of positive emotion felt by students in relation to drumming. In particular, they pointed out how students highly valued their drumming time and how it enhanced their eagerness to attend school. They pointed out the pride felt by their children when given the opportunity to perform. Parents also acknowledged how their children seemed to utilise drumming as an emotion regulation tool for relaxation and mindfulness.

Table 4.3.4 – Parent Questionnaire: Affective Engagement Themes by Question

Overall, all sources of data communicated a number of ways in which African drumming sparks positive emotion, provides a platform for social interaction, and fosters opportunities for building confidence and self-esteem.

Positive Emotion

Whilst observing the drumming sessions in action, I consistently made notes in regards to the degree of happiness and enthusiasm exhibited by the students. There was a lot of laughter amongst the students and a wonderful energy in the room, which transferred to the drumming. On one occasion, the students managed to speed up the rhythm and keep it together—the big smiles on their faces indicative of the excitement in the room generated by the fast-paced rhythm. The students would often dance and sing their way out of the music room at the conclusion of their drumming sessions. The drumming clearly had a positive affect on their mood and heightened their energy levels. Positive emotion was also indicated through the positive language used by the students during the drumming sessions. After the teacher announced a rhythm, students would respond with excitement and enthusiasm, often exclaiming out loud “Hooray!” or “Yay!” The students would also offer positive feedback to the group during the session such as: “I think that was really good!” When the students were asked about how drumming made
them feel, many of the responses were in relation to positive emotions. They explained that they “love playing the drums” because “it is just really fun” and makes them feel “happy”, “excited” and “good”. When asked about why they joined the drumming group, students replied that they liked “how it makes me feel”, “the sound it makes” and “how everything fits in on the drums”. The music teacher also spoke about the positive, enthusiastic response she got from students whenever she set the classroom up for a drumming lesson:

“When I set up a drum circle and the kids come in - they know when it’s set up like that we’re having a drum circle – and... it’s always “Oh! It’s a drum circle – a drum circle today!” [Very enthusiastic expression] and then it’s... sort of a little frantic [with excitement] “which thing will I pick!”

They also noted that after each drumming session, students “leave the classroom fairly happy”, enabling them to “engage with things much better”.

All groups of participants from the study (students, music teacher, parents) noted how the djembe drum could be utilised as a self-regulation tool for reducing anxiety, stress, anger and sadness and increasing feelings of happiness, calmness, relaxation and enjoyment. Parents particularly noted how the drumming helped their children become “a lot calmer”, manage their “anxiety in general” and “relax” and “chill out”. One parent described how their daughter was intentionally using drumming at home to regulate her emotions, as “she will go use her djembe if she is upset”.

The music teacher also described the therapeutic nature of djembe drumming and how the activity lent itself to enhancing wellbeing as “hitting something seemed therapeutic” for students as they “could just play the drum... and just be involved in that and not thinking about whatever complications and difficulties there were in their life”. The students themselves were able to articulate very clearly why the djembe drum was such a powerful tool for self-regulation, pointing out that it commanded a deep level of thinking and focus that distracted their mind from any troubling thoughts:

“Because I’m like... concentrating... and it takes my mind... like... it calms me because it’s like I’m not thinking about the problem. So it calms me down.”

“Well when I am, like, playing a drum it can make me think more about the rhythm than what’s actually happening... so... If I’ve had a bad day or something, I can just forget it and think about what I’m doing on the drum.”

“Sometimes I can of just like... ‘zone out’. Like, I’m just playing the drum and then I kind of like... forget about everything – I don’t even really know what’s happening. I just drum and... my hands are just moving without really thinking.”

“Um... I find it calming and relaxing and happy. Cause like, music calms you – so when you’re playing something, you’re like – you’re focussing on your rhythm, not everything else that’s going on...”

“It makes me feel happy... it kind of clears everything in my mind.”

“Just say he had like... a really, really big problem ... he’d come to drumming, and he’d do some drumming and he’d think... and then somebody would bring it
up later on and he’d be like... ‘Oh yeah, I totally forgot about that because I was drumming – I was busy’”

“It calms me – so if I have a problem or something... if I come to drumming... well it takes my head... like it calms me down.”

“If it’s a sad day or if it’s raining if you drum it helps. I’ve tried it.”

Students also expressed that they highly valued the drumming experience – not just because of how good it made them feel in the moment, but also because of how “it gives you something to do in school – an opportunity” that fills their school days with ongoing purpose and satisfaction. One student expressed the opinion that without drumming, they “wouldn’t really have anything to do”. When students were asked if they viewed school drumming as work, they replied: “No, it’s a privilege”. This was further confirmed by many parent responses, which also highlighted the value of the drumming experience for their children in developing their love for school. Parents noted that their children “like school more now that they do drumming”; that they “count down to drumming every week”; and emphasised how drumming creates a sense of belonging as it is a “special thing” that “makes going to school very easy” for the students.

Additionally, the music teacher also noted that the African drumming program seemed to be particularly effective in engaging students who would otherwise be difficult to engage:

“As research has shown, drumming can be really effective at engaging kids who’ve suffered trauma. So that’s interesting... Somehow, this helps kids to participate and helps kids to engage...”

The music teacher noted that generally the students “love playing the drums” and “everyone wanted to play” the drums whenever they were given the opportunity.

Social Interaction

Watching the students interact during the African drumming sessions revealed that they appeared to have a strong sense of affiliation with their drumming peers. This was evident through their close, warm interactions with each other and their teacher.

Through participating in some of the drumming sessions, I noted the “power of unified sound and movement” and how this enhanced the feeling of cohesion and unity within the group. The music teacher pointed out that a few students in the drumming group struggled socially, but within the context of the African drumming group, they had developed positive interaction skills and worked happily in strong collaboration with others. They explained how the drum “becomes the focus of the interaction” initially, which then opens up the room to continued, deeper interactions. I experienced first hand how the drum could engage students in social learning, when after participating in a drumming session, I thanked the student next to me for guiding me through the rhythms, to which he replied: “No worries, that’s okay. Thanks for trusting me”. This was a great example of the way in which African drumming provided a platform for the building of relationships, which would inevitably enhance students’ sense of social belonging.

The theme of belonging was one emphasised by all study participants – but particularly by the students’ parents. Many of the responses in the questionnaire described how their
children were “proud to be a part of the drumming group”, excited to “represent the school at performances” and “felt they were part of something special within the school”. They also described ways in which the drumming had enhanced students’ “connection with the school and community”.

