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# CHILD DEVELOPMENT IN AND THROUGH MUSIC

Child Development In and Through Music: How the General Music Classroom Shapes Young  
Musicians and Beyond

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# CHILD DEVELOPMENT IN AND THROUGH MUSIC

## **Abstract**

The purpose of this empirical study was to observe and analyze both musical and non-musical development of kindergarten students in a public school general music classroom setting in order to develop, contribute to, or adapt music curricula and classroom norms. Two questions guided this six-month study at Philadelphia's George Sharswood Elementary School: First, how much developmental progress do kindergarten students make? Second, do these developments lay groundwork for future development from first grade through the end of middle school? With the help of student background information provided by kindergarten guardians through a survey shared at the onset of the school year, general music classroom observations showed limited results in the following domains: physical, cognitive, social/emotional, and linguistic. In general, kindergarten students displayed varied musical developmental progress in: singing, dancing/moving, playing instruments, listening, and creating, while non-musical developments observed consisted of: fine and gross motor skills, interpreting language/communication, use of imagination, and teamwork.

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## Chapter 1: Introduction

### Statement of Purpose

The purpose of this empirical study is to observe and analyze both musical and non-musical development of children between the ages of five and six in a public school general music classroom setting in order to develop, contribute to, or adapt music curricula and classroom norms. Throughout this five-month study, kindergarten students will be assessed on developmental progress *in* music, as well as *through* music, using the following developmental criteria: physical, cognitive, social/emotional, and linguistic skills. For the purpose of this action research study, the terms “child development *in* music” and “child development *through* music” are defined as follows: the former refers to development that advances musical abilities, perceptions, and overall musicianship, and the latter refers to development that advances non-musical skills through musical means.

### Rationale

Educators impact students throughout all of elementary school, but especially so during kindergarten. The goal of this study is to inform the music educator on best practices for developing and implementing age-appropriate music curricula that nurtures lifelong musicians. Curricula that evolve from this study should focus on advancing developmental strengths, reinforcing developmental weaknesses, and promoting an appreciation of music within and outside of the general music classroom.

If the music educator has a successful curricular foundation for kindergarten music, students in first grade and beyond will also benefit from the findings of this study. Curricula that understand and adapt to a child’s body, mind, heart, and voice can lead to an impactful general

music program overall. That, in turn, promotes student understanding of, appreciation for, and involvement in music that is relevant to their individual lives inside and outside of the music classroom.

### **Expected Findings**

In general, developmental progress is expected throughout the five months of kindergarten general music classroom observations. While progress may not be significant in the grand scheme of the students' education to come, progress should be steady from week to week and month to month. Based off of four prior years of experience in this setting, the expected focus of the first two months of school include classroom norms, setting musical and behavioral expectations, and defining weekly routines for new musicians—especially those who have never been in a school setting before. The third and fourth months may consist of slower developmental progress while navigating the upcoming holiday season and its effects on school schedules. By month five, kindergarten students are expected to show progress physically, cognitively, social/emotionally, and through language/communication skills when compared back to the first week of general music class.

Specifically, students who show progress quickly may continue to do so, while those who need more time to grasp musical content may continue absorbing information at their own pace. However, each individual is unique, and variations are expected as well. Visual learners may be more attentive during music notation activities and less perceptive during folk dances, and vice versa. In addition, based on survey results, it is expected that students who have had positive musical experiences leading up to this study will be more open to the general music classroom,

while those who responded less positively may need time to create a comfort zone in the new setting.

Both positive and negative insights gained from this study are expected to impact kindergarten music experiences the following school year and beyond. Utilization of effective teaching strategies should continue, expand, and evolve accordingly, while research and reflection for less effective strategies should be continually explored.



## **Chapter 2: Background Information and Historical Context**

### **An Introduction to Child Development**

Each person in this world is unique. You. Me. Everyone. But how? How did we develop into the beings we are today? How did we develop in the past, how are we developing currently in our day-to-day lives, and how will we continue to develop tomorrow and beyond?

Child development, also called psychoanalytic thinking or developmental science, is a “pluralistic” field that aims to educate the population while “subject to continuous correction” (Gilmore & Meersand, 2014, p. 2). It is a field that advances and adapts as it does so. Politicians, educators, and researchers alike all hold stake in child development research, with the goal of merging the “knowledge and insights of scholars and practitioners with the creative talents of those who design and implement social policy initiatives” and of investing the “products of such an alliance in the future of our children” (Wasik & Odom, 2019, p. 4).

Development is both multidimensional and multidirectional; while physical, cognitive, and social emotional development all take place simultaneously, gains in some areas may coincide with loss in another. In general, children are developing in a myriad of ways starting from conception all the way through adulthood. Physical developments include growth in height and weight, gross and fine motor skills, sensory capabilities, and predisposition for disease and illness. Cognitive advancements encompass intelligence, memory, language, and problem-solving skills, while social emotional growth determines one’s emotions, self perception, and relationships with others (Spielman, et. al, 2022). While current research continues to expand, the field of child development has suffered from the lack of integration with “biological research, neuroscience, and trends in theory-making” (Gilmore & Meersand, 2014, p. 1).

## **Theories of Development**

Below are brief overviews and visuals of notable theories by well known names in the field. Developmental theories aim to provide frameworks for thinking about human growth and the gradual acquisition of knowledge. By no means is this list exhaustive of the research available to scholars.

### ***Sigmund Freud's Psychoanalytic Developmental Theory***

Desiring to unravel some of the mysteries of the world, Sigmund Freud (1856-1939) had followers and critics alike. “Developed continuously for more than 40 years,” (Jacobs, 2003, p. 33) Freud’s theories are combinations of self-evaluation, work with patients, and ideas from colleagues. Most known for the controversial Oedipal complex, his work is summarized into the following cornerstones: “the assumption that there are unconscious mental processes, the recognition of the theory of resistance and repression, the appreciation of the importance of sexuality and of the Oedipal complex,” with an additional fourth cornerstone added later on being “the importance of infantile experiences” (Jacobs, 2003, pp. 33-34).

### ***Jean Piaget's Cognitive Developmental Theory***

Jean Piaget's (1896-1980) approach to researching was child-based; while many of his counterparts developed theories that spanned most of the human life, Piaget’s cognitive theory ends somewhere between 12 and 20 years of age (Spielman, 2022). Largely based on children’s development of schemata, Piaget contested that children—although naturally inquisitive—do not think like adults until passing through four stages: sensorimotor, preoperational, concrete operational, and formal operational. While moving through these stages, children experience both assimilation, “when they take in information that is comparable to what they already know,”

and accommodation, “when they change their schemata based on new information” (Spielman, 2022, para. 14). According to Piaget, by around 20 years old, humans will have developed enough varied schemata to navigate life’s various scenarios successfully. Table 1 clarifies each stage up until that success.

