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Toddlers' Language Development in a Childcare Setting:

Roles of Individual Differences and Context

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Educational Studies Senior Research Project

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INTRODUCTION

A child's acquisition of language skills is one of the most important and fascinating progressions to study within child development. I became interested in language development when I began working at the childcare center on campus. For the past year, I have worked with the same infants and have watched them develop since they were about three months old. It has been captivating by watching their growth, both cognitively and physically, over this period of time. For some of the children, I was there when they were not able to hold their head up and now they are walking and saying their first words. For my research, I wanted to look at a fixed period of time and see what changes occur within specific children regarding their language development.

A developmental shift in language forms and usage occurs rapidly within the first few years of life. From what I've witnessed, there is a progression made among children as they develop their language skills, most notably as they transition from the infant classroom (which consists of children aged 6 weeks to 18 months) to the toddler classrooms (which consists of children aged 18 months to 3 years). One of the first ways a child attempts to communicate is by crying. When the child is too young to use words or any other type of communication, they innately cry in order to get a caretakers attention. Typically, this is how a child indicates that they are either hungry, tired, or need their diaper changed. When a child is in the infant classroom, they are exposed to 'baby sign.' This is a simplified type of sign language that is taught to young children as a means of communication before they can form words. The most typical baby signs that are taught and learned at the childcare center are: "more," "all done," and "food¹." In the

¹ See Figure 1 for what these signs appear as.

² Jane was moved into the toddler classroom early due to space availability in the classroom. Typically

classroom, the teachers reinforce the use of these signs. As the children age, they are able to better recognize and eventually initiate the usage of the baby signs.



Figure 1: [Image adapted from talkingtalk.co.za](http://talkingtalk.co.za)

When a child is around 11 to 12 months, he or she begins to point in order to communicate something to a caretaker. Pointing is an action used universally, but for children it shows one of the first ways they try to influence the attention of the caretaker and communicate. Finally, children begin to use words. At the childcare center, it is very typical for a child's word usage to increase dramatically once they move to the toddler classrooms. This can be attributed to the fact that the children are newly exposed to older children who have more advanced language skills. In most cases, this leads the younger children to learn a lot of new language once they are in this older classroom.

For my research, I conducted a six week observation period of the three youngest children in the toddler classroom: Jane (17 months)², Claire (19 months), and Nicholas (25 months)³. In a classroom where the ages range from about 17 months to almost 3 years old, it is very compelling to see the differences between the language skills of the

² Jane was moved into the toddler classroom early due to space availability in the classroom. Typically children are not transitioned into the older classroom until they are 18 months old.

³ Names changed for privacy. See Methods of IRB information.

older and the younger children. Jane, Claire, and Nicholas are all newly exposed to older children who have more advanced language skills and I wanted to see how much this environment has affected their own language development. Additionally, these three children vary between their ages and personality, which led me to be interested to see how their language development could be viewed regarding their individual differences. For my research I am asking: How do toddlers' communication skills (such as pointing, signing, noise making, and spoken words) progress over a six-week observation period, and how are they affected by individual differences, including personality and ages, and context?

Based on the observations that I have collected, I argue that each child has shown a progression in their language development, but their transitions show different patterns due to differences in personalities and social context. I have identified three major themes in my findings. First, each child made a transition from pointing to using spoken words. But variations in the children's personalities played a large role in the pace of development, more than their ages. Additionally, a major part of this progressions to spoken words has involved the combination of communicative actions. Among the three children, the most common combination was pointing with another action. I found this to be an important aspect of their progression because of the timing of its occurrences and the variations among the children of what they combined with pointing. Finally, the context and meaning of each child's language use was important in how and when each of them communicated. The three children varied within the meaning of their actions and use in certain contexts and this resulted in allowing the children to express their distinct language skills. With each child we can see that progress has been made in their language

development over the period of six weeks. Individual differences and contexts relating to their language use and overall development varied but each child was able to reach the same goal--the use of spoken word to communicate.

