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How Engaged Are Infants and Toddlers While Picture Book Reading?

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Abstract

Introduction: Literacy is a very important skill that begins to be acquired at birth. Most children start to develop pre-literacy skills by being read to by their parents or other adults around them. Being read aloud to can occur at many different ages and can start as early as infancy. As children grow, they interact and engage with books in different ways. This thesis aims to investigate the read-aloud behaviors of two different groups of young children, to reveal differences in engagement interactions among infants and young toddlers when being read picture books by their teacher.

Methods: The research and data collection portion of this thesis was completed at a campus childhood care center. The intervention took place over two months. In total, four different groups were studied each week, two small groups of infants, and two small groups of young toddlers. All children in reading sessions were read to by a teacher from their classroom. Every week the groups read two new picture books selected and provided by the research team. The groups were evaluated on their level of engagement through four categories: involvement, activeness, joint attention, and mood and playfulness. During live observations, each child was given a score from 1-5 in each engagement category based on the level of engagement demonstrated. When a moment of engagement occurred, the primary investigator made note of it using a time-sampling observation technique.

Results: The overall average engagement per engagement category was higher for young toddlers than for infants. For each book, variation was found in whether infants or young toddlers had a higher score for each category. There was also variety in the behaviors observed for each category.

Conclusion: Overall, it was found that there are differences in engagement levels of infants and young toddlers while they are being read picture books. Young toddlers were found to have higher average engagement levels in every category studied, but when the specific book reading sessions were considered, some books had average scores that were higher in some categories for infants. Infants were more likely to engage with books through physical engagement like grabbing or pointing, while young toddlers were more likely to engage with books through vocalizations and speaking with the teacher engaged in the read-aloud.

Introduction

Humans are not born with literacy skills. They are learned as one grows through a combination of modeling, experience with books and other writing, and direct instruction (Schickedanz & Collins, 2013). The skills begin developing in early childhood, even as early as infancy when very young children are read to by adults around them (Dunst et al. 2012). Reading to children has many positive outcomes for a child, including a positive correlation to the child's language development (Dunst et al., 2012; Fletcher & Reese, 2005; Lawhon & Cobb, 2022; Rosenquest, 2022; Soundy, 1997). Children may be read to by their parents or guardians, teachers at school, and various other family, friends, or even older peers. Children may also be read to individually or in small and large group settings. Each of these different reading scenarios may result in a different impact on a child's literacy development, due in part to differences in engagement with the reading process. Through engaging with both the books themselves and the adult reading to them, a child can gain a deeper understanding of the material. This thesis aims to reveal how infants and young toddlers engage with a variety of picture books and the adults reading to them within a small-group setting. A particular focus was placed on differences across the age groups, given developmental differences that may impact book preferences and ability to engage in the book-reading process. Results from this study will have practical implications for early childhood classrooms, including book selection and decisions regarding small group read-aloud sessions.

Literature review- Pre-Literacy Skills

There are three different periods of literacy development for children. Preliteracy is defined as birth to 15 months, emergent literacy from 12 to 42 months, and early literacy from 36

to 60 months (Dunst et al., 2006). Infants are therefore defined as being in the preliteracy period while young toddlers could be at the end of the preliteracy period and in the beginning stages of the emergent literacy period. When some hear “preliteracy skills”, they may think of learning the alphabet and gaining phonological awareness (Curby et al., 2015). While these are two important parts of learning to read, these skills are most of the time too advanced for infants and young toddlers. Rather, infants and young toddlers are gaining very early exposure to these skills, and developing foundational abilities like joint attention, babbling, and gesturing (Diamant-Cohen, 2020; Dunst et al., 2006). These skills aid more complex literacy skill development later in life but are simpler for younger children to grasp. Experts advise that parents and caregivers of children read picture books and sing nursery rhymes to help build these skills. Reading picture books especially can help increase a child’s literacy skills (Fletcher & Reese, 2005). Most children are read to at one point or another in their life. Earlier and more frequent reading sessions positively correlate with promoting the child’s language development in various areas (Dunst et al., 2012).

