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Encouraging Passion: The Discovery of What Curiosity Can Do for Children's
Exploration and Knowledge

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DEDICATION

This thesis project is dedicated to the children who motivated me to explore my own curiosities. Thank you for being my inspiration.

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ABSTRACT

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By

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Master of Arts in Education

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Past studies have suggested that curiosity can be a significant motivator for children's learning and their attainment of knowledge (Chak, 2007). Because teachers play a significant role in organizing environments for children, this thesis project explores educators' views of children's curiosity and aims to demonstrate the importance the trait of curiosity can have on children's learning. The current study consisted of two, 2-hour workshops for early childhood educators with two different audiences. In Study 1, 20 first-semester Early Childhood Education graduate students were provided with the workshop on curiosity in young children while in Study 2, 16 community college students participated. Results indicated that the majority of participants (41% of Study 1- Graduate Students, and 30% of Study 2- Community College students) discovered the importance of curiosity and the ways to promote it with young children in the classroom.

CHAPTER ONE

INTRODUCTION

Curiosity is an emotion and trait expressed through exploration, investigation, motivation and ultimately, learning. Curiosity is understood to be a multidimensional phenomenon with different beliefs held by various philosophers; Lowenstein (1994) stated that Freud (1951) referred to curiosity as a “thirst for knowledge” (p. 77). James (1890/1950) a psychologist and philosopher, suggested that curiosity had two types, the first a desire for novelty in the environment and the second a desire for specific types of information (Lowenstein, 1994). Berlyne (1954) who studied curiosity for more than two decades stated that there is perceptual curiosity, epistemic curiosity, specific curiosity and diverse curiosity, while Piaget (1969) described curiosity as the urge to explain the unexpected. It was not until the work of researchers like Freud, James, Berlyne and Piaget that curiosity became a concentrated field of study.

With regard to the acceptance of children’s curiosity, Chak (2007) posed an important question: “As a characteristic that is encountered daily, is curiosity worth encouraging?” (p. 142). When children ask questions and seem to “get into” everything, an alternative to assuming they are just noisy or bothersome, is that children ask questions with the purpose of enhancing their knowledge. Children get into things because they are curious about what’s behind that cupboard door, which is why they might pull every piece of Tupperware onto the floor in order to see and know, otherwise known as “the experiment in order to see” (Piaget, 1952, p. 266). According to Piaget, curiosity is most certainly worth encouraging.

Piaget believed that a prerequisite for the construction of knowledge is being actively curious and that curiosity motivates the attainment of new information (Reio, Petrosko, Wiswell & Thongsukmag, 2006). In Piaget's view the construction of new knowledge is promoted by curiosity and exploratory behavior (Reio et al., 2006). In order to foster young children's curiosity and exploratory behavior Chak (2010) stated that young children depend upon a stimulating environment from the adults around them, and more importantly interactions with children may promote or hinder further investigation.

Statement of the Problem

There is a need to discover more about curiosity and the benefits it can have on children's development and education, and to uncover what ignites and continues to fuel curious behaviors. According to Reio et al. (2006), the importance of curiosity in children's development has been largely ignored. Curiosity and interest often go hand in hand, without them it is difficult for children to grasp and attain new information and knowledge in subject areas such as math, science, and reading and "a curious reader, it turns out, is a more skilled and thorough reader" (Engel, 2011, p. 628).

As stated in Engel (2011) two British psychologists Tizard and Hughes (1984) observed 4-year-old children's questions drop from an average of 26 per hour (at home with their parents) to an average of 2 questions per hour (with their teachers at school). Questions worth pondering would be: do teachers realize the impact they have on children's inquiry skills which could result in better attainment of knowledge? Do teachers understand curiosity and encourage it? Is encouraging curiosity a legitimate educational goal?

Purpose of Project

The purpose of this thesis project is to create a workshop to increase teachers' awareness of children's curiosity. This includes exploring definitions of curiosity as stated by differing theorists, examining current research related to curiosity, discussing the California Early Learning Foundations (CDE, 2008) regarding concepts of curiosity and engaging critical thinking about the role of curiosity in the classroom (ages 0-5). With so much of the responsibility of children's curiosity and investigations lying with the actions of the teachers and adults around them, it is important to study whether or not teachers understand the significance of their role. Specifically this study will examine, (a) how educators or educators-in-training feel about the trait of curiosity in children and whether or not they would encourage curious behaviors, and (b) whether they think curiosity is important to education.

Significance of the Project

The California Department of Education (2008) stated that *initiative in learning* (children engaging in learning opportunities, enthusiastic about learning, and have confidence in their abilities to continue to learn) under the Social-Emotional Development is one of the ways that "young children's development in this domain influences their ability to adapt successfully to preschool and, later on, in school" (California Department of Education, 2008, p. xii). For example, according to the California Department of Education (2008) at around 48 months of age children show interest in different activities in the classroom, ask "why?" when faced with new discoveries and notices when the teacher introduces new displays or centers. Then, at around 60 months of age children ask "why" questions often out of genuine curiosity, and

work hard on projects that have captured their interest. In discovering important behaviors and characteristics that can be the key motivational force behind children's drive to learn, educators can begin to be the change in classrooms that is necessary to lessen boredom and increase the rate that children become active participants in the classroom.