**Table 1**

*Piaget’s Stages of Cognitive Development*

Age (years)	Stage	Description	Developmental Issues
0-2	Sensorimotor	World experienced through senses and actions	Object permanence, Stranger anxiety
2-6	Preoperational	Use words and images to represent things, but lack logical reasoning	Pretend play, Egocentrism, Language development
7-11	Concrete operational	Understand concrete events and analogies logically; perform arithmetical operations	Conservation, Mathematical transformations
12 [through 20]	Formal operational	Formal operations Utilize abstract reasoning	Abstract logic, Moral reasoning

It is important to note that later researchers disagreed with Piaget’s last stage and believe there is a “postformal stage” after Piaget’s formal operational stage, where “decisions are made based on situations and circumstances, and logic is integrated with emotion as adults develop principles that depend on context” (Spielman, 2022, paras. 24-26).

***Erik Erikson’s Psychosocial Developmental Theory***

Erik Erikson (1902-1994) was a visual artist who entered psychoanalysis by chance. His eight-stage life cycle is described as “staged-structured but not explicitly age-linked” (Weiland, 1993, para. 4). By modifying Freud’s work, Erikson sought to explain how humans are

“motivated by a need to achieve competence in certain areas of our lives” (Spielman, 2022, para.

4). Being a stage-theorist, each of his developmental stages has a conflict that needs a resolution before successfully moving onto the next stage of life. Table 2 summarizes these stages.

**Table 2**

*Erikson’s Psychosocial Stages of Development*

Age (years)	Developmental Task	Description
0-1	Trust vs. Mistrust	Trust (or mistrust) that basic needs, such as nourishment and affection, will be met
1-3	Autonomy vs. Shame/Doubt	Develop a sense of independence in many tasks
3-6	Initiative vs. Guilt	Take initiative on some activities—may develop guilt when unsuccessful or boundaries overstepped
7-11	Industry vs. Inferiority	Develop self confidence in abilities when competent or sense of inferiority when not
12-18	Identity vs. Confusion	Experiment with and develop identities and roles
19-29	Intimacy vs. Isolation	Establish intimacy and relationships with others
30-64	Generativity vs. Stagnation	Contribute to society and be part of a family
65 [and older]	Integrity vs. Despair	Assess and make sense of life and meaning of contributions

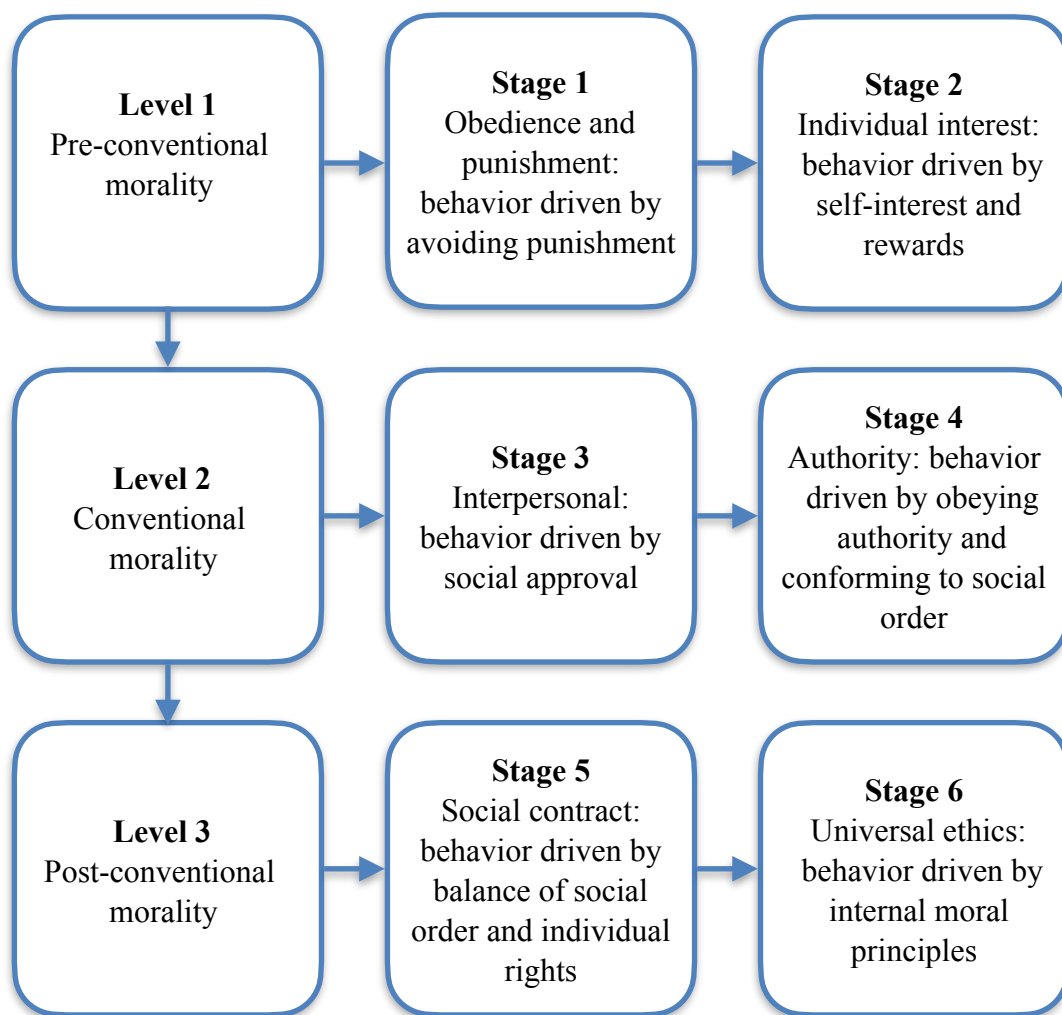
***Lawrence Kohlberg’s Moral Developmental Theory***

Lastly, Lawrence Kohlberg (1927-1987) focused his research on studying human moral discretion. He did this by devising moral dilemmas for others to ponder and him to analyze. One of Kohlberg’s most well-known dilemmas is called the Heinz dilemma (Spielman, 2022), in which a wife dying from cancer is in need of an overpriced drug. Short the money needed to buy the drug, the husband steals it. Should the husband have stolen the drug? Why or why not? From

here, Kohlberg categorized people into levels and stages based on their reasoning (Spielman, 2022). Generally, children nine and younger fell under level one and early adolescents level two, while only those who had gained Piaget's formal operations reached Kohlberg's level three. The following figure explains Kohlberg's levels and stages.

**Figure 1**

*Kohlberg's Stages of Moral Reasoning*



**Stages of Development**

The following are descriptions of the stages of child development based on age range.