Students also alluded to the sense of social identity and belonging that drumming provided them, when they described how the music made them feel good because of how “everything fits in”. Here, the students’ description of the music also provides a wonderful metaphor for how they ‘fit in’ and belong to the drumming group. The music teacher explained that the drumming group provides students with the “sense of being connected to something that’s more than just them” and communicated a strong awareness of the ways in which the drumming context and the specific structure of a drumming circle naturally fosters a sense of belonging:

“I think one of the strong things with that is, we sit in a circle. So, there’s something – no one is the dominant one… and I think that’s important, because it breaks down what can be in class where there is a pecking order… and I think also ultimately, people want to belong. They don’t want to be left out… So, if you create a context where you can belong and it’s a safe environment… then you’ll want to be a part of that.”

For the students, belonging to the drumming group provides them with a strong sense of social identity, as articulated confidently and with pride by one of the students: “I’m a drummer!”

As well as belonging to a group, the students spoke about the more intimate friendships they had been able to build with their drumming peers. As articulated by the students: “We’re not strangers. We kind of know each other”. The students in the drumming group described each other as “friends” and spoke about feeling “comfortable” around each other. As well as acknowledging the friendships they had built through drumming, the students pointed out that these are friendships that they probably wouldn’t have if it weren’t for the drumming program:

“But because of the different year levels – because there’s a couple of people from each grade - we learn to make friends more, so when we’re older we can work together and do drumming.”

“When I was in grade one or prep and I didn’t have any friends, if I was doing this, I would have like heaps and heaps of friends.”

“[If they hadn’t met through the drumming group], there are only some people that you’d really have a conversation with and be friends with but there’d be like... other people who you don’t often talk to.”

In fact, the students explained that “making lots of friends” was an appealing outcome of the drumming experience for them, and they would encourage others to join up drumming for the valuable friendships made.

As well as building positive social connections within the drumming group, the experiences offered by the drumming program also provides students with the
opportunity to connect to the wider community. As an art form, African drumming is something that can be shared and appreciated by others, and being able to perform for the community was a major engagement factor articulated by the students. They expressed that they “really like how we can perform for the school and see them enjoy it” and that this opportunity made them feel “happy and excited”. The parents also highlighted the excitement, satisfaction and pride experienced by their children when given the opportunity to perform their drumming to the school and wider community.

The music teacher described how providing opportunities for the drumming group to share their music with others didn’t just benefit the students involved, but also provided a rich experience of community connection for the audience as well:

“I would say it [school drumming] has had a positive impact [on school culture]. I know a couple of years ago, we were practising and I said to them [the drumming students] “let’s just go outside and play”. And we just went outside the hall – we didn’t put out an announcement or anything - we just went outside and started to play. And all these kids came from everywhere and sat down and listened to them and some were sort of jiving around and... you would have been able to hear us throughout the yard... you would have been able to hear us throughout the neighbouring houses down the street [laughing] and that was actually really lovely. I think I should do that again – just randomly... go out there. And teachers often comment to me “Oh – we could hear the drumming” and sometimes they will even leave the door open, some will be passing by, some are on yard duty and come in and have a listen and things like that.”

As well as providing students with positive relationships and a sense of belonging and connection to each other, their school, and the wider community, the drumming also provides students with rich opportunities to develop social skills and sensibilities. In particular, a high degree of social awareness and an ability to work positively in collaboration with others were skills that were demonstrated in great strength by the students. From my observations, it was quite evident that a high degree of awareness of others was required to make the rhythms work and sound good. The music teacher facilitated drumming games that also encouraged the development of group awareness. In one game, students were required to drum their own number pattern and at the same time, were challenged to work out what number patterns other students were playing. I noted the heightened sense of awareness that the students displayed during drumming activities such as this, which also transferred to when they were playing a rhythm piece together. Whilst drumming, students were clearly connected with each other: they would continually look around at each other and the teacher; they would alter the volume and tempo of their playing in relation to the rest of the group; they would change their rhythms to support those around them; and they would seek confirmation from each other through eye contact and body language.

A large degree of synchronicity was apparent during the drumming sessions. Through the context of an African drumming ensemble, students were learning how to complement each other, as they were required to work in teams on different rhythm parts. When discussing the skills required for drumming, the students conveyed the importance of drumming with an awareness of everyone else in the group:
“You learn how to play rhythms and keep in time with each other and play your own rhythm while someone else could be playing another one.”

“In drumming sometimes we just make our own rhythms up as we go along – so we’re sort of learning how to fit the rhythms with other rhythms to make them.”

During an improvisation warm-up, the music teacher drew attention to the collaborative nature of African drumming, reminding students: “It’s not you doing a solo on your own – It’s you playing something that fits in with what is already there”. Quite often, I observed students adjust the rhythm they were playing in order to better fit in with another students’ part, or to support them in making their part stronger. The music teacher spoke particularly about the “supportive behaviour” that was evident during drumming classes. The students would sometimes call upon the support of their peers when rhythmic challenges were encountered, as the success of a rhythm required them to utilise each other’s strengths. The students also spoke about the high degree of support that was consistently on offer from their drumming peers who were always ready to “back each other up”:

“If you’ve forgotten something in a rhythm, someone is always there to help you out... cause there’s always someone else doing a rhythm, so they can help you with that, or they can show you what you have to do on their drum.”

“I really get lost in my rhythm sometimes so I just look to the side of me... to who’s beside me, so they help me get back into the rhythm.”

“If I was playing a rhythm and I was doing it but then I lost track, I could look to the side for other people who know it off by heart... so they would be playing it right, so I could just look at them.”

“Well, I think that it’s good that we have other people drumming with us because sometimes if you lose concentration or something and you forget what you’re playing, then you can look at the person who’s playing with you and you can get back into the rhythm.”

In their questionnaire responses, parents also noted how the drumming had enabled their children to develop social skills through enabling them to “mix with other students”; “be part of a team and work together”; “develop empathy for others” and build “social pride, awareness and friendships”. One parent also shared “we find at home when we play our djembe it helps us relax and bond”. An excellent example of the high degree of cohesiveness in the school drumming groups was evident at the beginning of each drumming session, where one student would inevitably begin tapping out a rhythm on their drum, only to be quickly joined by the other students as they arrived. These spontaneous rhythm jams evidenced the connectivity and synchronicity fostered by African drumming.

**Personal Growth & Empowerment**

As well as providing a platform for social belonging and social skill development, the African drumming program also seemed to allow great opportunities for personal growth and development. The students appeared to approach their drumming sessions
with a great degree of confidence. They were eager to swap instruments and rhythm parts constantly and didn’t seem afraid to challenge themselves with new learning. One student compared their lack of confidence before drumming to their newfound confidence to have a go during drumming classes:

“Before [drumming] I was like trying to... avoid eye contact and making sure I wasn’t picked first...”