Terminology

It is important to have a clear understanding of what curiosity is and how it is defined within the context of this thesis. Thus, the following definition is provided:

Curiosity- Freud described curiosity as "a thirst for knowledge" (Lowenstein, 1994, p. 77). James suggested that curiosity has two types: the first a desire for novelty in the environment and the second a desire for specific types of information (Lowenstein, 1994). Berlyne (1960) specified four types of curiosity perceptual (aroused by novel stimuli), epistemic (quest for knowledge), specific (when a person desires a particular piece of information) and diverse (related to a person's search for stimuli).

Preview of the Thesis Project

The next chapters will provide information about curiosity and the workshops developed to introduce teachers to its use and effectiveness in the classroom. Specifically, Chapter Two describes relevant literature on curiosity, definitions by differing theorists and researchers, the benefits of fostering curiosity with regard to education, and the costs of hindering these curious behaviors. Chapter Three provides detailed information about the workshops (Study 1-Graduate Students and Study 2-Community College Students) on curiosity in the classroom as well as the instruments

designed to evaluate its effectiveness. Chapter Four presents the findings from the trainings. Finally, Chapter Five will provide a discussion of the findings from the workshops and its limitations, policy issues and future research.

CHAPTER TWO

LITERATURE REVIEW

“Young children’s curiosity and exploration, which are expressions of their eagerness to know, if nurtured, can be a key motivational force for the acquisition of knowledge”

(Chak, 2007, p. 142).

Introduction

Curiosity is a term used interchangeably with interest, exploration, and is described as a prerequisite for motivation (Byman, 2005). In recent research the subject of curiosity has been discovered to be highly significant to children’s learning (Reio, Petrosko, Wiswell & Thongsukmag, 2006). What might the implications be for children whose teachers shut down their questions and inquiries? Adults (parents and teachers) have a substantial role in providing context and experiences for young children (Chak, 2007).

This chapter will begin with two studies (Byman, 2005; Reio et al., 2006) giving insight and background on the subject of curiosity, clarifying different concepts of curiosity and building theory of how and why curiosity is necessary for human beings functioning. This will be followed by a study (Subbotsky, 2010) of what types of events elicit strong curiosity and exploration in children and adults. The literature review will then focus on four more studies (Neitel, Alexander, & Johnson, 2008; Hannikan & Rasku-Puttonen, 2010; Engel & Labella, 2010; Freidus, 2010) including early interests of children, the roles of teachers in children’s participation and how teachers can build meaningful and rich curriculum into the classroom. The last study (Chak, 2007)

described will focus on where to start in order to encourage children's curiosity by first examining what teachers and parents thoughts are regarding children's curiosity and exploration. The goal of this literature review is to display the relationship between encouraging curiosity and exploration and positive outcomes, explorations, and pursuit of knowledge thus, explaining the need for the workshop created for this project.

Review of the Literature

Clarifying the Concepts of Curiosity and Sensation Seeking

There have been many attempts to measure curiosity however, "what is meant by curiosity is not a truism" (Byman, 2005, p. 1366). The word curiosity has a different definition depending on who is defining it. Intrinsic motivation, exploration, and sensation seeking are just a few of the words some scholars use interchangeably for the term curiosity. There seems to be confusion between definitions because there have been dozens of instruments devised to measure curiosity (Byman, 2005). As a result, it is not easy to compare results of studies that use different measures for curiosity.

Byman (2005) sought to clarify the concepts of curiosity and sensation seeking investigating how they are similar and how they differ using two methods to measure curiosity. The sample consisted of 529 (258 girls and 271 boys) fifth-graders from the southern part of Finland. The children were from 24 classes, 14 schools and four different towns. In order to measure curiosity four pencil-and-paper self-report scales, (test of intrinsic motivation, diverse exploration, the broad curiosity-trait scale, and sensation seeking scale) and one teacher rating scale were used (Byman, 2005). The findings supported the conclusion that curiosity and sensation seeking are completely different traits and while curiosity is difficult to measure researchers still aim to

conceptualize the term to shed some light on the benefits of why it is important for children.

Measuring and Conceptualizing Curiosity

In an effort to build theory of why curiosity appears to be an integral aspect of human operations, Reio, Petrosko, Wiswell and Thongsukmag (2006) aimed to measure and conceptualize the notion of curiosity. Three-hundred sixty-nine (103 men, 266 women) students who were 18 to 60 years old and attended universities on the East Coast of the United States completed five paper-and-pencil curiosity measures in one of their classes. Based on theory and available research, Reio et al. (2006) tested competing one, two, and three-factor models of curiosity.

The results indicated that the data best fit a three-factor curiosity model containing cognitive curiosity (information-seeking curiosity, for example asking questions) physical thrill seeking (the motivation to take physical risks), and social thrill seeking (the eagerness to take social risks) using confirmatory factor analysis (Reio et al., 2006). According to Berlyne, 1960; Kashdan & Roberts, 2004; and Loewenstein, 1994, “Preliminary research results have indicated that curiosity fosters cognitive, social, emotional, spiritual, and physical development over the lifespan by stimulating exploratory behavior” (Reio et al., 2006, p. 117), suggesting, that exploratory behavior is initiated by curiosity whether adults or children. For example, curiosity has the ability to expand children and adults’ cognitive skills by enhancing the way they think. With the awareness of the benefits of curiosity being investigated, it might be interesting to know what factors stimulate curiosity and exploration.