### *Infancy*

The first 12 months of a child's life following conception and birth is referred to as infancy. During infancy, newborn minds are evolving systems that explore the new world through the mother-child dyad (Bernstein, et. al, 2006).

Development during these first 12 months is critical. Around three months of age, children begin to social smile and internalize face-to-face interactions, according to Stern (1998). At around six months, children develop separation-individuation, a process in which they understand their physical and mental detachment from the mother, and begin to explore cognitive, linguistic, and motor capabilities (Mahler, et. al, 1975). Later, between seven and nine months, the child experiences separation anxiety with the comings and goings of the mother (Mahler, et. al, 1975). During the final months of infancy, the child still loves to explore, but needs to return to the mother for “emotional refueling” (Gilmore & Meersand, 2014, p. 39). While “joint attention” (the child's ability to distinguish between themselves, the mother, and objects) emerges during the final months of infancy, the infant still utilizes “social referencing”—actively seeking out the mother's mental state and emotional cues in order to guide personal reactions (Kristen, et. al, 2011). Finally, children straddle the line between infancy and toddlerhood once the child “pursues mobility” (Mahler, as cited in Gilmore & Meersand, 2014).

Additionally, during infancy, maternal attachments are prevalent, and the following four attachments have been observed in infant behavior:

- secure-autonomous, in which the child plays happily when the mother is present, is stressed when she leaves, and is comforted by her return;
- dismissive, in which the child is neutral whether the mother is there or not;

- preoccupied, in which the child is stressed no matter what, and isn't comforted when the mother returns; and
- unresolved, in which the child displays "disruptive and dissociative disorders," such as smiling while hitting the mother (Fonagy & Target, 2007, p. 441).

### ***Toddlerhood***

"Toddlerhood begins with the achievement of upright mobility" (Gilmore & Meersand, 2014, p. 51). Between the ages of one and three, mobile toddler legs means more exploration and independence than before. Notable achievements during this developmental phase include mental self-other differentiation, language-based communication, imitative play, internalization of parental standards, and toilet training (Mahler, et. al, 1975). Cognitively, toddlers are in Piaget's pre-operational phase, which entails object permanence, basic problem solving, more intricate vocabulary, and recall of familiar events (Courage & Howe, 2002). Toddlers also become aware of gender for the first time, paying attention to and making assumptions based on others' hair lengths and types of dress. (Martin & Ruble, 2004). Morality begins to emerge with toddlers distinguishing between right and wrong with newfound feelings of shame and pride.

As much developmental progress as there is, toddlers continue to feel separation anxiety. Now mobile, the child can separate themselves even further from the mother, causing disfunction even in well-performing dyads. In addition, toddlers may experience a "wished-for self image," yearning to imitate the mother (Milrod, as cited in Gilmore & Meersand, 2014).

### ***Oedipal Phase***

The oedipal phase, characterized by links to Freud's oedipal complex, occurs between the ages of three and six. Like the name suggests, this phase is strongly linked to sexuality and

sexual desire, with Freud's belief that the height of infantile sexuality takes place during these years. Regardless of gender, children become "phallic-focused," with the dyad transitioning to the triad to include the father figure. Other family members besides the father figure also come into play; siblings, adoptions, divorce, or familial death all shape the way children develop (Gilmore & Meersand, 2014).

However, despite overemphasis on sexuality, non-sexual development still occurs during this transitional period. Children begin processing abstract ideas instead of just concrete objects, can differentiate between past, present, and future timeframes, and will share verbal expressions of desire ("I want..." statements) and statements of belief ("I think..." statements) (Ruffman, et. al, 2002). Egocentricity fades as children between three and six begin to grasp opinions and ideas of others and prepare for latency.

### ***Latency***

Dubbed the "era of learning, autonomy, and peer relationships," by Gilmore and Meersand (2014, p. 101), latency occurs roughly during elementary school (ages six through 10), and is broken down into two distinct phases: early latency occurring between six and eight years old, and later latency occurring between eight and 10 years old. Latency is reality-based, unlike the "magical, imaginary, mental world of the oedipal period" (Gilmore & Meersand, 2014, p. 110). Bodies continue to mature, but at a slow yet consistent rate. Elementary school may be one of the first—if not the first—times children are away from parent figures for a prolonged period of time, allowing children to practice self awareness and self control throughout the school day.

This phase also comes with skillsets that align with learning goals at school. The prefrontal cortex starts maturing and is able to handle rules, procedures, and structured activities.



Latency age children begin to grasp more abstract concepts, such as time and reversibility, and they start considering different perspectives without being influenced by outside factors (Gilmore & Meersand, 2014). The classroom setting helps children practice skills such as managing and shifting attention, filtering distractions, voluntarily inhibiting natural responses, planning ahead, and applying working memory capacities (Gilmore & Meersand, 2014). The classroom setting also identifies academic struggles, such as dyslexia, visual-motor delays, attentional deficits, or language-based challenges, that don't always come up at home (Barkley, 2006).

### ***Pre- and Early Adolescence***

Adolescent turmoil is a recurring theme over the course of middle school aged children, and there is a reason why. The adolescent process involves a “radical transformation in the child’s neural, neuroendocrine, physical, psychological, familial, and peer systems” (Gilmore & Meersand, 2014, p. 124) and results in moody, sensation-seeking pre-teenagers and teenagers. Described as the “widespread transformation of brain, sexual organs, and mental life,” (Spear, 2010) pre-adolescence is marked by the period after latency but before puberty, with the onset of puberty as the marker for early adolescence. However, even with definitive markers, researchers have been loose with labeling adolescent stages because “cultural, micro-cultural, and extra-cultural factors,”—such as socioeconomic class, medical care, and diet—have strong impacts on the developing child, and can directly affect “pubertal timing” (Gilmore & Meersand, 2014, p. 126).

During early adolescence, the “early teenager’s successful adjustment to [middle school] culture and academics is foundational to later adolescent school achievement” (Gilmore & Meersand, 2014, p. 137). A large part of that adjustment is physical; most notable body changes

for early adolescents include gonadarche, “testicular enlargement for boys and breast budding for girls,” and adrenarche, “pubic and body hair development” (Gilmore & Meersand, 2014, p. 137). Research has found that “physically developed but psychologically immature” adolescents may have challenges fitting in socially and may experience anxiety, depression, delinquency, disordered eating, and poor academic performance (Gilmore & Meersand, 2014, p. 139). Another source of turmoil is caregivers—conflicts with parents are at an all-time high during this stage. From here, mental health disorders, like anorexia, bulimia, substance abuse, psychosis, self-injurious behaviors, and personality disorders may arise in teenagers struggling with middle school culture, and may peak at age 14. Finally, it is important to consider that “social success in middle school has lasting impact on self representation, reflecting the importance of this developmental portal” (Gilmore & Meersand, 2014, p. 145).