There were many comments by the parents that acknowledged students’ “increased confidence since commencing drumming” due to building “social confidence” and alleviating “anxieties towards school”.

Perhaps some of this confidence was gained through the coping skills and resilience that students regularly demonstrated during drumming sessions. On many occasions, I noted examples of students showcasing learning resilience:

“She mucked up her dun part and the group rhythm fell apart. However, she quickly launched straight back in again and got it back together”

“Something wrong happened with the bell part – she got lost in the rhythm. She stopped, focussed, and launched back into the rhythm correctly again.”

“I watched one student make a continuous, repeated mistake... when she came to the realisation that her rhythm was out of time with the rest of the group, she reacted by smiling, and then having a good giggle at herself.”

I also noted that in the drumming context, students’ mistakes were very audible and visible to the group – thus requiring extra resilience to deal with their errors being very noticeable. It appeared that within this drumming context, the students were becoming very comfortable with making mistakes, and accepted this as a normal part of the learning process.

Observing the African drumming group also prompted me to reflect on the empowering nature of the activity. Students seemed to be developing a great deal of self-belief and pride as a result of their drumming experiences. Students spoke about the importance of “knowing your own rhythm” when drumming, as you are often required to “play your own rhythm while someone else could be playing another one”. Students also described how drumming was enabling them to build a sense of how the rhythm “all fits in together” and how they “fit in” with the other rhythms around them. Students also spoke about “standing out” and the way in which the drumming enabled them to feel proud about having their “own rhythm” and “not doing the same as everybody else”. These comments allude to a strong sense of identity that students may be developing through their drumming experiences.

Insights shared by participants and researcher observations revealed that African drumming provided many opportunities for personal growth, particularly through: building confidence and self-esteem, strengthening coping skills and resilience, and heightening students’ sense of belonging and individuality.
Chapter 5: Discussion

_How and why does African drumming engage primary school students?_

5.1 THEMATIC SYNTHESIS OF FINDINGS

The findings from this study evidence that African drumming can be highly engaging for primary school students across behavioural, cognitive and affective domains. As there is a conceptual overlap between these three domains of student engagement (Stefansson et al., 2016), the findings have been considered holistically in order to address the overarching question for this study: how and why does African drumming engage primary school students?

The participants in this study revealed that African drumming is an engaging activity because it is: accessible, physical, therapeutic, social, challenging and transferable. The following discussion will delve deeper into how African drumming effectively engages students in these six key ways and why this is so, linking examples from this study with the academic literature.

_Drumming is ACCESSIBLE_

**Drumming enables participation through offering accessibility to all students**

Many of the students and the music teacher discussed the accessibility of the djembe drum – pointing out that it is an easier instrument to master than other melodic instruments, such as the flute or piano. Music that is immediately accessible helps to facilitate student engagement (Buchan & Rankin, 2015). The accessibility and universal appeal of the drum could be due in part to the fact that our earliest experiences of rhythm commonly go back to the womb (Faulkner, 2017) and that cultures worldwide have drummed for millennia (Friedman, 2011). Millbower (2000) points out that we are beat driven, as rhythm is a natural phenomenon in all humans – our breath, pulse, heart rate, speech and walking pace all beat in time. The djembe drum is a simple instrument that can be learnt quite quickly, as it enables the player to exemplify their inner rhythm. It also offers an alternative method of communicating through rhythm, which could particularly appeal to students who struggle to communicate verbally or in writing. As well as achieving success, students are more likely to be engaged if they are operating at their optimal challenge level (Barkley, 2010). This can be achieved with the drum, as drumming can be easily differentiated and rhythm parts layered to cater for a wide range of ability levels at once. The accessibility of the djembe drum broadens the scope of student engagement.

_Drumming is PHYSICAL_

**Drumming allows for physicality and embodied cognition**

Students frequently mentioned the appeal of the physicality of African drumming and spoke about how it provided them with a “different” way of learning. The students are
well justified in describing this style of learning as “different”, as the field of education generally views learning as a mental process, separate from bodily states and actions (Osgood-Campbell, 2015). In contrast, drumming involves a high degree of bodily engagement, where ideas are shared through a physical communication of sound and energy (Powell, 2004). Indeed, an excellent way to increase energy and engagement is through physical movement (Strean, 2011). Students pointed out that the physicality of drumming and engaging their whole bodies seemed to have a positive impact on their ability to calm their nerves, focus their thinking, memorise content and communicate their ideas. The music teacher also spoke about ways in which the drum engaged visual, auditory and kinaesthetic senses, which is confirmed by studies revealing that music playing activates high levels of sensory activity in the brain (Jensen, 2000). Essentially, the students and music teacher described experiences of ‘embodied cognition’, where bodily action and sensorimotor activity is central to cognitive development (Osgood-Campbell, 2015; Ionescu & Vasc, 2014). The theory of embodied cognition promotes a “metaphor of the mind as a larger network, distributed throughout the body via the central nervous system, which is in constant exchange with its external surroundings” (Osgood-Campbell, 2015, p.4). Drumming allows for embodied cognition through encouraging the unity and interaction of body and mind (Powell, 2004; Bowman, 2004). The combination of the physical movements of drumming, alongside the application of cognitive strategies, result in students being actively engaged and consequently better primed for learning.

**Drumming is THERAPEUTIC**

**Drumming fosters positive emotion and supports emotion regulation.** Students overwhelmingly attributed drumming with positive affective states, particularly feelings of happiness, excitement and calm. In addition to making them feel good, the students described how drumming could lift them out of angry, anxious or sad moods. The drum has a unique ability to release internalized emotions (Freidman, 2011) and is therefore a powerful tool for emotion regulation. Studies have shown that drumming can be effectively utilised to regulate emotions through reducing: anger and aggression (Janse van Rensburg et al., 2016; Mungas & Silverman, 2014; Snow & D’Amico, 2010), anxiety and stress (Fancourt et al., 2016; Mungas & Silverman, 2014; Snow & D’Amico, 2010; Maschi & Bradley, 2010) and depression (Fancourt et al., 2016; Mungas & Silverman, 2014). Some studies have even demonstrated how drumming can have physiological benefits, due to its potential to modulate specific neuroendocrine and neuroimmune parameters in a direction opposite to that expected with the classic stress response (Bittman et al., 2001). As noted by the music teacher involved in this study, rhythm and drumming is effective in engaging those who have suffered trauma, and this is due to the way in which drumming can affect central neurotransmissions and help regulate physiological bodily responses (Faulkner, 2017). The positive emotion generated through drumming is noteworthy, as a positive mood produces greater student engagement (Seligman, 2011).