LITERATURE REVIEW

Language development and communication skills among infants and toddlers is a well documented and heavily studied topic within the psychology and educational studies fields. There are several studies that stand as benchmarks for understanding language development in children, many of which I will describe in this section. Most studies in the past are essential for understanding why children point, variation among children, the relationship between environments and language progression, and many other similar topics. My research differs from other studies because I used a very small sample size in order to examine the children closely and watch their individual language progressions over a fixed time period. My research also looks at many different types of language skills alone and how they combine with each other. I believe that my study uses a combination of past research to further study the variation of language development among children, as well as how they progress in a certain time period.

The act of pointing in childhood is a very important milestone that researchers have sought to understand for a long time due to its prevalence among infants and toddlers. Tomasello et al. (2007) provided innovative research on infant pointing that has provided a basis for further research. The researchers described how the act of pointing is a unique gesture because it is used to direct someone's attention to something. Infants begin to point to objects for other people at around 11 to 12 months of age (Tomasello et al., 2007). Tomasello et al. (2007) investigated when infants point, if they are attempting

to influence the intentional or mental states of others or if they are aiming to achieve certain behavioral effects in others. The difference between these two ideas, simply put, is whether infants are trying to get others to ‘know something’ when they point or are they trying to cause someone to ‘do something’ when they point. The researchers argue that when young infants point for adults, they are trying to influence their intentional or mental states--infants want us to ‘know something.’ The authors argue that, socially, infant pointing is best understood as an unique skill that can motivate cooperation and shared intentionality among children. Furthermore, this enable joint intentions and collaborative interactions with others. The researchers found that infants pointed to objects that they wanted, but also to the object involved when they wanted something to do with it. This finding displays that infants and toddlers point to request an object, but also an action (Tomasello et al., 2007). Regarding my research, this study is useful because it provides a better understanding of why infants point. In observing children, it is obvious that pointing is a commonly used method of communication--it is even a skill the adults still use. I am using this knowledge and looking at the context of when the children point in regards to what they are asking from the teacher. My research is building onto this understanding of pointing and examining the different contexts in which it is used and how this differs among children. In order to do this, I am using qualitative observations to see whether toddler pointing varies with the social context of the classroom, such as mealtimes.

Babbling and pointing are important methods of communication to study and understand how they are related and also how these communicative skills differ among children. McGillian et al. (2017) studied individual differences among infants when they

make the transition to word production. This study set out to establish whether early gestural and vocal behaviors emerge in synchrony between children and whether modality is more important in predicting the onset of word production. Synchrony, in this research, refers to whether or not early gestural and vocal behaviors emerge simultaneously with each other or if they are independent of each other. Modality, in this research, refers to the idea that the mode of communication and environment is more useful in predicting the onset of vocal behaviors. In order to research these concepts, the authors controlled for the level of education in each of the children's caregiver. The primary focus of this study was on the age at which a child produced their first word and the number of words they were able to produce by 18 months of age. Biologically speaking, word-like sounds begin to emerge by the end of a child's first year of life. This is a result of anatomical and neuromotor maturation. Before this, pointing, is often considered the first way of communication that is available to an infant, but it is not until between ages 11 and 15 months that pointing is associated with a system of shared intentionality and communicational intent. Additionally, some theorize that pointing can lead to earlier language use because when infants point to things, parents or caregivers tend to translate this gesture into language and repeat back to the child what they assume the child is attempting to communicate (McGillion et al., 2017). The researchers analyzed a set of video recordings of 46 infants between 9 and 18 months old and they coded for babbling and pointing. The study found that babbling develops independently of pointing. Additionally, it was found that the act of pointing is not thought to be a predictor of speech, but rather it represents the first means of a child intentionally directing someone else's attention to part of the external world (McGillion et al., 2017). The methods and

results of this study are helpful for my research because it contrasted two different types of communication skills--babbling and pointing--and found that they develop independently of each other. This displays that the use of pointing is a specific mode of communication used by children as they are learning how to direct someone else's attention to something. Pointing is a method of communication that eventually develops to children using spoken words in replace of simply pointing. This study contributes to my knowledge that pointing is a very important method of communication to study. I will expand on this knowledge by measuring pointing along with other methods of communication and looking at a child's progression in using these language skills in relation to each other.