Possible and Impossible Events: What Elicits Strong Curiosity and Exploration?

Mendel (1965) stated that behavioral responses to novelty (the quality of being new, original or unusual) is a major factor in eliciting exploratory behavior (Subbotsky, 2010). To elicit exploratory behavior the stimulus must not only be novel but interesting and attractive. Subbotsky (2010) tested the assumption that any given stimulus becomes “interesting” when it violates physical laws (being impossible, or magical). Subbotsky (2010) also tested to see if children and adults were willing to risk a cost for their exploratory behavior and curiosity.

In four experiments, 4, 6 and 9- year old children as well as adults were recruited to participate in the study. The hypothesis was tested that novel and unusual events elicit stronger curiosity and exploratory behavior if the explanation involved magic or the supernatural as opposed to just being a trick (Subbotsky, 2010). This tendency of elicited behaviors becomes known as the impossible over possible effect (the I/P effect). In the first experiment children were asked if they would like to place their valuable objects (a postage stamp) into a box to see it disappear. In one condition (impossible condition) the explanation was that magic was the cause, but in the second condition a trick box was the explanation (counter-intuitive possible condition). The same box was used in both conditions and Subbotsky (2010) predicted that if children were encouraging the experimenter to reproduce the magical condition (impossible condition) more than the trick condition (counter-intuitive possible condition) than magic was the intrinsic motivator.

The second experiment used the same methodology with the adults. In the third experiment the participants’ drivers license and passports were used as the valuable item

to see if participants were as willing to risk these items in exploring their curiosity. Finally in the fourth experiment the experimenter's business card was used instead of any valuable items owned by the participants (Subbotsky, 2010).

Results showed that children and adults in the first two experiments were both more interested in the impossible condition (the magical explanation) as they repeatedly asked the experimenter to reproduce their postage stamp. The results of the third experiment looked quite different: "It was found that the I/P effect is exhibited only in the conditions in which the cost of exploratory behavior is moderate (a threat to the safety of the participants driving license). If the cost is too high or too low, participants' exploratory behavior decreases or increases to an extent that eliminates the I/P effect" (Subbotsky, 2010, p. 498). The major finding in these experiments is that novel and interesting items or situations spark curiosity. What qualifies as novel or stimulating to individuals will vary depending on age, culture, social class and the environment, which may or may not allow for stimulating exploration (Subbotsky, 2010). In the next study, researchers ask whether children's early interests contribute to the development of curiosity, with the stipulation that their curiosity is nurtured.

Early Interests and Contributions and Pursuits of Information by Kindergarteners

Interest plays an important role in academic outcomes, as "children's personalities, cognitive abilities, and motivational dispositions have all been linked to their academic behaviors (Bjorklund & Schneider, 1996), and interest has been credited as the bridge linking cognition, motivation, and academic outcomes" (Neitzel, Alexander, & Johnson, 2008, p. 782). Therefore, Neitzel et al. (2008) explored the early interests of 109 pre- kindergarteners and their information contributions (providing elaborations or

extensions, sharing suggestions or rationales, and generating connections or associations) and the pursuits of information (additional information, task-process information, and normative information) in kindergarten were examined. Differences in the types of information that children contributed and pursued in classroom discussions were unveiled from the school years observational data (Neitzel et al., 2006).

Neitzel et al. (2008) stated that if early interests are matched to activities in school the result may be increased participation in classroom discussions. Therefore, Neitzel et al. (2008) launched the current study on the assumptions that interests allocate what children pay attention to, young children develop interests through activities in the preschool years and, that specific opportunities will create interest and develop specialized knowledge. Based on the previous assumptions, Neitzel et al. (2008) hypothesized that children's interests in a school setting may be influenced by activities they partake in at home. For example, children who help their families cook dinner might have more information on measuring spoons or cups in effect benefiting them in the subject of math. These children might be more prone to raise their hands in classroom discussions and share their knowledge as well as pursue more questions on the subject.

The study consisted of 109 children (58 boys and 51 girls) who would enter kindergarten the next school year. Throughout the 12 months prior to the children starting kindergarten parents were asked questions regarding their children's play time and play objects every two months to develop profiles for the children. Interest groups were created based on data collected. Observers were assigned to observe one child throughout the school year and once the school year started they sat in the children's classes for a total of 18 five-minute intervals (a total of 90 minutes).

Results were calculated and depending on the interest groups children were placed in based on their early interests, (before kindergarten) children contributed and pursued different types of information. Neitzel et al. (2008) calculated that boys were more frequently than girls had concept-oriented interests (children focused on an object or topic e.g., animals or Astronomy) and procedural interests (children interested in activities with structure e.g., games with rules or sports) and girls more often than boys had creative interests (children interested in flexible innovative materials e.g., music, art, and fantasy) and socially oriented interests (children interested in sociodramatic activities e.g., social role play and props). Academic behaviors were also calculated and some patterns were found. Specifically,

Children who frequently pursued additional information (child seeking objective or more details) in the classroom were likely to add elaborations-extensions (child sharing related facts or details) during class discussions ($r = .65, p < .001$) and were less likely to make associations-connections (child making ties between topic and personal experience) during class discussion ($r = -.30, p < .002$) or to pursue normative information (child seeking information for the purpose of making social comparisons) ($r = -.24, p < .01$) (Neitzel et al., 2008, p. 788).