**Drumming acts as a vehicle for mindfulness and flow**

Students provided insight into their experiences of intense focus and mindfulness whilst drumming, which was also very evident during observations. The literature confirms that the repetitive stimulus of drumming a rhythm elicits increased levels of focus and attention (Faulkner, 2017; Jensen, 2000). Students also provided very rich descriptions
of how drumming cleared their minds of all thoughts and enabled them to be ‘in the zone’ and escape their worries. They, along with the music teacher, were able to articulate that these experiences tended to be brought about by the intensity of focus and concentration required to maintain the West African drumming rhythms. In the academic literature, these experiences of being ‘in the zone’, or deeply absorbed in an activity, are referred to as a state ‘flow’; where skilful and successful action seems effortless, even when a great deal of physical or mental energy is exerted (Shernoff, Abdi, Anderson & Csikszentmihalyi, 2014; Shernoff, Csikszentmihalyi, Schneider & Shernoff, 2003). Flow is achieved through a culmination of concentration, enjoyment and interest (Shernoff et al., 2014; Shernoff et al., 2003), which are key themes that were addressed by participants in this study. Research into expressive therapies suggests that rhythmic entrainment and specifically rhythmic synchronization through drumming could offer particularly powerful and therapeutic experiences of flow (Kossack, 2009). In this study, it is clear that the djembe drum acted as a powerful learning tool for enabling experiences of deep engagement and flow.

Drumming is SOCIAL

Drumming encourages social interaction and instils a sense of belonging.
All study participants were very aware of the social interaction inherent to the African drumming sessions. The music teacher spoke about how the djembe drums acted as an initial enabler for social interaction, with the context of the drumming session allowing for these interactions to further develop into positive relationships. The parents were particularly aware of the sense of belonging that drumming had created for their children within the school community. There is perhaps no stronger behaviour to unite humans than coordinated rhythmic movement (Phillips-Silver, Aktipis & Bryant, 2010). Drumming is an activity that encourages synergy amongst players and a high degree of group consciousness (Hull, 2006) due to the way it involves coordinated rhythmic movement, a phenomenon referred to as ‘rhythmic entrainment’ in the academic literature (Phillips-Silver et al., 2010). Research suggests that rhythmic entrainment skills support a number of social phenomena, including conversation and language processing, non-verbal communication, gesture, play, and sharing of attentional gaze (Phillips-Silver et al., 2010). Thus, in strengthening their rhythmic entrainment whilst drumming, students are also enhancing their ability to achieve social entrainment across a variety of contexts (Phillips-Silver et al., 2010). Accordingly, the students spoke fondly about the positive relationships that they had developed during drumming sessions. They used many drumming analogies to describe how African drumming had allowed them to develop an awareness of others, build their ability to collaborate with and support their peers, and give them a sense of social pride. The academic literature certainly supports each of these assertions, with studies into drumming programs revealing benefits for: building social awareness and social skills development (Wood, Ivery & Donovan, 2013; Faulkner, Wood & Ivory, 2012; Faulkner, 2012; Faulkner, Ivory & Wood, 2010); strengthening community (Stone, 2005; Camilleri, 2002); and developing social identity (Powell, 2012; Mackinlay, 2014). Responses in relation to group interaction and belonging were frequent in this study, indicating that much of the appeal of drumming was due to social factors. This study revealed that African drumming can foster collaboration, relatedness, positive relationships and the development of social capital— all of which research indicates to be important factors for enhancing student engagement (Zepke, 2010).
Drumming is CHALLENGING

Drumming builds persistence and learning resilience.
Discussing drumming experiences with the students revealed that they were using a range of strategies to help them persist through the challenges of learning new rhythms on the drum. Mistakes made on the drum are loud and obvious, yet students demonstrated a positive attitude towards mistakes and a willingness to push through their errors. Essentially, the drum appeared to be assisting in developing strong minds through encouraging persistence and building resilience. Persistence and learning resilience are important behavioural aspects of student engagement (Fitzgerald & Laurian-Fitzgerald, 2016; Liem & Martin, 2012; Martin, 2002). Persistence is the ability to persevere and continue through challenges and difficulties to achieve a goal (Padilla-Walker, Day, Dyer & Black, 2012). There is a growing body of research linking persistence with higher levels of school engagement (Padilla-Walker et al., 2012). Engaging in challenging activities such as drumming, which seem to encourage a high degree of persistence and resilience, could help to prime students with desirable learning attitudes. The activity of African drumming encourages continual improvement, due to the layers of complexity that can be added to rhythms. The students observed in this study readily sought rhythmic challenges and demonstrated a desire for mastery. These learning attitudes are very much in line with the “Growth Mindset” theory (Dweck, 2006), which focuses students on setting learning goals and aiming for incremental improvement, which has a positive outcome on student success and enhances school engagement (Dweck, 2000; Zeng, Hou & Peng, 2016). Perhaps the persistence required by drumming may have the potential to encourage a growth mindset in students, thus enhancing their engagement.

Drumming is TRANSFERABLE

Drumming equips students with cognitive skills that support learning.
Learning transfer occurs when something learned in one context is used to assist learning in other contexts (Middleton & Baartman, 2013). The student participants in this study frequently spoke about the ways in which they had transferred the skills they had acquired or strengthened through drumming to other areas of their learning. This is backed in the academic literature, which acknowledges how studying music fosters psychological and cognitive components, as well as personal attitudes, that are fundamental for the general process of learning (Biasutti & Concina, 2013). A variety of learning strategies were observed during the African drumming sessions, and the study participants identified a range of mental processes encouraged by drumming. These skills included memorizing, quick recall, pattern recognition, verbalizing, and entrainment through repetition. The students and music teacher also spoke about kinaesthetic and embodied processes that emphasised the synthesis of bodily and mental cognition whilst drumming. The drum can be a powerful cognitive tool, as the repetitive stimulus provided by drumming increases levels of focus and attention, strengthens neural connections in the brain, and supports the development of specific neural functions (Faulkner, 2017). Many of the drumming skills students identified are ‘executive functions’, which are related to working memory and also involve the conscious regulation of action, thoughts, emotions and general abilities that support learning (Hallam, 2015). Hallam’s (2015) research synthesis of the impact of music-making on the development of young people revealed that musical activity can enhance
students’ executive functioning and ability to self-regulate their learning. Recent studies have also been uncovering more specific links between beat and rhythm, and the development of cognitive, linguistic and perceptual skills (Tierney & Kraus, 2013). In particular, rhythmic ability has been linked to reading readiness and achievement (Kraus & Anderson, 2015; Carr, White-Schwoch, Tierney, Strait & Kraus, 2014; Taub & Lazarus, 2012) and oral language acquisition and development (Carr et al., 2014; Moritz, Yampolsky, Papadelis, Thomson & Wolf, 2012). Sethares (2007) notes that three important aspects of rhythm are its nonverbal nature, its relationship with motor activity, and its relationship with time. Through harnessing these unique qualities of rhythm, drumming provides students with a cognitive experience that is very different to all other classroom learning. The music teacher spoke of students “coming alive” during drumming sessions, which is possibly due to the unique cognitive stimulus that occurs whilst drumming and the potential for these benefits to transfer across to additional learning contexts.