Language acquisition is understood to be influenced a mix of various factors in a child's life, such as biological, socioeconomic, and other contextual factors. A study conducted by Stolarvoa et al. (2016) sought to examine the idea of that vocabulary acquisition is influenced by multiple factors. This study examined expressive vocabulary in a group of German-speaking 2-year-olds. The purpose of this study was to assess a series of potential predictors, such as gender, bilingualism, and type/duration of childcare. All of the participants in the study had parents with a high education attainment and high employment status. This population characteristic enabled the researchers to assess predictors of vocabulary acquisition without social and family related risk factors. The researchers used specific parent and teacher questionnaires to collect information on the child's vocabulary usage. The potential predictors listed were assessed to see how they affect a child's expressive vocabulary development. The researchers found that girls and boys differed with regard to the probability to speak

certain words, but they exhibited very similar vocabulary sizes. Additionally, the study found that neither exclusive parental care nor early center-based daycare setting were associated with specific disadvantages regarding children's expressive vocabulary at 24 months. While this study specifically looked at German children who are 2 years old, it is helpful in understanding how children differ in their language development, and also how they are similar. While my study differs in the type of factors examined, I am also looking at variation among children based on their personality and context. This study furthers my understanding that not all children are uniform in their development.

Finally, understanding the relationship between personality and language development is extremely important in understand and predicting a child's success. The study that I will describe on this topic uses the term temperament. Temperament and personality are not the same thing, but they are closely related. Temperament refers to different aspects of an individual's personality; it is an innate part of all humans. In contrast, personality arises within an individual. For the purpose of my essay, I am focusing on individual differences, such as how personalities vary among all the children. The study that I will present uses temperament as a measure but I still believe that their results are useful for my study and can be related to the individual differences that I examined. Slomkowski et al. (1992) sought to extend research on the relationship between temperament and cognition. In the 90s, this was one of the first studies done that evaluated this relationship. The researchers believed that studying the role between temperament and language helps one better understand the social context in which a child developments language (Slomkowski et al., 1992). The purpose of this study was to examine the contemporaneous and longitudinal relationship between temperament and

language in children when they are ages 1, 2, and 7. The children's language and temperament were assessed at age 2 with the Infant Behavior Record (IBR). The IBR yields three factors: affect-extraversion, task orientation, and activity. Each of these factors are believed to represent three fundamental aspects of temperament in infancy and early childhood. At age 3, language was assessed again. This study found a link between temperamental traits and cognition, including language abilities. It was also found that in some instances, the affect-extraversion temperament is related to language development. These findings show that extraverted toddlers are demonstrating stronger advances in receptive skills in language than their less extroverted peers. This study is very interesting in regards to my research because it explores how temperament can affect one's language skills. While I am observing the progression of language in a shorter period of time than this study and looking at personality traits, not temperamental traits, I have a better understanding of how one's individual differences affect their language acquisition and development.

METHODOLOGY

Three toddlers were observed over a six week period. The classroom setting consisted of eight children and three teachers that rotated so there were always two of them with the children. I observed during mealtimes, specifically morning snack and lunch. I chose to focus on mealtimes because it exemplifies a time where the children need to inform their teachers what they want or need. During other times of the day, such as play time, the children are able to run around the room and can potentially find what they need. When they are sitting down and eating their meals, they need to ask or tell the

teachers specifically what they want or need. I believe this is a very important context for the children to show their language abilities.

In order to answer my research question, I collected qualitative and quantitative data. The data I collected was focused on how the child communicated to the teachers if they needed or wanted something. I tracked how much each other three children pointed, used baby-sign, babbled/whined, and spoke.