In a way the present study parallels Gardner's theory of Multiple Intelligences, insofar as it reflects the belief that human beings do not all learn the same way. Children come into the classroom with different experiences and opportunities that have affected the way they will view the world. The findings suggest that a variety of experiences be available for young children to participate in (Neitzel et al., 2006). It is important to note that the early interests of children are significant and have the potential to provide the

essential context for school and academic preparation. Children who are given opportunities to delve into things they are interested in have a good chance of participating in school (Neitzel et al., 2008). These opportunities may be largely due to the roles teachers play and their efforts to increase children's involvement.

The Role of Teachers in Promoting Children's Participation

The relationship between teachers and children has the potential to build a certain confidence in children, thereby affecting the amount of participation in classroom routines (Hannikainen & Rasku-Puttonen, 2010). Closer teacher-child relationships have been associated with children's gains in academic and social skills. According to the core curriculum in Finland, the interactions between peers and between teachers and children plays a fundamental role in the learning environment (Hannikainen & Rasku-Puttonen, 2010). Preschool education is intended to "promote children's development and enable them to become ethically responsible members of society" (Hannikainen & Rasku-Puttonen, 2010, p. 148). Thus, the broad purpose of this study was to examine the activities of preschool and primary school teachers in order to understand the challenges children face when it comes to participation in the classroom.

In a small-scale ethnographic study in Finland, observational data from preschool and primary school contexts were gathered in order to shed some light on interactions between teachers and children, specifically in the way teachers support classroom participation (Hannikainen & Rasku-Puttonen, 2010). After approximately 100 hours of observation, findings revealed that teachers enhanced children's participation in many ways; for example, teachers were viewed encouraging engagement in joint activities, and scaffolding according to specific children's interests. Within the classroom children were

treated as worthy and equal members and this was observed when teachers respected children's views, comments and questions that were demonstrated. The findings suggest that teacher support and creative activities in preschool can "enrich children's curiosity, and nourish children's motivation for and interests in academic learning" (Hannikainen & Rasku-Puttonen, 2010, p. 147). It takes a skilled professional to set up and foster an environment that promotes such interests and participation in children, such skill that current research highlights the intermingling between pedagogy and passion to develop rich content in the classroom.

The Effects of Teacher Behavior on Student Curiosity

While parents envision their children heading to school to learn about the world and gain knowledge by indulging in their curiosity, this is not necessarily the case. Accordingly, as cited in Engel and Labella (2009), "Research indicates that the classroom is increasingly associated with boredom, frustration, and the inhibition of exploration" (p. 4; e.g. Fallis & Opatow, 2003; Gilman & Anderman, 2006; McNay, 1985; Perry, 2001; Sommer, 1985; Wolk, 2002). Therefore, Engel and Labella (2009) aimed to discover the relationship between teacher behavior and students expressions of curiosity.

Participants included 30 local fourth and fifth graders (11 female and 19 male). Fliers were sent home with all fourth and fifth graders from public elementary schools in Williamstown and North Adams, Massachusetts (Engel & Labella, 2009). Fliers advertised a chance to earn \$10 by participating in a science activity at Williams College. Parents who were interested contacted the experimenters and were instructed that the study was intended to assess how children learn. Afterwards, if parents agreed to be a part of the study they scheduled a time to bring their child to the Williams campus.

During the session parents would wait outside, they would sign the consent form upon arriving to the research room.

The study conducted by Engel and Labella (2009) took place in a research room at Williams college, containing two tables, a couch and several chairs, with a video camera set up on a stand across from the room recording the experimental sessions. Upon arrival the researcher greeted the student and their parent in the lobby where consent form was signed (assent form was signed just before beginning the activities), the student was then led towards the research room. The researcher explained to the student participant that she would be acting as a teacher while they completed two science activities together guided by worksheets.

The first activity is commonly known as Bouncing Raisins, involving observing the reaction that takes place when adding baking soda to a mixture of vinegar and water then examining the response this solution has on raisins when they are added to the combination. The experimenter was encouraging and provided scaffolding based on the participant's knowledge on the subject (Engel & Labella, 2009). In the experimental condition the experimenter strayed from the activity twice changing up the ingredients and or adding different items to the liquid. In the control condition the experimenter never deviated from the activity and encouraged cleaning up their work area as they completed specific tasks to simulate a priority in a typical science classroom. After completing the worksheet the experimenter left the participant for a total of three minutes stating that she needed to obtain the materials for the second activity, the experimenter told the subjects that they could handle the materials, draw with paper and colored pencils or just sit and wait for her return. During these three minutes the actions of the

participants were video taped and coded for their “expressions of curiosity” (Engel & Labella, 2009, p. 32).

In the first activity the experimenter led the activity however, the students led the second activity, reading the instructions, and carrying them out. At the end of the second activity the experimenter would state that the children had answered all the questions and asked if there was anything else they would like to do. If the student was confused or said no then the experiment was over, if the student suggested something to add, the experimenter would respond positively and help execute the new plan.