**Drumming provides powerful metaphors and analogies that enrich understanding of self and others**

The drumming didn’t just provide students with transferable skills, but also with a new vehicle through which to make sense of social phenomena and their place in the world. Students’ seemed to be utilising their African drumming experiences for analogous transfer to comparable aspects of their lives, particularly in relation to their personal development and social interactions. They spoke about “having your own rhythm” (being an individual); “knowing your own rhythm” (knowing yourself); “getting back into rhythm” (getting yourself back on track); “fitting in with other people’s rhythms” (interacting positively with others); and “being aware of other people’s rhythms” (fostering an awareness and understanding of others). Drums are currently a popular medium in therapeutic settings, partly due to the way in which “rhythm provides the perfect metaphor for describing life and the way it interacts with all its complexity” (Faulkner, 2017, p.21). Studies have also revealed that students can be particularly motivated by learning activities that allow for metaphorical connections (Landau, Keefer, Oyserman & Smith, 2014) and that some cognitive functions such as conceptual abilities could be enhanced through learning experiences that encourage metaphorical thinking (Weinrauch, 2005). The use of drumming analogies and metaphors is a powerful engagement tool, as it enables students to access and clarify concepts that otherwise might remain beyond their understanding (Faulkner, 2017). In this sense, the drum can be utilised as a communication tool, to help articulate learning that is otherwise abstract, such as understanding relationships, social constructs such as peer pressure, values and emotions. This notion is supported in music literature which suggests that music has an inherent heterogeneity of meaning that makes it highly flexible and transferable to other contexts, thus providing rich opportunities for the enhancement of cognitive and social skills (Thompson, 2015; Bowman, 2004). The participants in this study expressed that African drumming empowers students to access a range of learning outcomes, both within the immediate drumming setting, and through metaphorical/analogous transfer to other subject areas and aspects of life.
5.2 CONTEXTUAL CONSIDERATIONS

It is important that these links between African drumming and student engagement are viewed through the contextual lens within which the drumming sessions took place. As acknowledged in the literature review, the multi-layered contexts that impact upon student engagement must be taken into account with any engagement study. Figure 5.2.1 utilises the contextual layers of engagement as identified by Wang and Degol (2014), to illustrate the influential variables in relation to this study.

Figure 5.2.1 – Case-specific Contextual Levels of Student Engagement

School-Level Contextual Considerations
This representation places the African drumming program within the broader contexts present within the school. Starting with the outer layer, the contextual parameters created by the general school environment need to be considered. As noted by the music teacher, the school has “become known for drumming in the broader community and that makes it special and something to be proud of”. The perception of drumming and the value attributed to the program by the wider school community would undoubtedly have an impact on how students perceive their involvement in the drumming program. Students described the opportunity to take part in drumming sessions as a “privilege”, which is most likely an attitude generated by the reactions of those around them. Furthermore, the value that the school added to the program through allowing opportunities for the students to perform their drumming rhythms would most likely enhance their drive to succeed and subsequent engagement.
Subject-Level Contextual Considerations
The middle contextual layer is concerned with the learning domain, which in this case, is music. Here, the question must be asked: Is it specifically the djembe drum, the instrument, that is engaging the students; or is it more so the general act of music making? The findings from this study indicate that there does seem to be unique qualities of the djembe drum that are particularly engaging to students, including: its accessibility; the high degree of physicality required to play the instrument; and the rich social interactions encouraged by the layout and musical features of the African drumming ensemble.

Learning Activity Contextual Considerations
The inner layer, which narrows its focus to the drumming program, prompts consideration of the unique context provided by the drum circle layout and the African-inspired rhythms that were being played. It could be construed that many of the engagement themes from this study arose from the style of music that was being played, rather than the instrument itself. The syncopation and polyrhythmic complexity inherent in African rhythms is challenging and supports the investment of cognitive engagement. The repetitious and cyclical structure of African rhythms also presents natural opportunity for building persistence and striving for mastery through multiple attempts. The rhythmic interrelationships and connectedness between parts in an African drumming ensemble provides a natural platform for building social skills and relationships, as noted by the study participants. Additionally, the very fact that African drumming is characterised by a participatory context encourages active engagement, as it is a style of music that only truly comes to life when everyone is involved. Finally, the program aims and structure need to be considered. This drumming program occurred during lunchtime and was a lot less structured than what regular classroom lessons might be. Students were also rehearsing drumming rhythms in preparation for upcoming performances, and many students and their parents’ spoke about the enjoyment, pride and satisfaction gained from drumming performances. The goal of getting a rhythm performance ready and the incentive this provided could have impacted upon students’ engagement during drumming sessions. These contextual considerations demonstrate that, although drumming certainly appears to be engaging for students, it is critical to also consider the contextual influences specific to each drumming program, which could further enhance or hinder student engagement with the activity.

5.3 STUDENT- AND TEACHER-DRIVEN VARIABLES
It must also be acknowledged that there are many student-driven and teacher-driven variables that can impact student engagement within these layers of context (Fullarton, 2002). The particular student cohort in this study had been invited to join the African drumming program based on their rhythmic ability, and attended the drumming sessions by choice, during their playtime. It could therefore be argued that the students in this study were already disposed towards engaging in particular ways, given their learning preferences and apparent keenness for the subject. This does not discredit the findings from this study, but does caution against presuming that the djembe drum will engage all groups of students in the same way, or limiting the drum’s potential to only what was uncovered in this study.
Perhaps the greatest outside influence to student engagement in this study, was the music teacher. Teachers and teaching are central to student engagement (Zepke & Leach, 2010). The quality of teacher-student relationships, the teaching methods that are employed, and the expectations that a teacher has of their students, all have a strong impact on student engagement and school achievement (Hattie, 2008; Goodwin, 2011). As articulated by the music teacher during their interview:

“A drum on its own is just a drum. So, if you’re going to use it as a teaching tool, then you need competent teaching, I would say. And you need an understanding of how kids learn, and how you can then use the drum, to enable them to learn... I mean, you could have a class where there was a classroom full of djembes but if you don’t have effective teaching, then, it’s not great...I think any tool needs effective teaching and you need to know why you’re using it – then, it becomes really worthwhile.”