Reading in Different Groups

Young children in daycare and preschool settings are exposed to books and reading in a variety of ways. Teachers often use guided reading strategies in groups or individually to engage children in themes and conversations about reading (Fountas & Pinnell, 2012). This can be done just as simply as teachers asking the children questions about the book or stating something that prompts the children to respond. This can occur individually with a child, in a small group of children, or in a large group of children. Although read-aloud sessions can be enacted with any size of group, reading, and discussing books in small rather than large groups has been found to aid children in their literacy development (Kamps et al., 2008). It is also important to understand

the developmental differences across ages in this period of rapid development. For instance, children at the young toddler age are starting to become independent and may want to look at some picture books on their own. This is very important and positive in many ways, but on the other hand, it has been found that engagement is higher in a book when a teacher is reading to the young toddler rather than when a young toddler reads on their own (Gardner-Neblett et al., 2017).

Reading Engagement

Picture books are useful for young children who cannot yet read because they can look at the pictures and still grasp the main ideas. Pictures may also allow for conversation with those young children who have acquired speech, the children who have not, and the adult reading the book (Fletcher & Reese, 2005). In infants who have yet to gain the ability to speak, picture books can be useful in practicing the skill of joint attention. Joint attention is when a child (or any person) looks in the direction of what someone else is looking at. This skill starts to develop within the first year of life (Striano & Bertin, 2011). Infants can practice this skill while reading picture books because they start to focus on the pictures the adult is reading about. Joint attention is one of the first preliteracy skills that infants gain, and it can be acquired through engagement with picture books.

The Current Study

It was important to understand the specific background research information on infant and young toddler literacy skills before starting this study. It was found that it is beneficial to read to young children, especially in small groups with an adult leading the reading session (Gardner-Neblett et al., 2017; Kamps et al., 2008). Therefore, in this study, small groups were used and led by an adult that the children were familiar with. It also was important to add that

joint attention is a major engagement factor that should be studied. Infants and young toddlers will not be able to fully speak, so this engagement factor would be helpful to study since it does not have to involve verbal language (Striano & Bertin, 2011). Finally, infants and young toddlers will be in different pre-literacy developmental stages. The infants will be in preliteracy while the young toddlers will be in emergent literacy (Dunst et al., 2006). This led the primary investigator to question how the two groups might engage differently during a reading session since they will be at different developmental levels.

Methodology

Introduction to Methods

This thesis investigated two different age groups, infants, and young toddlers, and sought to examine how the difference in age of the two groups would affect how the children engaged with both a picture book and a teacher who was reading it to them. The research and data collection portion of this thesis was completed at a campus childhood care center. There were four different groups observed each week, two groups of infants, and two groups of young toddlers. Each group had roughly three to five children each week. All children in reading sessions were read to by a teacher from their classroom since the teacher was already a familiar figure to the children. Each group read two picture books each week for two months, totaling eight reading sessions. The two new picture books read each week were acquired by the research team based on early literacy pedagogical best practices (Schickedanz & Collins, 2013). Each group read the same picture books every week in mostly the same order. The children were observed, and observational notes were gathered. In addition, their levels of engagement were coded using time sampling methodologies.

Participants

Before recruiting participants, this study was approved by the Institutional Review Board at the University of Arkansas on October 9, 2023. There were 17 children and 5 teachers at the campus childhood care center that were included in this study. All the children who participated in this study had formal written consent given by their parents/guardians to be study participants. When the children were referenced during data collection only their first initial and date of birth were used, and no other identifying information was collected. The teachers who participated in this study also gave their formal written consent to be included. Of the participating 17 children, 7 children were in the infant classroom where they ranged between the ages of 8 months to 12 months at the beginning of the study. The remaining 10 children were in the young toddler classroom where they ranged between the ages of 16 months to 22 months at the beginning of the study.

The infant and young toddler classrooms have a different number of students in each class because of the different ratios for each age group. The National Association for the Education of Young Children recommends the ratio for an infant classroom to be 1 teacher to every 4 infants and for a toddler classroom to be 1 teacher to every 6 toddlers (NAEYC, 2018). Consequently, there were 8 infants and 2 teachers in the infant room while there were 10 young toddlers and 2 teachers in the young toddler room. Since there was a different number of children in each room and not all children in each class were participating in the study, there was no set number of children or specific children assigned to each reading group every week.