Results indicated that during the three minutes left alone in the room, nine students spent the entire time manipulating the experimental materials, eleven students did not spend any time with the materials and the remaining ten began by observing and manipulating the materials before losing interest. Based on the subjects’ condition, Engel and Labella (2009) discovered a significant difference in the amount of time participants were engaged with the materials in the absence of the experimenter. Students in the modeling condition where the experimenter deviated from the worksheet and directions, spent much more time (mean 133.67, $p < .001$) than students in the control condition (mean of 26 seconds, no p value present). Students in the modeling condition were more likely to deviate in the second activity, which approached but did not reach significance ($p = .065$).

According to Engel and Labella (2009) the results of their study suggest that teachers can promote curiosity simply by demonstrating their own exploratory behavior; “Ultimately, the job of the teacher is not merely to indulge curiosity but to inspire it” (Engel & Labella, 2009, p. 48). Engel and Labella (2009) suggested that teachers,

“propel learning forward” (p. 48) by accepting the deviations made by their students, in effect telling them that questions are = welcome and not distracting. “Consistent and judicious modeling of curiosity has the radical potential to revolutionize classroom culture in American public schools” (Engel & Labella, 2009, pp. 48-49). This modeling starts with the teachers who could potentially demonstrate the excitement and benefits of school work and learning through their own deviations and acceptance of expressions of curiosity.

Teachers Using Passion to Enhance the Content in their Curriculum

Freidus (2010) designed a narrative case study to give the students (future teachers) of Bank Street College Reading and Literacy Program a chance to experience what creative content looks like. Bank Street College students and the American Museum of Natural History had a collaborative relationship that gave graduate students the opportunity to recognize ways to integrate content into education (Freidus, 2010). Over the course of five years reflective statements, notes, engaging photographs, and field log journals were put together from visits to the museum (Freidus, 2010).

The findings corroborated that the teachers and student teachers developed an in depth comprehension because instead of only discussing topics in a classroom setting, the participants had the opportunity to learn with the hands on approach of actually going to a museum and thinking of how to build and implement lessons starting with interests. In fact Freidus (2010) stated that, “Teachers and student teachers emerge with a deeper understanding of the value of curriculum and instruction that builds on children’s knowledge and interests, their language strengths, and their curiosity” (p. 194).

Children's curiosity could lead to many things (motivation, a love of learning etc). In an increasing complex world Freidus (2010) stated that without passion, motivation and a love of learning it is less likely that students will be economically and intellectually responsible citizens. The following study will explore how teachers and parents view curiosity in children.

How Teachers and Parents View Children's Curiosity and Exploration

Curiosity is described by Chak (2007) as a natural and notable characteristic of young children but it is pointed out that it has not been given the attention it deserves in fields of child development and education. In a study by Chak (2007) parents and teachers of preschool aged children were given a questionnaire that was developed to assess their view of children's curiosity and exploratory behavior, and whether or not this characteristic is valued regarding education. Chak (2007) believed that "the epistemic nature of curiosity, or the quest for knowledge, deserves attention" (p. 141). The current study also aimed to compare the views of parents, teachers, and researchers outlook on the characteristics of curiosity as a means to form a common understanding of the topic. Before researching the benefits of curiosity further, it is a prerequisite, to understand beliefs held by adults. The results of this study could offer insight as to whether or not encouraging curiosity is a valid educational goal as seen by parents and educators.

The study took place in Hong Kong, China and consisted of a pilot study and a main study. Participants were preschool teachers and parents of preschool-aged children. Eighty-four participants (64 preschool teachers, 20 parents) were involved in the pilot study. Three hundred twenty-one participants (195 preschool teachers, 126 parents) were included in the main study. Out of the teachers, 155 were recruited from 12 different

preschools and 40 were from an in-service training (it is unknown the details of the in-service training). Parents in the study were recruited from seven of the 12 preschools, all of which were located in middle and lower class neighborhoods (Chak, 2007).

To construct the study's instrument, a pilot study was implemented to develop the questionnaire for the main study. During the pilot study parents and teachers were asked to write down as many characteristics of a curious child they could think of. The lists from the pilot study were put into categories for participants from the main study to place value on.

During the main study teachers and parents were given a voluntary questionnaire comprised of two parts, a quantitative and qualitative section. The quantitative section specifically aimed to find out the value placed on curiosity as a characteristic, and whether or not it would be encouraged as a means for aiding the learning process (Chak, 2007). On a five-point scale participants were asked to rate characteristics of curiosity. The qualitative section asked participants two open-ended questions. The first question asked if parents and teachers believed curiosity decreased with age, and the second questions asked parents and teachers to explain circumstances in which exploratory behavior would be encouraged.

For the quantitative piece of the questionnaire, overall, teachers gave higher ratings to characteristics of curiosity than parents. Although teachers gave higher ratings, the mean ratings for both samples were generally high indicating that parents and teachers alike have positive views on curiosity and exploratory behavior in children (Chak, 2007). Results indicate that highest items rated by parents and teachers were 'interested in novelty' ($M=4.37$, $SD= 0.72$), 'has a strong desire to know' ($M=4.34$,

SD=0.75), 'asks questions frequently' (M=4.25, SD=.072), and 'is visually aware of things around' (M=4.24, SD=0.76) (Chak, 2007). Teachers highest rated items were 'has a strong desire to know' (M=4.45) and 'is interested in novelty' (M=4.42). Compared to parents whose highest rated items were 'interest in novelty' (M=4.30) and 'ask questions frequently' (M=4.22) (Chak, 2007). No standard deviations were given for teachers' and parents' scored items.