The positive relationship between the students and the music teacher was highly evident during the course of this study. In both focus group interviews, when students were asked to “tell me about your school”, one of the most immediate responses was “we have a great music teacher”, to which all students agreed. This strong teacher-student relationship would impact upon many aspects of student engagement, including the interactions within drumming classes, the effort and persistence of the students, as well as the general classroom climate.

In considering what makes the African drumming program so engaging for students, the music teacher concluded that it is a culmination of: the use of the djembe drum, the nature of the West African rhythms being played, the embodied cognitive functions in play, and the social context within which it occurs:

“How you would say what is the actual thing that makes this work? Is it because they are playing a drum? Is it because it’s rhythmic? Is it because it’s simultaneously firing the auditory part of the brain and the motor planning part as well? Is it that they’re connecting within a community group? I think it’s all those things.”

With so many contextual layers and school, teacher and student factors in play, it can be concluded that the djembe drum does engage students in a multitude of ways, but this is also reliant upon the degree to which the surrounding contextual elements also support the activity.

5.4 STUDY LIMITATIONS

Limiting factors of this study include: the small, select participant cohort, short data-collection timeframe, and the reliance on anecdotal notes for observation data.

A select group of students were the focus of this research, due to the fact that the music teacher invited individuals with identified rhythm skills to join the drumming groups under study. Therefore, the students that participated in the study were not representative of the general student cohort at the school. The findings would have been more transferable, had they been representative of a greater range of ability levels. On the other hand, utilising “intensity sampling” and choosing a participant cohort who were
capable of providing an information-rich case (Coe, 2012) offers a valuable contribution to an area that has not been extensively researched. Although this study sought confirmation of student data through involving parent and teacher participants, only nine of the students’ parents chose to complete a questionnaire, and no school staff took up the invitation to complete the questionnaire. Although an emphasis was given to data provided by the students and music teacher, greater participation from parents and teachers would have enhanced the confirmability of this study.

This study was conducted within the bounds of a fairly tight timeframe. Data collection occurred over just two school terms and was limited to the students’ regular lunchtime drumming sessions. As a result, focus group interviews had to occur over two split sessions. This could have impacted upon student responses, due to a disruption to the flow of the interview, and being forced to conclude the interview as the school bell rang! Time limitations and the small number of participants also prevented achieving data saturation from the focus group interviews. Therefore, there is potential that further themes could have been uncovered, given more time with the students.

A reliance on anecdotal notes for reporting observation data is another limitation of this study. Visual data collection methods were avoided, due to the ethical complexity of utilising such methods (Karlsson, 2012), particularly in a school environment. However, video footage would have been extremely valuable - allowing for observations to be checked and analysed in greater detail. The use of photographic images could have also assisted greatly with: the documentation of social interactions during drumming sessions; providing stimuli for use in the interviews; assisting participants with reflecting on their experience; and helping to illustrate the study environment and action in reporting data (Lichtman, 2013).

5.5 CONCLUSION & RECOMMENDATIONS FOR FURTHER RESEARCH

This study provides some introductory insight into how and why African drumming engages primary school students. Drumming is engaging because it:

- Enables participation through offering accessibility to all students.
- Allows for physicality and embodied cognition.
- Fosters positive emotion and supports emotion regulation.
- Acts as a vehicle for mindfulness and flow.
- Encourages social interaction and instils a sense of belonging.
- Builds persistence and learning resilience.
- Equips students with cognitive skills that support learning.
- Provides powerful metaphors and analogies that enrich understanding of self and others.

These points can be summarised into six key ways in which African drumming is engaging for students; drumming is accessible, physical, therapeutic, social, challenging and transferable. It is noteworthy that these findings suggest that African drumming has the potential to engage students at an equally high level across all engagement domains (behavioural, cognitive and affective). Due to the scope of the findings, and the small,
limited nature of this study, one could presume that it has only just scratched the surface in terms of understanding the potential for drumming to engage students. Although each of the engagement themes generated by this study can be supported by the academic literature, there are many gaps within the literature when it comes to linking these themes to drumming.

As discussed in the literature review, studies conducted on drumming programs have focussed primarily on its therapeutic and social benefits. As such, there are a number of studies that support the drum engaging participants through building positive emotion, providing a platform for emotion regulation, encouraging positive social interactions and enhancing a sense of belonging and community. There are also recent studies on linking rhythmic ability and beat synchronisation to a range of cognitive skills, which does offer some support for the potential for transferability of skills and learning behaviours gained from drumming to other contexts. Finally, the accessibility of the drum has been briefly acknowledged in other studies in relation to the success of drumming programs. However, very little academic literature can be found on the other key themes generated by this study: embodied cognition and the physicality of drumming; drumming challenges and the building of persistence; and transfer of learning through utilising rhythm analogies drawn from drumming experiences.

Although there is a growing body of research on the therapeutic benefits of drumming, experiences of flow whilst drumming are very scarcely documented within the academic literature, with brief mentions in studies by Kossak (2009) and Mackinlay (2014). Flow theory (Csikszentmihalyi, 2008), currently a leading theory in engagement research, explains the extreme focus and absolute absorption that participants are overcome with during optimal experiences. The students in this study provided rich descriptions of flow experiences whilst drumming. Further research that aims to understand how drumming enables for experiences of flow could offer great insight into why the drum may be a particularly powerful tool in facilitating flow and opportunities for heightened student engagement.

Another current theory of learning that is connected to this study is that of embodied cognition. Only one study in relation to embodied cognition, drumming and engagement could be located in the academic literature. Powell’s (2004) research into Taiko drumming as a form of embodied cognition offers some interesting insights into how drumming provides participants with a sensory learning experience centred around the knowledge of self, the importance of relationship, and the aesthetic aspects of learning. Taiko is a traditional Japanese form of drumming, which is very different to the African style of drumming used for this case study. It would be interesting to further investigate the nature of African drumming and the stylistic aspects of African rhythms, to provide an interpretation of how this particular style of musical participation could support embodied cognition and what impact this might have on student engagement.