Each week the teachers of the classrooms would split the participating children into roughly half to create two groups. Though the groups were quite consistent, they depended somewhat on which children were at the care center that day, which children were ready to read (if some

children were upset, being fed, or getting changed they would normally not be included in the current reading session), and, to some extent, teacher preference that day. Most weeks there were two groups for each age as was intended for this study, but sometimes there were low numbers of children in attendance or few teachers at the care center that day. In these cases, there was only one group for the infant or young toddler ages. Since the children were so young and their behaviors were variable, the research team found it to be developmentally appropriate to be flexible with the groups and responsive to what was best for the infants and young toddlers each week.

Book Selection

The picture books used in this thesis were purchased with the help of the University of Arkansas Honors College Research Grant. They were selected with the guidance of *So Much More than the ABCs: The Early Phases of Reading and Writing* by Judith A. Schickedanz and Molly F. Collins (2013). The authors Judith A. Schickedanz and Molly F. Collins go through the early stages of development for infants and young toddlers and what kind of books each age group might be interested in reading. The authors discuss research-based book choices for babies and toddlers of different ages, including content such as “what the baby/toddler could do”, “choosing texts for the baby/toddler”, and “engaging the baby/toddler” (Schickedanz & Collins, 2013). The youngest child at the beginning of this study was 8 months old and the oldest child at the beginning of this study was 22 months old. That is a wide range of age and developmental ability between the youngest infant and oldest young toddler. This textbook aided the primary investigator in picking out books that would be of interest to all ages. The final selection included a diverse collection of books with themes directed toward infants and young toddlers. For a complete list of all 16 books used in this study see Appendix A.

Both ages, infants, and young toddlers, read the same books every week. The two books that were read each week most often were different types of picture books and were originally suited for different age groups. For example, in the first week the book pairing was *Brown Bear, Brown Bear, What Do You See?* by Bill Martin Jr/Eric Carle (1996), a predictable book best suited for toddlers aged 19 to 30 months, and *Touch and Feel Fall* by Scholastic (2019) a texture book best suited for infants ages 4 to 6 months. Most of the books that were chosen were board books. Board books were selected because they are made from cardboard that is thick and not easily destroyed and the primary investigator wanted the books to be able to be used by the children after the study was completed. After each week each class got to keep the books that had been read.

Engagement Definition

Each reading session was observed, and the engagement levels of the children as they interacted with the picture books and the teacher reading to them were coded. There are various definitions of engagement, but this study examined specific examples of engagement based on the work of *First Transitions to Early Childhood Education and Care* by White EJ, Marwick H, Amorim K, et al, 2022. This research used the engagement model to observe young children and how they behaved while transitioning into an early childhood care center. The coding scale proposed in the research by White et al. (2022) was used for this thesis to observe four different definitions of engagement: involvement, activeness, joint attention, and mood and playfulness.

Each child's behavior during the reading session was scored from 1-5 in each engagement category based on the moment of engagement that they produced during each "episode" of behavior. A 5 would be given to a moment of a high level of the specific kind of engagement and a 1 would be given to a moment of a low level of the specific kind of

engagement. The first category that was coded was “involvement”. This was measured based on the child’s high or low level of vocalization, turning pages, and pointing. The second category was “activeness”. In this study, activeness was measured in terms of physical engagement. The primary investigator was looking to see if the children had high or low levels of physical engagement with pointing, waving arms, turning pages, or crawling/walking around. Both infant and young toddler ages were very physically active. The infants were learning to crawl and move around independently while the young toddlers were starting to walk and interact with the world around them. Since each group was on a very different developmental level, whenever the primary investigator noticed a moment of activeness, they would score it with a 5 being the highest level of physical activity possible for that child/age and a 1 being the lowest level of physical activity for that child/age. This was done so that each age group was scored based on the developmental level that was attainable for them to reach. The third category that was coded was “joint attention”. In this study, joint attention was defined as when the teacher and child both focus on the same thing or share eye contact. The fourth category was “mood and playfulness”. A 1 would indicate a high level of negative mood and a 5 would indicate a high level of positive mood. There was some overlap between many of the different definitions of engagement, so for a moment of engagement, multiple categories could be scored at once.

Data Collection

This study was approved by the Institutional Review Board at the University of Arkansas on October 9, 2023, prior to collecting any data. Data was gathered at a campus childhood care each week for the two months that the study took place. While all reading sessions took place at the childhood care center, the specific location inside the care center where the reading sessions were varied from week to week, depending on the needs and interests of the classroom. The majority of the sessions took place in the infant and young toddler classrooms, but some took

place in small “pop-up libraries” in the hallway, or outside on the classroom porch. The location of the reading session, within the childcare center, each week was determined by the teachers and what they thought would be best for the children. The primary investigator conducted all the data collection in the same space/room as the reading groups, but from a background position to avoid disturbing the children’s normal behaviors.