Overall, the participants in the study had a positive view on curiosity and exploratory behaviors, although teachers report slightly more positivity than parents. The reason teachers might view curiosity more positively than parents might be that teachers have been trained to recognize that children learn through their experiences and the self-generation of ideas. Most teachers have a greater awareness of environmental influences on the exploration of children due to their professional training emphasizing a constructivist view of learning and exploration (Chak, 2007).

The results of the current study might have been surprising because, "Society in general values academic achievement highly and adults usually prefer an adult-directed style toward learning" (Chak, 2007, p. 144). Given the cultural reputation of, "it is better to be seen than heard" it might have been assumed that the common view on curiosity would be more negative by parents of preschool aged children in China. "In everyday situations, teachers and parents are probably ambivalent about signs of curious behavior, manifested through endless questions by preschoolers and by toddlers 'getting into' everything (Chak, 2007, p. 141-142). With the limited research available on the topic of curiosity and exploration it appears that there is much more to be unveiled.

CHAPTER THREE

METHODOLOGY

Introduction

The current study describes the benefits of supporting children's curiosity in the classroom and the effectiveness of a training workshop for early childhood educators on this topic. This thesis includes two studies Study 1 presents a workshop on curiosity to graduate students and Study 2 presents this same workshop to community college students. This chapter describes the workshops devised for this study and the instruments created to evaluate the workshop's usefulness.

Sample

Study 1-Graduate Students

Participants. In the first study the participants included 20 first year graduate students at California State University, Northridge in the Department of Educational Psychology. All participants were enrolled in Issues and Theories in Early Childhood Education (EPC 632), a required course in the Early Childhood Education Master of Arts program. The workshop was presented to parallel the topic of Piaget, Vygotsky and Constructivism that are part of the course curriculum.

Demographics. Participants included 20 females 18 and older (Figure 3.1). The sample was comprised of 30% Hispanic/Mexican, 25% other (including Irish, Armenian, Korean/Pakistani, Caucasian/Middle Eastern, and White/Native American), 20% Caucasian, 15% African American/Black, and 1% European (Figure 3.2). Most participants have worked with children more than one year with, 30% working for 3-5 years, 25% with 10 or more years of experience, 20% have worked between 6-9 years,

15% have worked with children less than a year, and 10% have worked between 1-2 years (Figure 3.3).

Figure 3.1 Ages of Workshop Participants (Study 1)

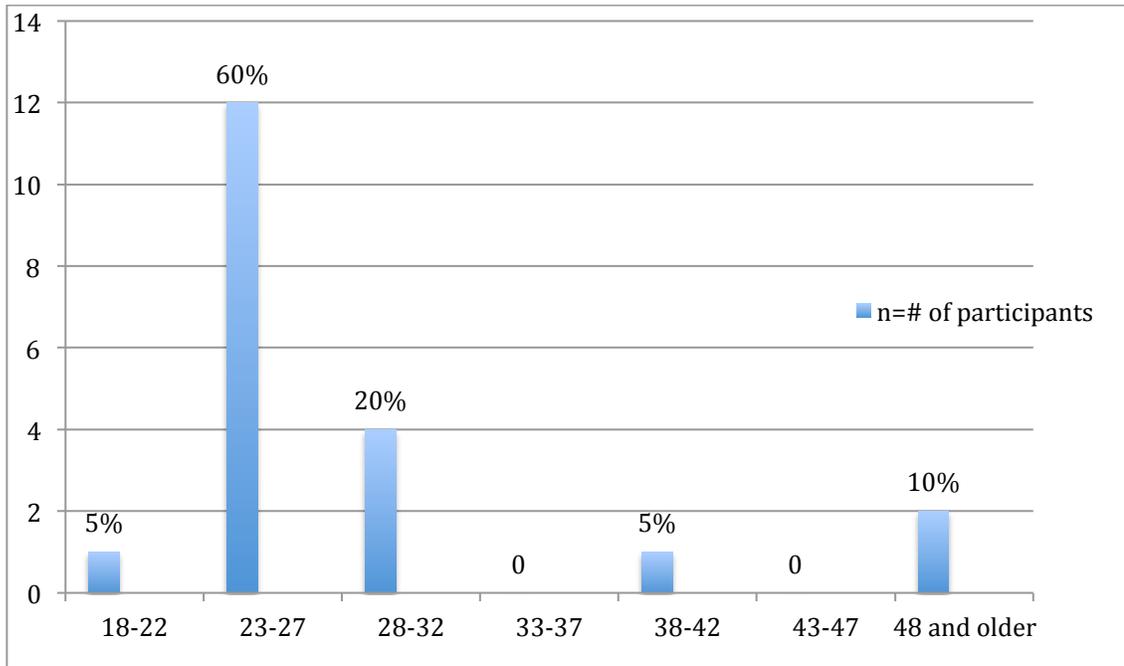


Figure 3.2 Ethnicity of Workshop participants (Study 1)