I tracked the following information within my observations:

Day	Time	Context	Who initiated?	Pointed to	Signed for	Sound like	Word said	To whom?
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I then took this data and coded for each of the interactions. I wanted to look for patterns throughout the 6 weeks. To do this, I created a coding mechanism tracking the following information:

One action alone: when a child performs one of the following ways of communication by itself

1. **So** : the child uses noises to communicate, such as: crying, whining, mumbling (making noise but does not make sense).
2. **Si** : the child uses ‘baby sign’ to communicate what they want/need. [Non-verbal]
3. **P** : pointing, the child physically indicates something they want/need by pointing at it. [Non-verbal]
4. **O** : the child gestures while holding an object to show they want something having to do with the object. [Non-verbal]
5. **W** : the child uses words to communicate.

Each of these five actions were used by the children. I tracked each action because I found they were the distinct ways the children were able to communicate with the

teachers. Each action holds different meanings because they relate to different levels of language development within each child.

Combination of actions:

1. **P-W** : the child points and uses words.
2. **P-So** : the child points and makes noise.
3. **P-Si** : the child points followed by using baby sign. [Non-verbal]
4. **Si-W** : the child uses baby sign along with words
5. **Si-So** : the child uses baby sign and makes noise
6. **O-W** : the child uses an object and words

Each child used multiple of these combinations of actions. I found that not all actions were combined with each other and these six were the ones used by the children.

Tracking the use of combination of actions is important in my research because it proved to be an essential part of each child's progression to using spoken words to communicate.

Who initiates:

1. **Child**: the child communicates first with the teacher
2. **Adult**: the teacher prompts the child when then leads them to respond

Most of my data involves the child initiating the interaction but there were occurrences where the teacher prompted the child which lead them to use more advanced language skills than they have shown when they initiated first.

Action and meaning:

1. **P-M** : points for more
2. **Si-M** : signs for more
3. **W-M** : talks for more

4. **O-M** : uses object to show more
5. **P-A** : points for all done
6. **Si-A** : signs for all done
7. **So-A** : makes noises for all done
8. **W-A** : talks for all done
9. **Si-Pl** : sign for please
10. **P-Sh** : child points with the purpose to show something to a teacher or a peer
11. **So-Sh** : child makes noises in order to get attention to show something to a peer
or teacher

I counted for the action and meaning in order to follow what the child was seeking to accomplish through their communicative action. This mechanism was helpful in tracking the purpose behind the child's action and the progression of meaning through their development.

Context:

1. **Pre-snack**: children are stilling playing, some are going to the bathroom, while the teachers are setting up the meal
2. **Snack**: children are sitting in their chairs eating the snack
3. **Post-snack**: specific child is all done with their snack and moves on to other activity
4. **Pre-lunch**: teachers are getting each child's food ready while children play around the classroom
5. **Lunch**: children are sitting in their seats eating their lunch

6. **Post-lunch:** specific child is all done with their lunch and is getting ready for their nap

Tracking context was used in order to account for what time of the day and in what setting the child was most likely to communicate. This helped me incorporate the use of mealtimes as a context while observing language development.

Within these five sections of information, I was able to analyze and come to conclusions regarding each child's language development within the six week period. This coding mechanism is useful because it accounts for a lot of information and it makes it available to measure and observe patterns and progress among the subjects.

IRB Information

My research did not need IRB approval. There is not any identifiable information about the children that I observed. When talking about specific children their names have been changed to ensure that none of the information is traceable. In my observations and notes that I have taken, there is no way for someone to look at them and be able to identify which child or teacher I am referring too. Even though working with young children is a vulnerable population, I am solely focusing on the interactions had between the teacher and the child there is no need for IRB approval because the children and the teachers do not have any personal information reported that could be identified back to them.