Although another strong theme emerging from this study, there appears to be a lack of any research on the potential for drumming to foster student persistence and resilience. Interestingly, persistence was one of the strongest points that came from the students with regards to their engagement with drumming. In particular, they spoke about “never giving up” and “getting back into the rhythm”. These progress-oriented attitudes align nicely with the currently popular Growth Mindset Theory (Dweck, 2006), which promotes persistent, goal-oriented learners who strive for continual improvement. The
students, parents and teacher in this study all commented on the way in which drumming seemed to encourage a learning attitude that embraced mistakes and persevered through challenges. Further investigation into the potential for drumming to help foster a growth mindset is certainly warranted.

Finally, further research into drumming and student engagement could consider ways in which drumming analogies could be used to facilitate a transfer of key learnings to broader contexts. This study suggests that African drumming presents many opportunities to highlight ways in which rhythm is analogous to many social and emotional aspects of life. However, there is very little within the academic literature that explores this potential outcome of drumming. There are reports of one program named DRUMBEAT, which utilises drumming metaphors and analogies within the program content (Faulkner, 2012; Faulkner et al., 2012; Faulkner et al., 2010). However, examining the type and effectiveness of these metaphors was not the focus of these studies. Investigating the ways in which the drum could be utilised for student engagement through analogous teachings could also be an interesting avenue for future studies.

This research responds to the lack of studies investigating how and why African drumming engages students. Further research in this area could be very beneficial in guiding the development of drumming programs aimed at re-engaging students, which are currently gaining great popularity. As this study was undertaken in a very specific context, it would be of value to compare these findings to those uncovered across various different contexts. This could help to ascertain how the contexts surrounding the drumming impacts upon student engagement. It would be interesting to note whether there are any universal engagement qualities that the drum draws out across different contexts. There may also be some forms of engagement that are unique to particular drumming contexts.

This study prompts further investigation into the potential for African drumming to engage students, due to it being: accessible, physical, therapeutic, social, challenging and transferable. These findings point to the potential for the djembe drum to be used as a dynamic, flexible and powerful learning tool across a broad variety of contexts. At a time where student engagement is presenting as a great challenge to our school systems, this study presents promising insight into how drumming may be used to encourage greater student engagement with school.
References


Lincoln, Y.S. & Guba, E.G. (2009). The only generalization is: There is no generalization. In R. Gomm, M. Hammersley & Foster, P. (Eds.), *Case Study Method* (pp.27-44). SAGE Publications Ltd. doi: http://dx.doi.org/10.4135/9780857024367

Loader, D.N. (2012). *The fourth R: what are we getting (w)rong with schooling and what can we do about it?* Melbourne: Centre for Strategic Education.


Appendix 1: Scaffolds used to guide observations

### Drumming & Student Engagement

#### Classroom Observation

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Lesson</th>
<th>Participants Observed</th>
<th>Observation Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Behavioural Engagement</td>
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</table>

#### Observable Indicators

<table>
<thead>
<tr>
<th>Participation</th>
<th>Details</th>
<th>Reflection</th>
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<tbody>
<tr>
<td>Attendance</td>
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<td></td>
</tr>
<tr>
<td>Involvement</td>
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<td></td>
</tr>
<tr>
<td>Initiative of action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing of ideas / contribution to discussion</td>
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</table>

#### Effort

<table>
<thead>
<tr>
<th>Progression</th>
<th>Details</th>
<th>Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time on task</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Re-attempting tasks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting / accepting challenges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effort / persistence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperation / teamwork</td>
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#### Attention

<table>
<thead>
<tr>
<th>Over-talk behaviours</th>
<th>Details</th>
<th>Reflection</th>
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</thead>
<tbody>
<tr>
<td>Maintaining attention / focus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoiding distractions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glaring / looking questions</td>
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<td></td>
</tr>
</tbody>
</table>

#### Additional Notes:

### Drumming & Student Engagement

#### Classroom Observation

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Lesson</th>
<th>Participants Observed</th>
<th>Observation Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cognitive Engagement</td>
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</tbody>
</table>

#### Observable Indicators

<table>
<thead>
<tr>
<th>Will</th>
<th>Details</th>
<th>Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest / curiosity / motivation</td>
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</tr>
<tr>
<td>Thoughtful energy - involvement in class discussion / contributing</td>
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<td></td>
</tr>
<tr>
<td>Follow-through / thoroughness - attention to detail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resilience - dealing positively with triggers / setbacks</td>
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<td></td>
</tr>
</tbody>
</table>

#### Skills 

<table>
<thead>
<tr>
<th>Task Management</th>
<th>Details</th>
<th>Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organisational Skills</td>
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<td></td>
</tr>
<tr>
<td>Problem-solving / solution seeking</td>
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<td></td>
</tr>
<tr>
<td>Creativity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision Making</td>
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<tr>
<td>Resilience</td>
<td></td>
<td></td>
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<tr>
<td>Memorising</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thinking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Additional Notes:

<table>
<thead>
<tr>
<th>Receptivity</th>
<th>Details</th>
<th>Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbalising</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing / drawing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notice / identifying patterns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehearsing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mindfulness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mindfulness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflecting upon existing knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflecting / evaluating / modifying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflection</td>
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</tbody>
</table>

#### Deep Learning

<table>
<thead>
<tr>
<th>Questions</th>
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<th>Reflection</th>
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<tbody>
<tr>
<td>Questioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discovering for Learning</td>
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<td></td>
</tr>
<tr>
<td>Working in a learning group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Making / Deep Understanding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solving Challenges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desire to go beyond requirements</td>
<td></td>
<td></td>
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<tr>
<td>Learning Transfer</td>
<td></td>
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</tbody>
</table>

#### Additional Notes:
### Drummimg & Student Engagement

#### Classroom Observation

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Lesson</th>
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<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Participants Observed

**Observation Focus:** Affective Engagement

<table>
<thead>
<tr>
<th>Observable Indicators</th>
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<th>Details</th>
<th>Reflection</th>
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</thead>
<tbody>
<tr>
<td><strong>EMOTION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic humanity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surge in emotion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pride &amp; Sense of Accomplishment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optimism &amp; Positive Self-Image</td>
<td></td>
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<tr>
<td>Belonging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affiliation with school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Relationships with Peers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Relationships with Teachers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feelings of Belonging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team Hierarchy</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>SOCIAL SUPPORT</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Positive Interactions / Interpersonal Skills</td>
<td></td>
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</tr>
</tbody>
</table>

#### Additional Notes:

- Awareness of Others
- Collaboration
- Conflict Resolution
- Open Communication
- Listening
- Empowerment & Support
- Empathy
- Trust

#### PERSONAL GROWTH

- Self-awareness of Feelings
- Responsibility for Learning
- Confidence
- Risk-Taking
- Responsible Decision Making
- Coping Skills
- Engagement / Self-Identity
Appendix 2: Plain Language Statements (Adult & Student versions)

Plain Language Statement
Melbourne Graduate School of Education

Project: Drumming and Student Engagement: A case study of the impact of drumming programs on student engagement in one primary school

Introduction
You are invited to participate in the above mentioned research project, which is being conducted by (Supervisor) and (Master of Education student) of the Melbourne Graduate School of Education at The University of Melbourne. Members of the school community who have a direct involvement or association with the drumming programs at Primary School are invited to contribute to this study.