For this study, data were collected by hand using the time sampling technique, and handwritten observation notes that were subsequently typed and stored in a secure online folder. Moments of engagement were scored using the time sampling technique. When the primary investigator observed a moment of engagement, they would identify which child it was (using their first initial), the time it occurred, and what categories of engagement were observed (involvement, activeness, joint attention, and/or mood and playfulness). Some moments of engagement involved multiple engagement categories, while others were just one category of engagement. The number of engagement categories used for each moment of engagement was based on what the primary investigator observed. For consistency, the primary investigator was the only one who evaluated each group during the two-month study period. There was also a portion of the data collection sheet saved for more general observational notes. The primary investigator used this space to explain exactly what had happened during the moment of engagement. An example of the data collection sheet used can be seen in Table 1.

Table 1

Data Collection Sheet

Infant or Young Toddler?	Obs Date	Child	Obs Time XX:XX	Involvement	Activeness	Joint Attention	Mood & Playfulness	Notes
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			AM/PM					
YT: Group 1	3/11	N	2:02 pm	4	2	3	3	Sitting and listening to the book

The data was kept on a password-secured computer and only shared with members of the research team. The research team included honors student/primary investigator: Zoë Lawless and mentor: Dr. Laura Herold.

Results

The overall average engagement per engagement category was higher for young toddlers than for infants as can be seen in Table 2. For each book, there was variation in whether infants or young toddlers had a higher score for each category. There was also variety in the behaviors observed for each category.

Table 2

Average Engagement Per Category

Involvement		Activeness		Joint Attention		Mood and Playfulness	
Infant	2.45	Infant	2.07	Infant	3.01	Infant	3.54
Young Toddler	3.03	Young Toddler	2.24	Young Toddler	3.43	Young Toddler	3.94

Involvement

There were 5 books where infants had a higher average involvement score and 11 books where young toddlers had a higher average involvement score. The 2 books with the highest average involvement score for infants and the 2 books with the highest average involvement score for young toddlers are listed in Table 3 along with the engagement behaviors observed.

Table 3

Books with Highest Average Involvement Scores Per Age

Age	Book	Average Involvement Score	Engagement Behavior
Infant	<i>Toes, Ears & Nose A Lift-the-Flap Book</i> by Marion Dane Bauer & Illustrated by Karen Katz (2003)	4.2	Infants tried to open the flaps and vocalized when asked where their toes were by their teacher.
Infant	<i>Moo, Baa, La La La!</i> By Sandra Boynton (1982)	3.5	Infants tried to grab the book and pointed at the book.
Young Toddler	<i>Things That Go!</i> by Stephan Lomp (2017)	4.89	Young toddlers pointed to pictures, vocalized, said words related to things in the book, and made truck/vehicle sounds
Young Toddler	<i>Moo, Baa, La La La!</i> By Sandra Boynton (1982)	4.25	Young Toddlers said “neighhh” and other animal sounds, pointed, and said “moo baa la la la” along with the teacher.

Activeness

There were 6 books where infants had a higher average activeness score, 8 books where young toddlers had a higher average activeness score, and 2 books where they had the same

average activeness score. The 2 books with the highest average activeness score for infants and the 2 books with the highest average activeness score for young toddlers are listed in Table 4 along with the engagement behaviors observed.

Table 4

Books with Highest Average Activeness Scores Per Age

Age	Book	Average Activeness Score	Engagement Behavior
Infant	<i>Moo, Baa, La La La!</i> By Sandra Boynton (1982)	4	Infants tried to grab the book.
Infant	<i>Goodnight, Goodnight, Construction Site</i> by Sherri Duskey Rinker and illustrated by Tom Lichtenheld (2017)	3.18	Infants crawled, grabbed the book, played with the carpet and other toys nearby, moved around, rubbed their eyes, moved in the teacher's lap, and closed the book
Young Toddler	<i>Brown Bear, Brown Bear, What Do You See?</i> by Bill Martin Jr/Eric Carle (1996)	4	Young toddlers pointed to the book, walked around, played with the environment, played with other books and things in the room, and climbed on a chair
Young Toddler	<i>Wheels on the Bus</i> by Raffi and illustrated by Sylvie Kantorovich (1988)	3.14	Young Toddlers sang along with the book and did the motions as their teacher did them.