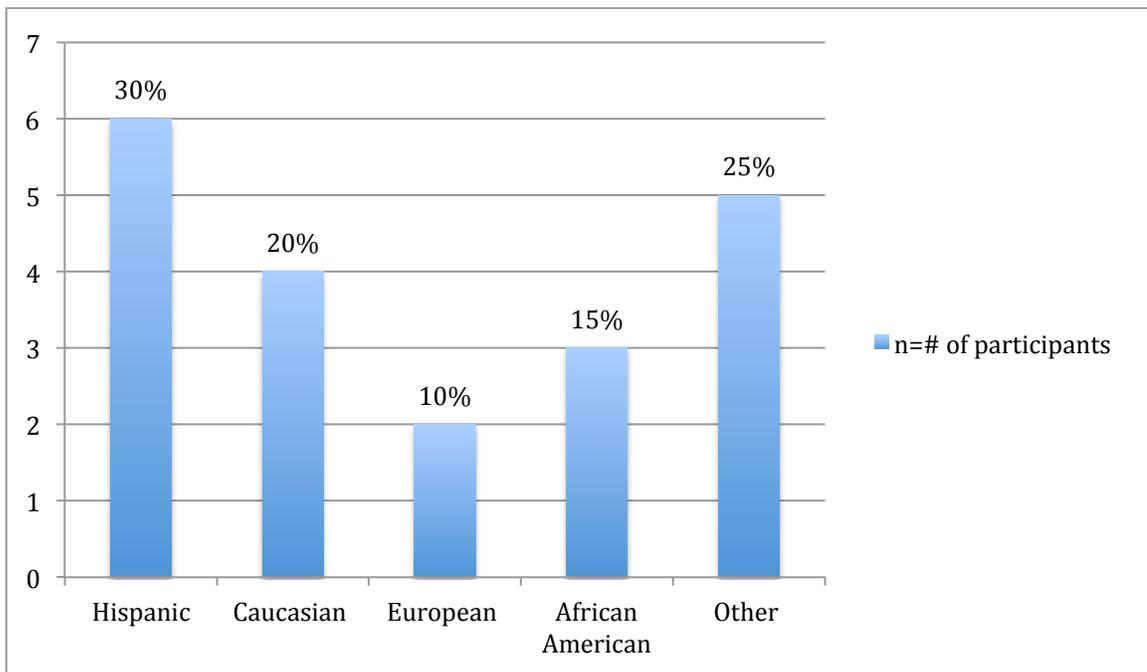
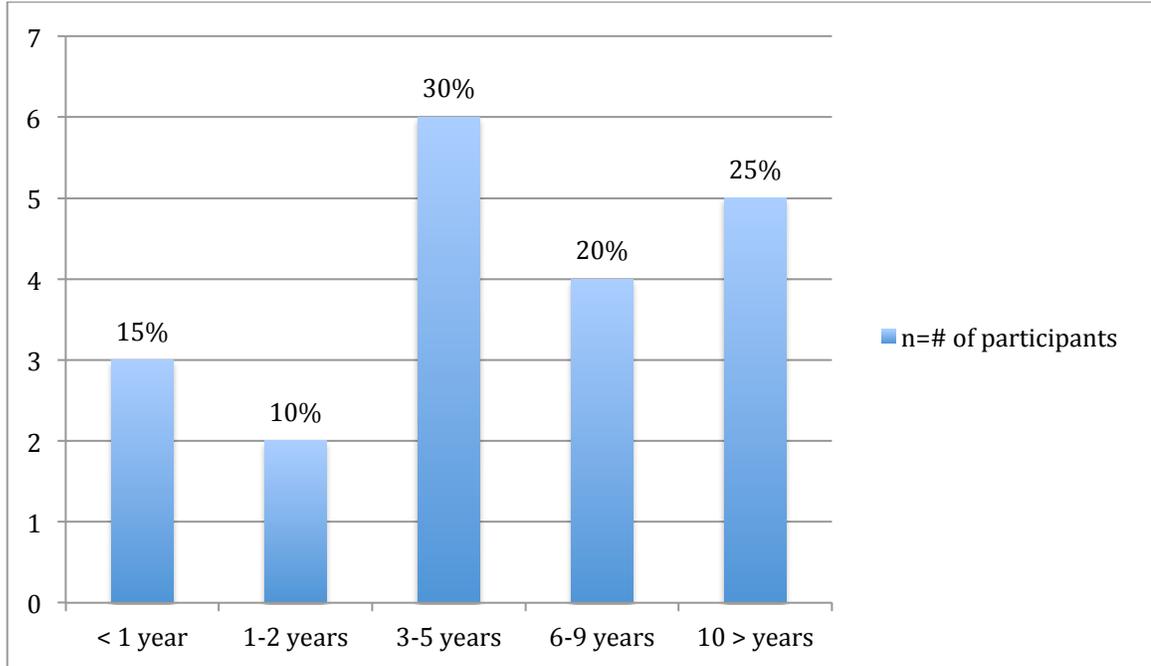


Figure 3.3 Participants' Experience with Children (Study 1)



Study 2- Community College Students

Participants. The second study included 16 students enrolled in a Child Development Curriculum class at Moorpark Community College in the greater Los Angeles area. The workshop was presented to students to correspond with the continued topic of the California Early Learning System and theorists such as Piaget, that are described throughout the class.

Demographics. Participants in the second study included 16 females 18 and older (Figure 3.4). The sample was comprised of 50% Hispanic/Latina, 38% White/Caucasian, 13% other (one described herself as German/Irish, and another Asian/Mexican) (Figure 3.5). Half of the participants worked with children less than one year 50%, about one third (31%) worked with children 1-2 years, 13% for 3-5 years, and one subject has worked with children more than 10 years (1%) (Figure 3.6).