### ***Middle and Late Adolescence***

Referring to high school age and college age respectively, middle and late adolescence focuses on a shift away from family—the focus is now on “relationships with peers, academic demands, and myriad other experiences offered by school, neighborhoods, social networking sites, teams, and clubs” (Gilmore & Meersand, 2014, p. 157). By high school, most teenagers are mostly physically developed with relatively stable hormones and established genders, although self-identity is still developing. In college, the search only continues.

In our world today, college-age students are put under societal pressures, such as earning degrees and achieving the “adult markers” of “independent financial status,” “marriage,” “childbearing,” and an “established career” (Arnett, 2000). Even still, “adolescent closure” (Gilmore & Meersand, 2014, p. 166) doesn’t always occur for everyone by the end of college,

and developments continue throughout emerging adulthood. After all, identity is an ongoing process for all of us.

## **Musical Development**

### ***Cognitive Musical Development***

Existing research on cognitive development in musical contexts aims to “examine relationships between brain growth and development and the emerging musicality of children” (Hodges, 2016, p. 52). During the earliest developmental stage—prenatal—“a fetus responds to sounds as early as gestational weeks 20-27 and is capable of responding to the mother’s voice and to music up to six weeks before birth” (Joseph, 2000). After that, the most rapid auditory growth occurs between months three and four, with continued growth through one year old. Musically, newborns can aurally identify pitch and/or key changes, and may respond differently to “musical expressions of sadness, fear, and joy” (Schmidt, et. al, 2003). As the brain develops, “everyday exposure to frequently heard linguistic and musical auditory patterns creates culture-specific neural networks” (Hodges, 2016, p. 57).

Fast forward to toddlerhood and cognitive developments include executive functioning, auditory and motor skills, and emotional maturity; children who experienced “even as few as three years of musical training” had positive effects that “persisted into adulthood” (Hodges, 2016, p. 59). However, it is important to note that “music training is more likely to be provided to children by parents who value education in general and who have financial resources to support the purchase of instruments, private lessons, attending concerts, and so on” (Hodges, 2016, p. 58).

Fast forward once more to school-age children and different cognitive musical developmental patterns arise. School-age children begin thinking and hearing in terms of relative pitch (as opposed to only thinking and hearing in absolute pitch when younger), which helps with staying in the correct key, following melodic contour, and melodic perception in general (Sergeant & Roche, 1973).

Temporal perception and production during this developmental period include five categories:

- rhythmic grouping, in which young musicians identify clear phrases more easily;
- rhythmic regularity, in which young musicians process simpler rhythms more easily;
- metrical pulse, in which young musicians find the tempo before identifying any other musical components;
- preferred tempo, in which young musicians have a more upbeat preference (140-150 BPM) than adults (100 BPM); and
- ratios, in which young musicians process binary time signatures (4/4 or 2/4) more easily than ternary (3/4 or 6/8) (Drake & Bertrand, 2001).

### ***Physical Musical Development***

According to Davidson (2012), “movement is a valid indicator of musical understanding.” Whether it is dancing, tapping the steady beat, conducting a pattern, or playing an instrument, musical movement allows humans to connect to music through the body, and outwardly show the physical implications of music-making. Gross motor skills, such as walking, skipping, hopping, and jumping can be effortlessly incorporated into classroom music activities, such as folk dances, and other movement activities. Likewise, fine motor skills specific to the

general music classroom can include tapping non-pitched percussion instruments, holding mallets for pitched percussion instruments, pressing individual or groups of keys on keyboards, placing fingers into chord positions for stringed instruments, and so on.

People use their bodies to *move* to sounds, but people also use their bodies to *make* sounds. According to McPherson (2016), students beginning keyboard or Suzuki strings studies at around the ages of two or three may find success despite the young age. However, other instruments, such as brass instruments, require a certain level of physical development (i.e. teeth for embouchure, etc.) and mental maturation, and learners who are at least six or seven years old will make more progress (McPherson et. al, 2016).

### ***Vocal Musical Development***

Listening, babbling, and speaking all contribute to early vocal development. By listening to mothers' melodic voices during gestation, fetuses develop aural capacities for vocal patterns and timbres, and after birth, cry as their first vocal behavior (followed by cooing) (Welch, 2016). The more the mother sings, the more the infant babbles, and once able to sing, they sing slowly in higher registers with frequent pauses. Later on, toddler singing includes "limited pitch range, a certain disjunction of key/tonality, and a descending contour" while focusing on singular, repeated melodic phrases (Welch, 2016, p. 444). By three years old, the child can sing additional phrases. By five years old, young singers may be able to express emotions such as happiness or sadness in their invented songs via tonality, rhythms, and/or text (Welch, 2016).

Types of spontaneous singing include:

- Free-flow vocalization, which is a wordless vocal creation often associated with solitary play with no defined overall musical shape;

- Chanting, which is short, repeated phrases;
- Reworking known songs, which is the utilization of uncultured song fragments;
- Movement vocalization, which is either of self or object;
- Singing for animation, which is associated with dramatic play; and
- The imitation of actual sounds (Young, 2002, p. 445).

Older students in the general music classroom are more successful learning a new song on a neutral syllable first before adding text, with the scaffolding of phrases as well. Young singers should focus on melodic contour before intervals and tonality. Generally, children are more accurate singers when singing in a group; however, if the surrounding singers are inaccurate and the individuals cannot hear themselves, group singing can become detrimental (Welch, 2016). Between the ages of five through 12, female singing is more accurate than male singing, but this could be because of the stereotype that singing is a feminine activity, further discouraging male singing encouragement and development (Hall, 2005). At the end of the day, singing motivation comes from the teacher regardless of gender.

Puberty also affects vocal development later on. Gackle's (2014) four female vocal developmental stages are: Pre-Pubertal (unchanged), Pre-Menarchial (beginning of mutation), Post-Menarchial (high point of mutation), and Young Adult Female. Similarly, Cookey's (2000) six vocal developmental stages for males are: Unchanged, Midvoice I, Midvoice II, Midvoice IIa, New Baritone, and Emerging Adult Voice. These changes occur to all young singers throughout their schooling.

### **Developmental Impacts During the COVID-19 Pandemic**

One lens through which the COVID-19 pandemic has impacted the development of children comes from Gupta and Jawanda (2020). While negative impacts are many, Gupta and Jawanda have found some silver linings to this epidemic. Table 3 provides a summary of their research.