Characteristics of Subjects

The three children in this study--Jane, Claire, and Nicholas--had distinct personalities, which potentially influenced their language acquisition and their ways of expressing it. This is important because it provided a basis for each of their language acquisition and ways of expressing it. While I did not employ a specific assessment tool

to understand and categorize their personalities, I used my knowledge of the children and the fact that I have interacted with them for a long time to make decisions and claims about their personalities.

Jane is the youngest of the three children and her personality is still infantile. In this sense, she whined and cried often when she needed something, especially when she was hungry or tired. Jane was also very playful but tended to engage with her teachers more than her peers. This is consistent with her age because she has yet to become completely interactive with other children and is still egocentric. She liked to be held by her teachers or sit in their laps. During mealtimes, Jane would sometimes become very needy and rely on her teachers to give her food or assist her in cleaning up. Through the six weeks of observations I saw a lot of development in Jane's personality in that she is becoming more and more independent and less infantile.

Age wise, Claire is in the middle of the three children. Her personality was very animated personality. She loved to play with others but also enjoyed playing by herself. She has a very extroverted personality in most instances. Claire also followed directions very well and showed that she was very self-sufficient for her age. During meals, Claire was very active in talking and making noises to engage with her teachers and peers. I believe that because of her personality, Claire engaged with those around her often which is consistent with the data I collected regarding her language development.

Nicholas is the oldest of the three children. He is the oldest of the three children but talks the least. He loves to have books read to him. Overall, he has a very quiet personality. Especially during meal times, he eats slowly and quietly--staying very focused on what is in front of him. His teachers have noticed this and explained to me

that this has been a consistent behavior in his time at the childcare center. Nicholas enjoys alone but also enjoyed mimicking the older children's behavior in a way to socialize with them. For example, if one of the older children made a loud noise, such as jokingly screaming, he would repeat the behavior. Nicholas's personality is important in understanding his language development because, although he is the oldest and does not talk very often, he has the abilities to use language when he needs to.

RESULTS

Each child that I observed showed a progression in their language development but in different variations of each other. All three of the children started at week 1 with using non-verbal actions, mostly pointing, to communicate with their teachers. Throughout the six weeks, each child progressed to using a more advanced language skill and eventually all three children could initiate the use of language when they need something from an adult. A major part of this progression proved to be the combining of communicative actions within their language development. Combining actions, for example: pointing and words, was an essential part of each child's language development because it showed how they are learning specific actions and eventually are able replace the non-verbal actions with verbal actions when communicating. Additionally, I found that context was very important in understanding when and how a child communicated their need. Context and individual differences displayed each child's individual language skills. I will now go into detail about my specific findings regarding my three major themes.

Transition From Pointing to Spoken Words

All three children observed progressed from using pointing to communicate to using more words over the six-week observation period. Individual differences played an important role in this process and personality drove the pace of development more than their ages.

Jane made the progression of using pointing and whining in order to get attention for what she needs, to using words, sometimes combined with pointing, to communicate with her teachers. Because Jane is the youngest, she often resulted to crying and whining when she needed to communicate something. Specifically during the first 2 weeks, Jane whined/cried 5 times, compared to having pointed 3 times. Additionally, in the first couple of weeks of observations, Jane would cry or whine when she needed something, but, once she was prompted by teachers about what she needed, she was able to use words to answer. For example, during week 2, a teacher pointed to Jane's chair and said, "Sit down, Jane" and she would follow this direction. Starting at week 4, Jane pointed (4 times) and gestured with objects (2 times) when she needed something regarding them, in place of crying or whining (1 time). This proves a progression that was made in her language development because instead of noise-making in order to communicate, Jane used objects or pointed to them in order to request an action. While there were still instances of her whining, it decreased throughout the observation weeks. Also, by week 4, Jane was able to use her language skills when communicating with a teacher. For example, Jane pointed to her cup and said: "aqua" and the teacher responded, "more?" which lead Jane to use baby-sign for "more." In this interaction, Jane was able to use her language abilities to get the teacher's attention and then use her knowledge of baby-sign to agree with what the teacher was saying to her. By weeks 5 and 6, Jane showed a