Purpose of the research
The aim of this study is to investigate how participation in school drumming affects student engagement. This research has been approved by the University of Melbourne Human Research Ethics Committee.

What will I be asked to do?
Should you agree to participate, you will be asked to contribute in the following ways:

Student participants are invited to take part in a focus group interview. Focus group interviews will involve a small group of participants (4-10) discussing their experience of the drumming programs with the researcher. These interviews will be audio recorded for data collection and analysis. Students will also be observed taking part in their usual drumming classes.
School staff and the parents/guardians of students involved in the school drumming programs are invited to complete a questionnaire regarding their impression of the school drumming programs and any impact on student engagement.

Finally, the school principal and music teacher will be invited to participate in an interview regarding the implementation of the drumming programs at the school.

**How long is my participation expected to take?**
We estimate that the time required for the student focus group interviews will be approximately 45 minutes. The total time required of each student will not exceed one hour. These interviews will take place at a time that least detracts from school learning, as negotiated with the students and their classroom teachers.

It is estimated that the questionnaire for school staff and parents would take approximately 20 minutes to complete. These questionnaires may be completed at home, and returned to school in a sealed envelope.

Interviews with the music specialist teacher and school principal will not exceed one hour. However, the music teacher will provide ongoing data and insights for the duration of the study.

**How will my confidentiality be protected?**
We will protect your anonymity and the confidentiality of your responses to the fullest possible extent, subject to any legal requirements. Participants’ names will be kept in a password-protected computer file, separate from any data that you supply. Participants completing a questionnaire may choose to remain anonymous. The data will be kept securely in the Melbourne Graduate School of Education for 5 years from the date of publication, and may be destroyed after this time. No participant names or identifying information will be included in the thesis or any research publications in relation to this study.

**Do I have to take part?**
Participation is completely voluntary. Should you wish to withdraw at any stage, or to withdraw any unprocessed data you have supplied, you are free to do so without prejudice.
What happens after the project is finished?
At the conclusion of the study, a brief summary of the research findings will be made available to you. This information will be presented at an information session held at the school and will also be sent home as a brief written summary. It is possible that the results will be published and presented at academic conferences. Confidentiality of participant names and any other personal information is assured, and will not be published.

Where can I get further information?
If you would like more information about the project, please contact the researchers; [Contact Information]

What if I have any concerns about the project?
Should you have any concerns or complaints about the conduct of the project, please contact [Contact Information], Manager, Human Research Ethics - Office for Research Ethics and Integrity, the University of Melbourne VIC 3010. Tel: +61 3 8344 2073 or HumanEthics-complaints@unimelb.edu.au.

How do I agree to participate?
If you would like to participate in this project, please indicate that you have read and understood this information by completing the accompanying consent form and returning it in the envelope provided. Student participants are required to return a consent form signed by both themselves and a parent/guardian in order to take part in the focus group interview. (Please note that an additional, simplified Plain Language Statement has been provided for students.)
Plain Language Statement
for Student Participants
Melbourne Graduate School of Education

Project: Drumming and Student Engagement: A case study of the impact of drumming programs on student engagement in one primary school

Introduction
You are invited to participate in a research project at your school. The researchers, [from The University of Melbourne] would like to know more about the drumming programs at [your school] Primary School. In particular, they are interested to find out how taking part in drumming affects students' thinking, behaviour and learning at school. We call this "student engagement".

Purpose of the research
The aim of this study is to investigate how participation in school drumming affects student engagement. The University of Melbourne Human Research Ethics Committee has approved this research. This means that the research will be conducted in a fair way that respects you and everyone at your school.

What will I be asked to do?
You are invited to take part in a focus group interview. For this interview, you will be in a group of 4-10 students. The researcher will ask the group questions, which you will then get to discuss together. The interview will be audio recorded to help the researchers organise the information you provide. The researcher will also observe you participating in your normal drumming classes.

How long is my participation expected to take?
We estimate that the time required for the focus group interviews will be about 45-60 minutes. The focus group interview will take part at a time that least disrupts your school learning. The researcher will check that the focus group time suits you, your classmates, and your classroom teacher.

HREC Number: 1545556.1    Project Start Date: June, 2016    Version: 1

Melbourne Graduate School of Education
The University of Melbourne Victoria 3010 Australia
T: +61 3 8344 8255    F: +61 3 8344 8529    W: www.education.unimelb.edu.au
How will my confidentiality be protected?
The information you provide for this research will be kept confidential. This means that when the findings of the research are shared, no names or any other identifying information will be used.

Do I have to take part?
Participation is completely voluntary. You can choose to stop participating at any time before or during the study. Your participation in the focus group interview, or choosing not to participate, will not affect your school grades in any way.

What happens after the project is finished?
When the research is finished, the researcher will talk to you about what they discovered. This will take place at a special meeting. You will also be able to ask questions about the research. The results of this research might be published, but no information will be shared about who took part in the study. Your participation in the research will remain confidential (your name will not be used).

Where can I get further information?
If you would like more information about the project, please contact the researchers. You can also discuss your participation in this research with your parents, or your music/drumming teacher.

What if I have any concerns about the project?
Should you have any concerns or complaints about the conduct of the project, please contact Manager, Human Research Ethics - Office for Research Ethics and Integrity, the University of Melbourne VIC 3010. Tel: +61 3 8344 2073 or HumanEthics-complaints@unimelb.edu.au.

How do I agree to participate?
If you would like to participate in this project, please complete the consent form to say you have read through this information with your parent/guardian, and understand what the research involves. This form will also need to be signed by a parent/guardian to give permission for you to take part in the focus group interview.
Minerva Access is the Institutional Repository of The University of Melbourne

Author/s:
Slattery, Brianna

Title:
In the groove: a case study into drumming and student engagement

Date:
2018

Persistent Link:
http://hdl.handle.net/11343/214092

File Description:
SlatteryThesis

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