**Table 3**

*Summary of the Impacts of COVID-19 on Children*

Positive Impacts		Negative Impacts	
Childhood development	Learning new educational skills Getting indulged into indoor physical activities Personality development Self-confidence build up	Effects on education	Loss of quality Deprivation of education Inadequate learning Lack of digital access Fall in educational outputs Wide learning gap between low and high socioeconomic group
Greater awareness	Awareness about an unknown disease and health Developing inner strength to face such challenges in the future	Anxiety about the future	Delay in examinations Late beginning of new session Development of anxiety and frustration about future
Developing relationships and empathy	Coming more closer with family Forming a bond of love and affection Developing selfless devotion towards humankind Dwelling virtues of humanity and empathy at early stage of life Developing new horizons beyond home and schools	Health issues	Lack of outdoor physical activities Prone to various health disorders Nutritional deficiency Lack of immunization

Learning nature's value	Start valuing and caring nature	Aggressive behavioral changes	Social isolation Frustration, anger, anxiety, irritation
		Lack of competitive zone	Disconnection from schools Loss of enthusiasm and interest to compete
		Addiction to social media and the Internet	Cyberbullying Sexual exploitation Addiction to harmful substances
		Increased risks of child exploitation	Deprivation of education Domestic violation Child abuse Child labour
		Impact on disabled children	Lack of provision of educational, nutritional, and healthcare services

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### **Chapter 3: Results and Findings**

#### **Survey**

##### ***Method***

A nine-question survey was shared with prospective kindergarten guardians during September 2021 for this empirical study. The guardians, which included various family figures, were asked to consider the depth in which music is a part of their students' lives. The survey included checklist, Likert scale, and open-ended responses, and mostly asked for background information about the students from the survey-taker's point of view. The purpose of these background questions was for the researcher to better understand how previous musical experiences (or lack thereof) affect each child's school-based, teacher-guided music education and development in general.

In a kindergarten through eighth grade school setting, kindergarten students were chosen as subjects because of their current stage of development. Two overarching questions guided this study: First, how much developmental progress do kindergarten students make? Second, do these developments lay groundwork for future development from first grade through the end of middle school?

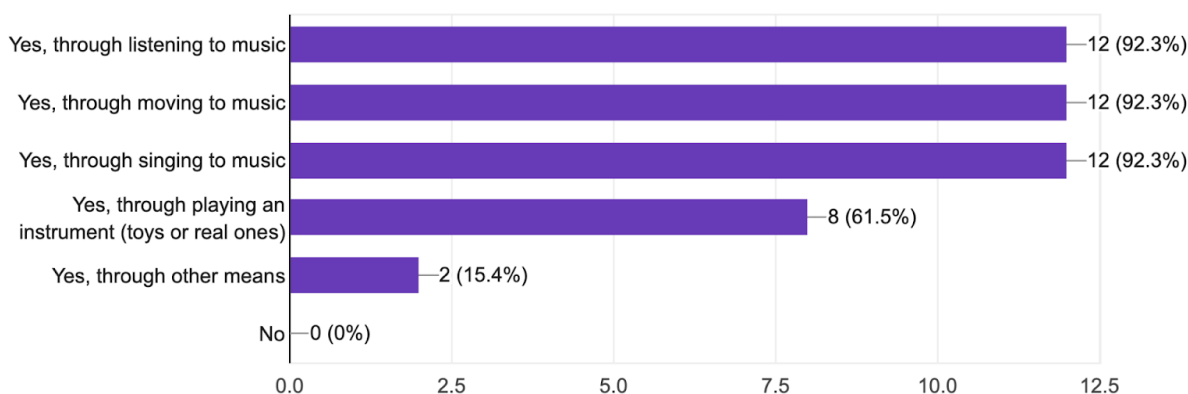
##### ***Results***

**Question 1.** This question simply asked the survey-taker to state the student's full name.

**Question 2.** The majority of survey-takers believed their student is exposed to music through combinations of listening, moving, and singing, and about half of the students have access to toy or real instruments. Few students are exposed to music through other means.

Does this student have exposure to music in any form? Please check all that apply.

13 responses

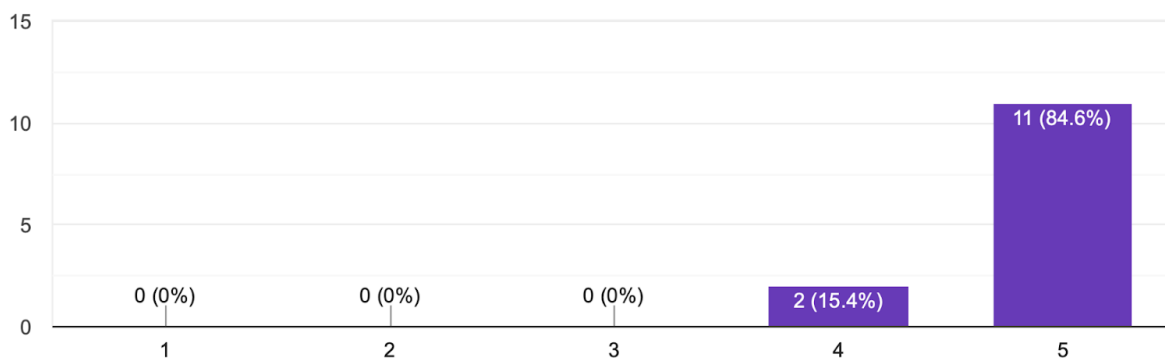


**Question 3.** This question used a Likert scale (1 = very negatively, 5 = very positively).

The majority of survey-takers believed their student responds positively to music at home.

How do they respond to music at home? (Examples: hearing songs on electronics, household members humming while doing chores, a sibling practicing an instrument, etc.)

13 responses

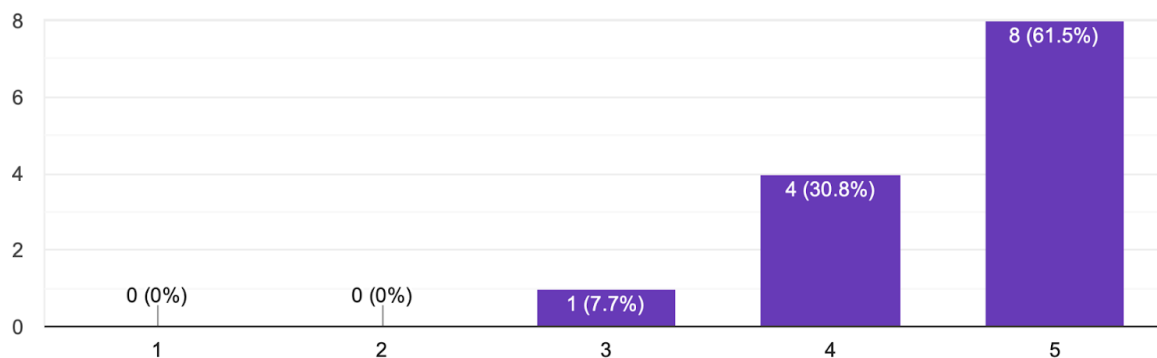


**Question 4.** This question used a Likert scale (1 = very negatively, 5 = very positively).

The majority of survey-takers believed their student also responds positively to music outside of the home, although not as positively as musical experiences in the home.