decrease in her use of pointing. She only pointed twice during week 5 and did not point at all during week 5, except in combination with using a word. Additionally, during weeks 4 and 5, Jane used words only once but by week 6 she used words 3 times. Specifically at week 6, Jane initiated more word usage and if/when she pointed, it was in combination with a word. Through this evidence, one can see the language development Jane experienced through the 6 week period. While she is still the youngest in the classroom and among the children observed, her verbal usage of words increased throughout the time period and her using of pointing ceased, except when combined with words.

Claire made progress from using pointing to ask for “more” from teachers, to using words to asking for “more,” and overall using pointing in combination with each other. Claire began to use pointing less to communicate a need to simply wanting to show something to a teacher or peer. For example, during week 1 Claire pointed for more 4 times and used words for more only once. By week 6, Claire pointed for more twice and used words for more twice. While the numbers are even, it can be assumed that as time goes on, her use of pointing for more will continue to decrease. During the first two weeks of observations, Claire’s majority method of communication was the use of pointing. Along with pointing for more, she also resulted to point in order to direct the teacher’s attention to something. For example, during week 1, Claire pointed to Jane because she was standing up and the children were told to sit in their seats. In this circumstance, Claire had yet to fully develop the skill to voice this to the teacher so instead she resulted to pointing to Jane as an effort to get the teacher’s attention. Along with pointing, during week 2, Claire showed the ability to use language. When she finished her food, she yelled “I’m done!” without being prompted. During week 1, Claire

pointed 6 times and by week 3 she only pointed 5 times. Additionally, Claire used words once during week 1 and she used words 3 times by week 3. She was able to use words without being prompted by her teachers but she also had interactions where she resulted to whining or mumbling when trying to get the teacher's attention. By week 5, Claire had decreased in her amount of pointing for "more," only doing this once. It should be noted that during this week Claire was not feeling well and went home early, so I could only collect data from morning snack and not lunch time. Finally, by week 6, Claire had some instances of pointing, but both instances were in combination with using words or sounds, and her spoken words increased dramatically to using words 5 times. Most of the time when she used words, they were in replacement of things that she had previously used to point to. For example, she would voice "more" or "I'm done!" instead of pointing to show either of these words, as she did in the beginning weeks of my observations. Even though by week 6, Claire was using pointing dramatically less than before, she still had instances of using it. I believe that because Claire is a very animated child, her continuous use of pointing is being of her outgoingness because she had shown signs of an increase in vocabulary size and she knew the words for almost everything she pointed to.

Finally, even though Nicholas is the oldest, his language development did not progress any faster than Claire or Jane, which could be due to his quiet personality. Starting from week 1 of observations, Nicholas only made an effort to communicate twice and they both involved pointing. These instances of pointing were both in an attempt to show something to the teacher. For example, Jane was dancing out of turn and he pointed to her in an effort to show the teacher that Jane was not following directions.

After week 1, Nicholas began to use other means of communication. Week 1, Nicholas was very quiet during mealtimes, but in the following weeks, mostly when prompted, he used words to communicate, such as using words once during week 2 to express that he wanted more. Additionally, during week 3, Nicholas was whining, which led the teacher to ask: “What do you need?” and Nicholas then responded, “more, please.” In this instance, Nicholas knows the language but needs to be prompted first to use it. Again in week 4 Nicholas’s language use was mostly when prompted by his teachers. Another example of this is when a teacher asked “Nicholas, do you want more water?” Nicholas then responded, “Yes.” Additionally during week 4, Nicholas did show signs of using language on his own but most were while socializing with his peers and not during mealtime. By week 6, Nicholas had an increase in word usage. Most of the words he used were in combination with other actions, but overall he did not use pointing when using spoken word. Instead, he used words combined with gesturing with objects, twice. He progressed from pointing, being quiet during mealtimes, and needing to be prompted in order to use spoken words to now being able to use words on his own when asking for more from his teachers or telling them he is all done with his food.