Joint Attention

There were 7 books where infants had a higher average joint attention score and 9 books where young toddlers had a higher average joint attention score. The 2 books with the highest

average joint attention score for infants and the 2 books with the highest average joint attention score for young toddlers are listed in Table 5 along with the engagement behaviors observed.

Table 5

Books with the Highest Average Joint Attention Scores

Age	Book	Average Joint Attention Score	Engagement Behavior
Infant	<i>Five Little Monkeys (Finger Puppet Board Book)</i> by Cottage Door Press and illustrated by Sarah Ward (2018)	5	Infants had their eyes fixed on the book and monkey puppet.
Infant	<i>Babies Love Colors</i> by Michelle Rhodes-Conway and Cottage Door Press and illustrated by Fhiona Galloway (2018)	4.5	Infants looked at the book, flipped open the flap, and tried to grab the book.
Young Toddler	<i>Moo, Baa, La La La!</i> By Sandra Boynton (1982)	4.6	Young toddlers looked at the book and laughed and pointed at the book when the teacher said, "Cats and kittens say meow".
Young Toddler	<i>Things That Go!</i> by Stephan Lomp (2017)	4.5	Young Toddlers pointed at the cars on the cover, pointed to fire trucks, vocalized, and pointed to a tuck and made a truck sound.

Mood and Playfulness

There were 7 books where infants had a higher average mood and playfulness score, 8 books where young toddlers had a higher average mood and playfulness score, and 1 book where both infants and young toddlers had the same average mood and playfulness score. The books with the highest average involvement score for infants and young toddlers are listed in Table 6 along with the engagement behavior observed. The two books with the lowest average involvement score for infants and young toddlers are listed in Table 7 along with the behavior observed.

Table 6

Books with the Highest Average Mood and Playful Scores

Age	Book	Average Joint Attention Score	Engagement Behavior
Infant	<i>Babies Love Colors</i> by Michelle Rhodes-Conway and Cottage Door Press and illustrated by Fhiona Galloway (2018)	5	In all of these reading sessions the infants and young toddlers displayed good moods with behaviors like laughing and engaging with the book and teacher without getting upset
Infant	<i>"More More More," Said the Baby</i> by Vera B Williams (1990)	4.75	
Young Toddler	<i>Touch and Feel Fall</i> by Scholastic (2019)	5	
Young Toddler	<i>Things That Go!</i> by Stephan Lomp (2017)	5	
Young Toddler	<i>Moo, Baa, La La La!</i> By Sandra Boynton (1982)	5	
Young Toddler	<i>Itsy Bitsy Spider (Finger Puppet Board Book)</i> by Cottage Door Press (2018)	5	

Table 7

Books with the Lowest Average Mood and Playfulness Scores

Age	Book	Average Joint Attention Score	Engagement Behavior
Infant	<i>Goodnight, Goodnight, Construction Site</i> by Sherri Duskey Rinker and illustrated by Tom Lichtenheld (2017)	2.73	In all of these reading sessions the infants and young toddlers displayed mostly good moods with a few children in the reading groups who were upset or in bad moods.
Infant	<i>Things That Go!</i> by Stephan Lomp (2017)	3	
Infant	<i>Babies in the Snow</i> by Giner Swift and Cottage Door Press and Illustrated by Ariel Silverstein (2017)	3	
Infant	<i>Moo, Baa, La La La!</i> By Sandra Boynton (1992)	3	
Infant	<i>The Very Hungry Caterpillar</i> by Eric Carle (1969)	3	
Young Toddler	<i>Babies in the Snow</i> by Giner Swift and Cottage Door Press and Illustrated by Ariel Silverstein (2017)	2.5	
Young Toddlers	<i>The Very Hungry Caterpillar</i> by Eric Carle (1969)	2.86	

Discussion

The behaviors of the infants and young toddlers varied widely in the different engagement categories. For the involvement category, the infants were more likely than the young toddlers to be involved with the reading session by physically grabbing or touching the