How do they respond to music outside of the home? (Examples: concerts, background music playing in stores, live musicians on street corners, etc.)

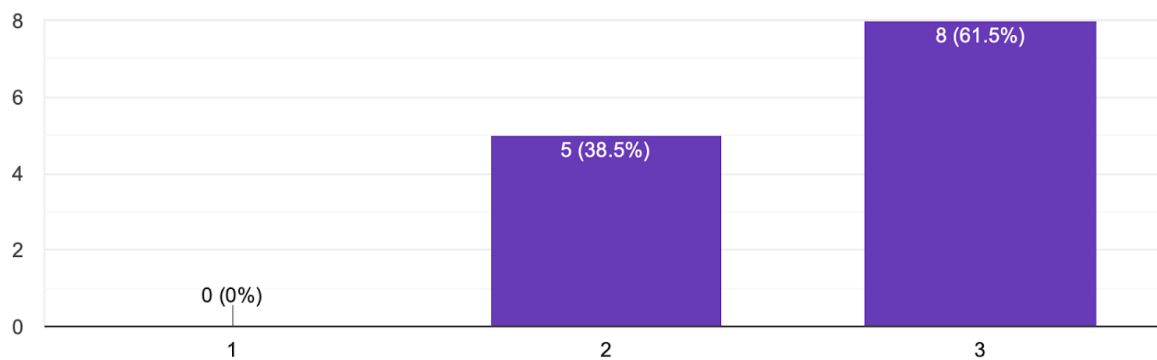
13 responses



**Question 5.** This question used a Likert scale (1 = not very important, 3 = very important). The majority of survey-takers believe that music is very important or somewhat important to their family as a whole.

How important is music (in any form) to your family?

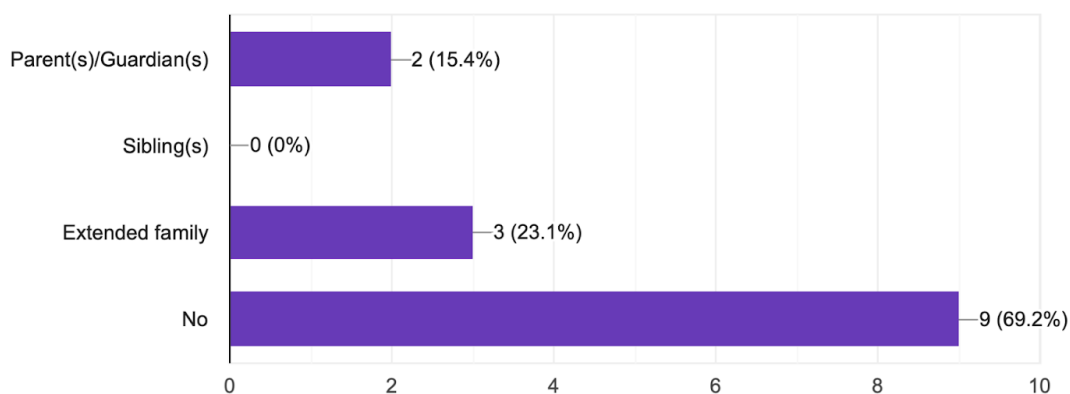
13 responses



**Question 6.** Most survey-takers and students did not have anyone musical in the family, with select others having parents or extended family members being musical.

Is there anyone who is musical in the family? Please check all that apply.

13 responses

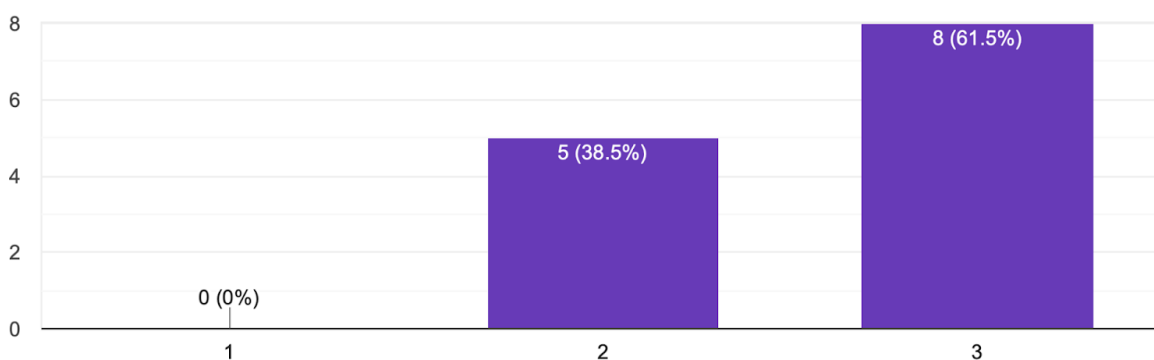


**Question 7.** This question used a Likert scale (1 = not very excited, 3 = very excited).

Most survey-takers believed their student was at least somewhat excited for music classes to start at school.

Does this student seem excited for music class at Sharswood Elementary?

13 responses

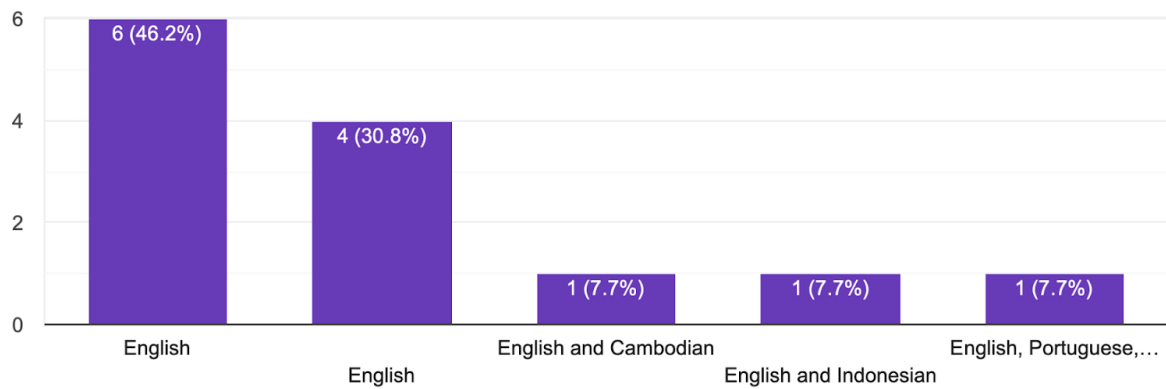


**Question 8.** Responses for this open-ended short answer question were varied.

Languages recorded in response to this question include: English, Cambodian, Indonesian, Portuguese, and Spanish.