Combination of Language Actions

While I measured five different communicative actions, the combination of such actions proved to be very important in each child’s language development because it allowed them to learn how to connect methods of communication. The combination of actions is necessary because it helps the child fully communicate what they need. For example, instead of just saying “more, please,” they said “more, please,” and held out the plate. Eventually, once their language has progressed more, they will be able to ask

things such as, “can I have more crackers please?” For most children that I observed, when they were making the transition from pointing to words, there was a time when they would combine two actions. It was most commonly noted that the children combined pointing with other communicative methods, but the other method is was varied between the children.

Jane showed an interesting pattern of her combination of actions. In the first week, she used a combination of pointing with words and using baby-sign with words, each being used once. The next week, she used combinations of pointing with noise-making and gesturing with an object in combination with words, again, each being used once. By the end of the observation period, when Jane would use a combination of actions to communicate, they were mostly used with words. For example, starting at week 4, Jane began to use gesturing with objects combined with words throughout the rest of the weeks. Additionally, during week 5, Jane used baby-sign with words and then during week 6 she used pointing with words. We can see here that while Jane was still using non-verbal communication methods such as pointing, baby-sign, and gesturing with objects, all were in combination with words. This agrees with her increase of word usage in the 6 weeks and decrease in solely non-verbal actions. For Jane, the act of combining actions helps facilitate her continued acquisition of language skills as she develops further because she learns how to effectively communicate her needs without gesturing with an object or pointing to an object. She demonstrates that she has the knowledge to combine these non-verbal actions with words and eventually be able to fully express her need with words.

Claire had the most instances of combining actions, majority involved pointing with another action such as words or making sounds. During week 1, Claire pointed with words once and used baby-sign with words once. By week 3, Claire was able to use pointing in combination with sounds in order to communicate but this was also the week where she had an large increase in her single action word usage. Claire then showed more combination of actions during week 4 when she used pointing with words once, gesturing with objects combined with words once, and pointing with sounds twice. During week 5, Claire combined pointing with noise-making twice and did not have any instances of using only words this week⁴. Finally, by week 6, Claire pointed with noise-making once and had a dramatic increase to using words 5 times. While Claire's use of combination of actions was not very consistent, she was able by week 6 to majority use words in her combination with actions and her single actions showed that her verbal usage was increasing.

Finally, in the first 4 weeks, Nicholas displayed a progression from pointing to words in only single communicative actions, but then after week 4, he began to combine actions, all involving gesturing with objects in combination with words. Week 4 was an important week for Nicholas because it showed the greatest increase of word usage, going from 1 instance in week 2, to 5 instances in week 4. During this week, Nicholas only had one instance gesturing with an object and using words. For weeks 5 and 6, Nicholas had similar interactions with using gesturing with objects in combination with words. The skill of combining actions was used the least by Nicholas compared to the other children. Due to his quiet nature, Nicholas was the least likely of the children to

⁴ Week 5 was the week she was absent from lunch.

using combining actions to communicate. As his language skills steadily increased by his use of words, he only resulted to combining gesturing with objects with words. I believe that this finding speaks to his personality and how it is different from the other children who had different results when examining their use of combining actions.

The Role of Context

I found that the role of context in a child's language development proved to be extremely important in displaying a child's skill and individual differences. All children were able to find ways to effectively communicate their needs to the teachers during mealtimes, but their methods of communication differed, even when the context and the meaning of the action were the same. The contexts of mealtimes allowed children to display their individual language skills and provided a lens into how and why children use different language skills in different contexts.