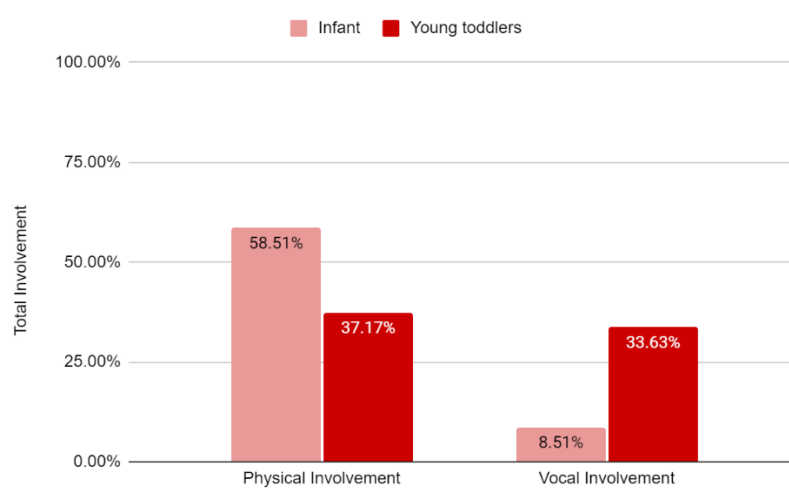
book while the young toddlers were more likely to be involved by vocalizing or saying words that related to the book. For the activeness category, both age groups were the most active when they were not interested in the book being read. For the joint attention category, both age groups were more likely to pay more attention to the book if the teacher prompted or asked the children questions. Finally, for mood and playfulness, both groups of children were in a relatively good mood during the entire data collection process.

Involvement

The involvement engagement category encompassed many different behaviors. It is defined as measuring the high and low levels of vocalizations, turning pages, and pointing. Both age groups exhibited this kind of engagement while being read picture books but in different ways. The infants were more likely to be involved by trying to grab and touch the books during the reading sessions. The young toddlers were more likely to be involved by trying to vocalize/speak during the reading sessions. This difference can be seen in Figure 1.

Figure 1

Comparison of Infant and Young Toddler Involvement



The infants were more likely to engage with the books that they could touch or grab while the young toddlers were more likely to engage with predictable books and themes that they were interested in. The highest average-scoring book for young toddlers in the involvement category was *Things That Go!* by Stephan Lomp (2017). This book is about different kinds of transportation vehicles. The young toddlers got very excited when this book was brought out and they were very interactive. They were pointing at the book and vocalizing their excitement with sounds and words that related to the story. The young toddlers are just starting to use words to express themselves and how they feel. The books that had the highest score of involvement for the young toddlers were the ones where the young toddlers had vocalizations and words to add to the interaction. For example, in *Things That Go!* (Stephan, 2017) one child made a truck noise and tried to say fire truck, and in *Moo, Baa, La La La!* (Boynton, 1982) the children made animal sounds and said animal names. The highest average scoring book for infants in the involvement category was *Toes, Ears & Nose A Lift-the-Flap Book* by Marion Dane Bauer & Illustrated by Karen Katz (2003). This is a lift-the-flap book that teaches children about different body parts. The infants were very involved in opening the flaps and the teachers allowed all the children to have a turn. The infants did not yet use words to express themselves at the time of this study. Sometimes they would make vocalizations, but it was never as specific as the young toddlers since the infants were not at the same stage of language developmentally. Instead, the infants expressed themselves with gestures that involved grabbing, touching, and pointing at the books and the teacher who was reading to them. For example, one of the infants highest scoring books was *Moo, Baa, La La La!* By Sandra Boynton (1982) which was also one of the highest-scoring books for young toddlers as well, but the infants interacted with the book differently. Instead of vocalizing and saying words, the infants were grabbing and touching the book.

Activeness

When the children in both groups were the most active, it was when they were not interested in the books and were leaving the reading area. It seemed that when both infants and young toddlers were the most engaged in the reading session, they had a low amount of activeness because they were sitting still and paying attention. While both groups were likely to move away from the reading area when not interested in a book, young toddlers were more likely to move further from the reading area into other parts of the room. When infants were not interested in the book they would crawl to a nearby location and play or interact with the things around them. Then most of the time the infants would come back on their own or after being called by the teacher. There were four examples in the observation notes of infants leaving the reading sessions to interact with other aspects of the environment, but they all came back to the reading session and reengaged. For young toddlers, when they were not interested in the book, they would many times go to the opposite side of the room and not return when called by the teacher. In all 12 examples of young toddlers leaving the reading session, only 1 came back and reengaged with the book, all others stayed in other areas of the room.