What language(s) does this student speak? Please list.

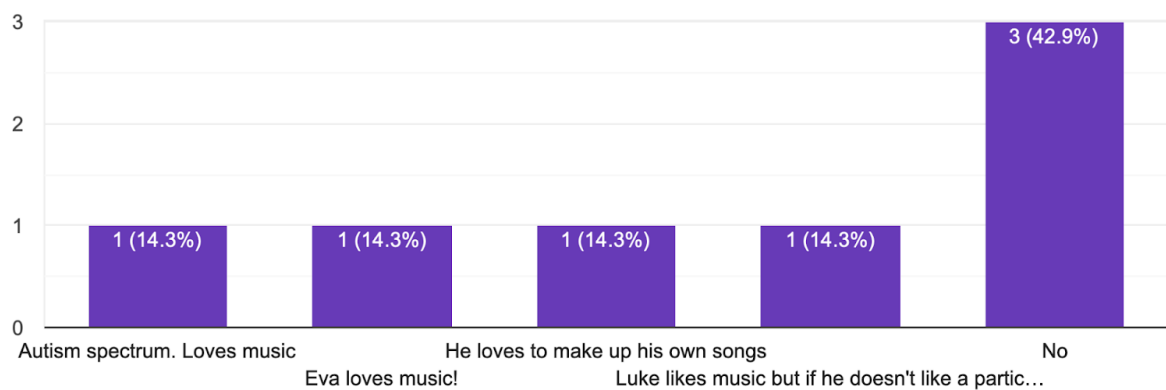
13 responses



**Question 9.** Responses for this open-ended short answer question asking for individual student nuances were varied. Positive responses include the student loving music, or enjoying making up their own songs. Less positive responses shared that the student may ask for the music to be turned off if they don't like it.

Is there anything else you'd like me to know?

7 responses



## Music Classroom Observations

### *Method*

The live component of this study was observing two kindergarten general music classes each week from August 31, 2021 through January 25, 2022 (the first two marking periods of the academic calendar). These live lessons were video recorded for self-reflection purposes and deleted after data collection. Data collection included observing individual and whole-class developmental progress from week to week and month to month, both musically and non-musically. General observable music skills included: singing, moving to the beat and different tempos (steady or changing), playing various pitched and non-pitched classroom percussion instruments, and creating/composing. General observable non-music skills included: fine motor skills, gross motor skills, interpreting language/communication (either communicating through music or with one another), use of imagination, and teamwork.

For 45 minutes each week, kindergarten students in both classes participated in a welcome routine: entering the music room quietly, sitting in their respective circle spots, and singing two greeting songs as a class. During the bulk of music class, lessons included songs, game-based activities, and music-led movement. Activities were varied and catered to individuals, pairs, small groups, and whole group instruction. Visuals were usually included for students to absorb information in multiple modes. Finally, the quick closing included reviewing the lesson, and choosing a different “mystery musician” each week when lining up to leave music class.

### ***Results***

In general, both kindergarten classes—rooms 105 and 106—made developmental progress musically and non-musically during the observation timeframe from September through January. One class, room 106, made slightly more progress for a few reasons: their class size was

smaller (better student:teacher ratio), there were less behavior challenges, and they participated in in-person learning the entire timeframe. Room 105 had a slightly larger class, more behavioral challenges, a student on the spectrum who needed accommodations at times, and had to quickly pivot to Zoom for two separate occasions.

It is important to note that whatever progress observed during this timeframe is relatively insignificant in the grand scheme of child development. Students in both classes have continued to develop from February onward, although that progress is not noted in this study.

**Physical Development.** Kindergarten students in rooms 105 and 106 displayed varying levels of individual physical development in music and through music. When analyzing development in music, student progress in singing, dancing/moving, and playing instruments was significant. Many students showed progress in group singing etiquette (listening to others around them, adjusting their volume to match the group, etc.), moving their “marshmallow” fingers and feet to the steady beat, moving faster or slower based on tempo changes, and hand/eye coordination and dexterity for playing classroom instruments. Through music, students were able to use these musical means to advance gross and fine motor skills and practice body and spatial awareness.

**Cognitive Development.** Cognitive developmental progress was the most challenging domain to assess due to its mostly unseen nature. Through problem-solving and applied logical reasoning, students “fixed” existing endings of songs or “finished” incomplete music. Examples include: ending the song on the same note it started with, following the existing melodic contour to continue the song, or making sure a short musical piece has different elements layered in (steady beat, vocal part, instrumental part, etc.).

**Social/Emotional Development.** Students made social and emotional musical advances that focused on reading text used in songs, and listening for tempos as clues for the overall mood or mood changes. Through these means, kindergarteners practiced sharing a variety of feelings, having two-way conversations (Think-Pair-Share), and working as a team toward a common goal.

**Linguistic Development.** Lastly, language and communication skills observed encompassed both written components, such as composing melodies, and social components, such as teamwork. In this final domain, kindergarten students made exemplary progress in reading and creating iconic music notation—eventually clapping and/or playing along with rhythm sticks. Non-musical skills attained during these exercises included reading comprehension skills, like reading from left to right, and reading one line at a time—all skills practiced daily in their own classrooms and reinforced in their general music setting.

## **Limitations**

### ***Survey Limitations***

Between two kindergarten classes and 29 combined students, only 13 caretakers responded to the survey. The electronic survey (administered through Google Forms) was shared to families through Class Dojo, a school-based communication source. If any guardians were not signed up for Class Dojo by the survey completion deadline, they did not have access to the survey. Some students also joined the roster later in the school year, limiting those families as well.



Additionally, the nature of the survey itself was an inherent limitation; survey-takers were asked to answer questions *for* the pre-kindergartners. The answers provided may or may not be accurate through the lens of each individual for whom the questions were actually written.

### ***Music Classroom Observation Limitations***

Scheduling conflicts did arise throughout the observation timeframe. Right at the onset of the school year, kindergarten classes had half days of instruction, which delayed kindergarten general music classes starting for an entire week. After that, various holidays took place that affected school day openings; this caused each class to miss instruction time if the holiday fell on their music day.

One kindergarten class in particular was also affected by a COVID-19 infection two separate times, and had to switch to virtual learning via Zoom, while the other kindergarten class continued in-person instruction. This caused last minute lesson plan changes, but did allow for surprisingly impressive virtual observations of development (these students had never been on Zoom before).

In general, when in the classroom, repeated behavior challenges from certain students limited some instruction and observation time. Some students also became distracted when they realized there was a device video-recording them, and sometimes behaved differently with this knowledge.