The meaning and context of Jane's actions were very reflective of her young age. For example, there were many times that during lunch she was ready for nap time and because she was tired, she would whine and cry the entire time during lunch until she was able to go to sleep. Additionally for both lunch and snack, if she was really hungry she should signs of being cranky and fussy until she was able to eat. Her use of sounds, such as crying and whining, decreases throughout the weeks but is still present throughout the study. The context of mealtimes leads Jane to result to crying and whining due to her infantile age and inability to fully use language when she is feeling tired or hungry, and instead cries and whines so alert the teachers about how she is feeling. While Jane used words for "more" the most out of all the actions and meanings (11 times), I believe that this is because she was often prompted about what she wanted when she would whine or

cry. This then would allow her to use the language that she already knows and say “more,” for example. She should a progression to using language for “more” compared to the first few weeks when she would only whine and cry for “more”. I believe this is because of the repetition from the teachers that when she is whining or crying she wants more, so as the weeks progressed she was able to learn the language for such situations. Similar to Claire, Jane is very active and animated. This is shown through her actions during mealtimes because she communicates with teachers a lot during snack and lunch. She additionally shows use of language abilities before and after she eats too. Before most meals, she is very hungry so most of her communication is in regards to wanting to eat, and after meals, she seems to be in a better mood and more talkative.

Claire was very active during the contexts of mealtimes. She used pointing for “more” the most often during these times. She also tended to point to show the teachers something. While she used pointing mostly to indicate that she wanted more, by week 6 she made a transition to pointing less for more and using her words instead. I believe that because Claire is a very animated child and outgoing, she is likely to use her pointing skills in combinations with other actions because she likes to have the attention on her. She leads for her use of pointing to be extremely high compared to the other two children but also she shows a growth in her use of language and size of vocabulary. During mealtimes, Claire was very animated. She would get very excited for her food and very happy when she was eating. This lead to a lot of instances of using language during her meals. She would communicate with her peers and teachers a lot during play time before the meals but by the time she was eating she was asking for more and interacting with the children still. I believe that this connects to her personality. Because she is outgoing and

very humorous, she is very active during meal times and pays attention to not only her food, but also what is going around her. This leads to her to make a lot of language actions during her meal times and also before and after them.

When looking at mealtimes and when the children were most vocal, Nicholas differed from Claire and Jane because he was more likely to be quiet while eating and mostly used communicative actions before and after snack or lunch. When Nicholas used words during meals, it was almost always in order to ask for more (9 times). But when he pointing, it was almost always socially to show something to his teachers or peers (4 times). There were many instances where before the meals while he was playing with his friends and he used spoken words while copying the older children or attempting to interact with them. He would typically greet his friends walking in in the morning or repeat phrases that the older children are saying. I believe that this shows how a child's individual differences, such as personality, can influence their use of language in specific contexts. Because Nicholas is shy, his use of language is a lot less than other children but he does not lack the ability. During play-time he expresses language but because of the fact he takes a long time to eat his meals and is very quiet during them, he does not use language very often during this time.

CONCLUSION

The act of developing language occurs among almost all humans. This fact is well known and indisputable. What is important to study is that this process is not uniform among all people. Every person has their own individual differences that influence the rate and how they develop their own language skills. Individual differences are omnipresent among all people, even young children who are still in the beginning stages

of developing their personalities and finding their place in the world. The context of language actions and their meanings allow us to see what situations lead children to demonstrate their skills and how they can improve. Schools and childcare centers should be knowledgeable of the individual differences that occur in all language development and they should use these findings when considering each child's cognitive development, specifically language, in order to make sure each child is given a chance to learn language and show their skills in the best possible settings.

LIMITATIONS

There are several limitations to this study. While the sample size was small and allowed for observations in very close detail of all subjects, a large sample size could be used in making broader claims and understanding the findings among more children. Additionally, there was a disproportionate amount of genders, such as there were three females and only one males. In future research, it would be beneficial to have an equal sample size of genders in order to add this as a variable of language development and understanding how it differs across individuals. Finally, personality was not measured by any specific tools but by judgement and knowledge of the children. While this is trustworthy, it could be useful to have a way to quantify each child's personality in order to be certain of claims about their traits.

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