It appears not every child was as interested in reading a picture book as others. This was seen especially in the young toddler classroom. In the infant classroom, most of the moments of engagement occurred equally among all the children. Most of the children engaged at one point or another with a reading session in the young toddler room, but there were a couple of children who rarely engaged with the reading session and a couple of children who were frequent engagers in reading sessions. For some books, the young toddlers who were frequent engagers would be some of the only moments of engagement documented.

Joint Attention

Both infants and young toddlers demonstrated similar behaviors for joint attention. When both ages were interested in something that a teacher was reading, they would look at the book, point to the pictures, and vocalize. Both groups also were more likely to pay attention and engage with the book when the teacher asked a question or pointed something out about it. There were many distractions all around the rooms where the reading sessions were taking place. People were walking around, toys and other books were lying around, sounds were coming from other rooms, and many other things were happening all at the same time. There were constantly children in both age groups who were looking around the room or who would get up during a reading session and move to another area of the room. If the teacher talked to these children or asked them a specific question, then the children were more likely to stay with the group, look at the book, and engage with the teacher.

In the young toddler and infant reading groups the teachers asked the children many different questions that kept them engaged. A common topic that the teachers asked was the locations of body parts that came up in the books. For example, there were 6 moments of engagement during young toddler reading sessions that occurred because a teacher asked where a specific body part was on a child. There were 2 moments of engagement that occurred in the infant classroom because the teacher asked about the location of a body part. In the young toddler room during the *Toes, Ears & Nose A Lift-the-Flap Book* reading session, there was a page that talked about elbows and the teacher showed the children where their elbows were (Bauer, 2003). This caused three children in the reading group to look for their elbows on their bodies. In the infant room during the *Ten Little Fingers and Ten Little Toes* reading session, there was a page that talked about toes and the teacher asked where the infant's toes are (Fox, 2008). This caused a child to point to their toes. The teachers also asked the children during

reading sessions about animals and the sounds that animals make. This occurred in the young toddler room during the book *Brown Bear, Brown Bear, What Do You See?* (Martin, 1996). A teacher asked a child about a goldfish in the book, and it caused the child to look at the goldfish in the book. In the infant room, this occurred during the *Babies in the Snow* reading session (Silverstein, 2017). A teacher prompted the children to wave at the animals in the book which caused two children to wave at the animals. A teacher in the young toddler's room also asked the children about their interests as they related to the books they were reading. For example, during the *Goodnight, Goodnight, Construction Site* reading session the teacher pointed out that the child had a dump truck on their shirt and that there was also a dump truck in the book (Rinker, 2017). In response, the child pointed to the dump truck on his shirt and looked at the book. Finally, the teachers in the infant room asked the children to lift the flap in the *Babies in the Snow* reading session (Silverstein, 2017). This caused one child to lift the flap in the book. All these examples occurred because the teachers in both rooms took it upon themselves to interact with the children which led to the children engaging more with the teacher and the book they were reading.

Mood and Playfulness

Mood and Playfulness had the highest average engagement score out of all four categories for both ages. The infants had an average mood and playfulness score of 3.54 and the young toddlers had an average mood and playfulness score of 3.94. This category was measured based on the mood of the children and whether the children had high levels of a negative mood (1) or high levels of a positive mood (5). Both age groups were in relatively good moods during the entire data collection process. This was due in large part to the teachers picking what groups each child would be in every week. If a child was upset or in a bad mood at the beginning of the reading session, then the teachers would either wait and put that child in a later group or leave

them out of the reading session that day. The young toddlers only had two moments of mood and playfulness engagement that were scored below a 3 for the entire two months of data collection. One was during the book *Babies in the Snow* by Giner Swift and Cottage Door Press and Illustrated by Ariel Silverstein (2017) because a child was not interested in the book and ran away, and the other was during *The Very Hungry Caterpillar* by Eric Carle (1996) when a child pointed to an apple. The infants only had four moments of mood and playfulness engagement that were scored below a 3 for the entire two months of data collection. These moments occurred during the two reading groups for *Goodnight, Goodnight, Construction Site* by Sherri Duskey Rinker and illustrated by Tom Lichtenheld (2017) when multiple infants were crying and upset.