Lastly, it is important to note that only rooms 105 and 106 were observed in this study. Sharswood Elementary School has additional kindergarten students (mixed with first and second graders) in self-contained Autistic Support and Life Skills classes. Due to the nature of the

schedule (i.e. kindergarteners in the Life Skills class actually go to music with first graders), these kindergarten students were omitted from this study.

### **Unexpected Advantages**

While limitations are expected in any study, the unexpected advantages proved to be very helpful. In one kindergarten class, room 105, a classroom aid was always present because she was assigned to a student who is on the Autism spectrum. Although the adult was assigned to this particular student (and not the entire class), she was always helpful with the others as well.

Another observable advantage was spending time with these students outside of the music setting in their regular, everyday setting. Every Monday during the first half hour of school, both kindergarten teachers had a meeting, so I am placed in one of the rooms. This additional time allowed me to observe their regular morning routine, and help set them up for a successful week.

## **Chapter 4: Limited Conclusions and Future Considerations**

### **Limited Conclusions**

All in all, the results of this five-month study on kindergarten general music classes fell in line with background information and historical context provided in chapter two. Latency age children, entering the era of learning and autonomy, are truly in a position to make developmental headway. Between classroom learning and additional opportunities outside of their norm (such as music, art, technology, and physical education classes), latency children who are successful as kindergarteners will continue to find success through adolescence and beyond.

Throughout this empirical study, two questions guided the lens through which developmental observations were made:

First, how much developmental progress do kindergarten students make? The short answer is: a lot. The long answer is: kindergarten students make developmental progresses every single day in every single domain whether adults see it or not, and whether the progress is significant or not. Each and every day, these students start the school day with a morning routine that is consistent and comforting. Every single day, they practice their literary skills, like reading, writing, and spelling. Every single day, they are computing mathematical problems, making scientific observations about the world around them, and diving into the culture of the world in which they live. Once a week, music gets added to that equation, and the progress—although slow—is steady.

The second question that guided this study is: do these developments lay groundwork for future development from first grade through the end of middle school? The answer is also yes. The fundamentals shared during kindergarten general music classes are revisited in first grade

and expanded upon in second grade, and once students reach third grade, the level of musicianship takes off. Music, a content area that requires consistent scaffolding, uses the exact fundamentals taught during pre-adolescence to continue shaping young musicians for the rest of their elementary and middle school general music experiences.

### **Future Considerations**

The future of child development research will always be evolving as researchers learn more about the world around them. Shared previously, researchers, politicians, and educators all hold stake in this important field, and advancements should continue to take all related factors into consideration for the well being of children everywhere.

Informed considerations always need to extend into the music classroom before, during, and after student participation. Before students even enter the classroom, lesson plans should be thoroughly thought through. If planned appropriately, students should be successful and challenged all within the class period. Sequencing, pacing, and delivery of content play important roles during general music classes. Successful teachers know how to share information (repeatedly, in more than one mode) and supply students with multiple outlets to immediately apply the learned information. Finally, afterward, teacher reflection is always necessary for improvement. What activities worked well? Were any too easy for the students' developmental levels? If that is the case, does the pacing need to move quicker? Likewise, were any activities too hard? Were students scaffolded up to that point of learning? All of these questions help educators make adjustments that benefit student learning (as soon as the very next day) and overall development.

Whether developing material or adapting existing work, knowledge gained from this study will help: assess students and their developmental strengths and weaknesses, determine developmentally appropriate state-guided music standards and objectives, guide varied activities that address physical, cognitive, social/emotional, and linguistic domains, and create a successful yet challenging space for young musicians to explore and appreciate music.

If music educators and music curriculum writers continue to explore existing research on child development to fuel future curricular material, the future of music teaching and music learning is continuing on the right track. Young musicians, although budding, have much to learn, just like they have much to offer. Picking up mallets for the first time for a developing musician can be life changing—that's just part of the magic that happens in general music classrooms!

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**Appendix A: Room 105 Data**

The following data was collected from August 31, 2021 through January 25, 2022. Each student has a corresponding letter (A through Q) to maintain privacy.

**105 Steady Beat Observations**

	Sept '21			Oct '21				Nov '21			Dec '21			Jan '22		
	9/14	9/21	9/28	10/5	10/12	10/19	10/26	11/9	11/16	11/30	12/7	12/14	12/21	1/4	1/11	1/25
A	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
B	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
C	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
D	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
E	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
F	●	●	●	●	●	●	x	x	x	x	x	x	x	x	x	x
G	x	x	x	x	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
H	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
I	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
J	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
K	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
L	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
M	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
N	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
O	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
P	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●
Q	●	●	●	●	●	●	●	●	●	n/a	●	●	●	n/a	n/a	●

## 105 Reading Comprehension Observations

	Sept '21			Oct '21				Nov '21			Dec '21			Jan '22		
	9/14	9/21	9/28	10/5	10/12	10/19	10/26	11/9	11/16	11/30	12/7	12/14	12/21	1/4	1/11	1/25
A	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
B	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
C	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
D	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
E	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
F	n/a	n/a	n/a	n/a	n/a	n/a	x	x	x	x	x	x	x	x	x	x
G	x	x	x	x	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
H	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
I	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
J	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
K	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
L	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
M	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
N	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
O	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
P	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
Q	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●

X = student was not enrolled

N/a = concept did not apply

● = student demonstration was mostly accurate

● = student demonstration was somewhat accurate

● = student demonstration was not very accurate

**Appendix B: Room 106 Data**

The following data was collected from August 31, 2021 through January 25, 2022. Each student has a corresponding number (one through 15) to maintain privacy.

**106 Steady Beat Observations**

	Sept '21			Oct '21				Nov '21		Dec '21				Jan '22		
	9/15	9/22	9/29	10/6	10/13	10/20	10/27	11/10	11/17	12/1	12/8	12/15	12/22	1/5	1/12	1/19
1	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
2	●	●	●	●	●	●		●	●	n/a	●	●	●	●	x	x
3	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
4	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
5	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
6	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
7	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
8	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
9	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
10	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
11	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
12	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
13	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
14	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●
15	●	●	●	●	●	●	●	●	●	n/a	●	●	●	●	●	●

## 106 Reading Comprehension Observations

	Sept '21			Oct '21				Nov '21		Dec '21				Jan '22		
	9/15	9/22	9/29	10/6	10/13	10/20	10/27	11/10	11/17	12/1	12/8	12/15	12/22	1/5	1/12	1/19
1	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
2	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	x	x
3	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
4	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
5	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
6	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
7	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
8	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
9	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
10	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
11	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
12	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
13	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
14	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●
15	n/a	n/a	n/a	n/a	n/a	n/a	●	n/a	●	n/a	n/a	n/a	●	n/a	n/a	●

X = student was not enrolled

N/a = concept did not apply

● = student demonstration was mostly accurate

● = student demonstration was somewhat accurate

● = student demonstration was not very accurate