Conclusion

Overall, results reveal differences in engagement levels of infants and young toddlers during picture book reading sessions. Young toddlers were found to have higher average engagement levels in every category studied, but when the specific book reading sessions were analyzed some books had average scores that were higher in some categories for infants. Infants were more likely to engage with books through physical engagement like grabbing or pointing while young toddlers were more likely to engage with books through vocalizations and speaking with the teacher reading. This is a conclusion that many might find to be a simple and popular belief, but the benefits of reading to a young child add up over time. It is important to understand how infants and young toddlers interact with information from picture books to create the best learning environment for the child possible.

Data gathered and conclusions taken from this study can help to change the early childhood curriculum to best fit the needs of infants and toddlers and their engagement. Infants

were more likely to interact with touch-and-feel books and puppet books since they were able to physically engage with them. Young toddlers were more likely to interact with books with themes they were interested in and could talk about like books about construction or animal books. Both groups were more likely to engage in any book that was being read when asked a question or prompted by a teacher. Speech-language pathologists and early childhood care professionals should be aware of these trends and be able to use them with the infant and young toddler age groups to facilitate the best engagement opportunities possible.

Limitations

This study was completed with a small group of children because there were not enough resources or funding for a large-scale randomized trial. For future studies, it would be beneficial to recruit more classes and children to participate. In addition, many variables were not able to be controlled because the study was completed at a childcare center. Every week the reading group sizes changed and there were different children in each group based on what children attended the childcare center that day. Also, the area that the reading sessions took place in changed as well based on where the best space was for the teachers and children that specific week. In future studies, it might be beneficial to limit these variables and have set reading groups and locations for reading sessions. Finally, all the data was originally collected by hand, and since there were multiple children observed at the same time, not every moment of engagement was documented. In future studies, it would be beneficial to collect data digitally or record the sessions and collect data afterward.

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Appendix A

Birth to Three Months	
High Contrast, Black and White Books	<i>Hello, Baby Animals</i> by duopress labs with Art by Julissa Mora (2017)
Four to Six Months	
Texture	<i>Baby Touch & Feel: Animals</i> by Dawn Sirett (2008)
Texture	<i>Touch and Feel Fall</i> by Scholastic (2019)
Seven to Nine Months	
Direct connection between words and pictures	<i>Moo, Baa, La La La!</i> By Sandra Boynton (1982)
Direct connection between words and pictures	<i>Things That Go!</i> by Stephan Lomp (2017)
Direct connection between words and pictures	<i>Babies Love Colors</i> by Michelle Rhodes-Conway and Cottage Door Press and illustrated by Fhiona Galloway (2018)
Ten to Twelve Months	
Lift-the-Flap	<i>Toes, Ears & Nose A Lift-the-Flap Book</i> by Marion Dane Bauer & Illustrated by Karen Katz (2003)
Lift-the-Flap, basic concept	<i>Babies in the Snow</i> by Giner Swift and Cottage Door Press and Illustrated by Ariel Silverstein (2017)
Rhythmic Timing	<i>Ten Little Fingers and Ten Little Toes</i> by Mem Fox and Illustrated by Helen Oxenbury (2008)
Rhythmic Timing	<i>Five Little Monkeys (Finger Puppet Board Book)</i> by Cottage Door Press and illustrated by Sarah Ward (2018)
Rhythmic Timing	<i>Itsy Bitsy Spider (Finger Puppet Board Book)</i> by Cottage Door Press (2018)
Thirteen to Eighteen Months	
Theme books	<i>"More More More," Said the Baby</i> by Vera B Williams (1990)
Theme books	<i>The Very Hungry Caterpillar</i> by Eric Carle (1969)
Theme books	<i>Wheels on the Bus</i> by Raffi and illustrated by Sylvie Kantorovich (1988)
Nineteen to Thirty Months	
Predictable	<i>Goodnight, Goodnight, Construction Site</i> by Sherri Duskey Rinker and illustrated by Tom Lichtenheld (2017)

Predictable	<i>Brown Bear, Brown Bear, What Do You See?</i> by Bill Martin Jr/Eric Carle (1996)
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Appendix A. The 16 books that were used during the data collection portion of the thesis and what type of book and age group it was originally intended for.