Figure 3.4 Ages of Workshop Participants (Study 2)

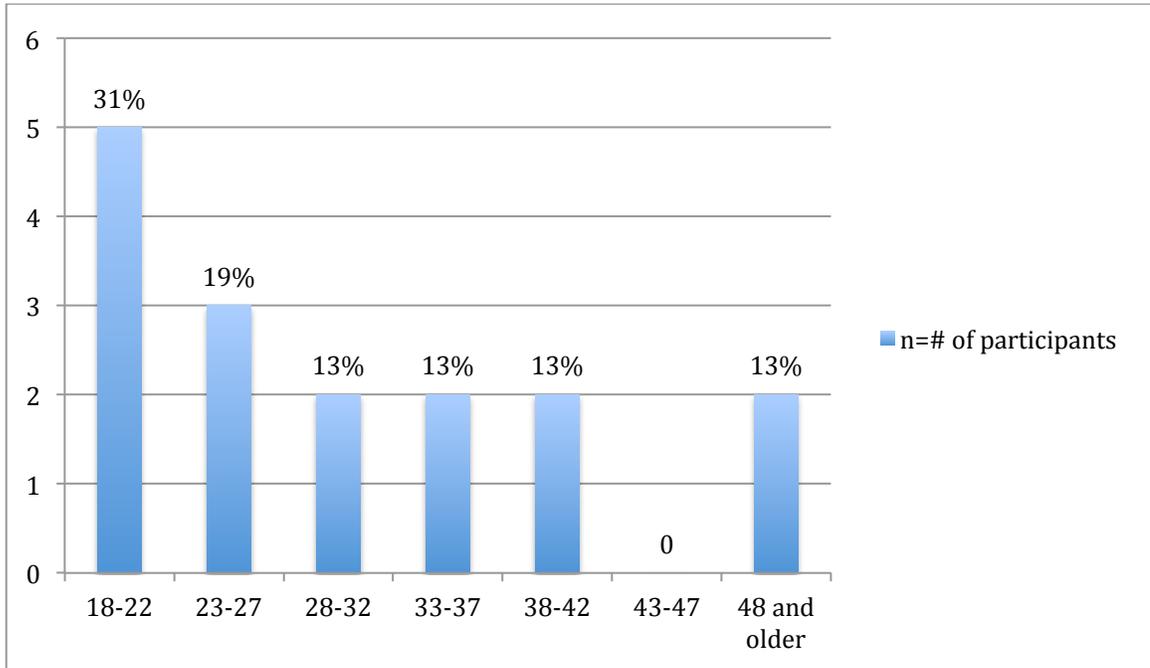


Figure 3.5 Ethnicity of Workshop Participants (Study 2)

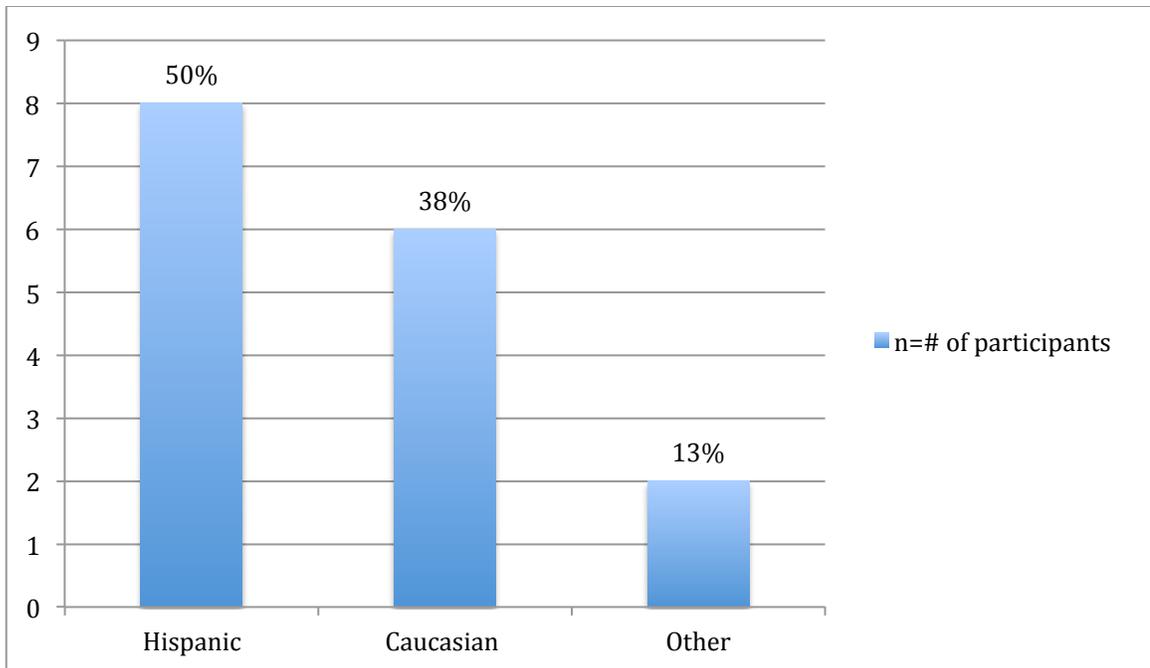
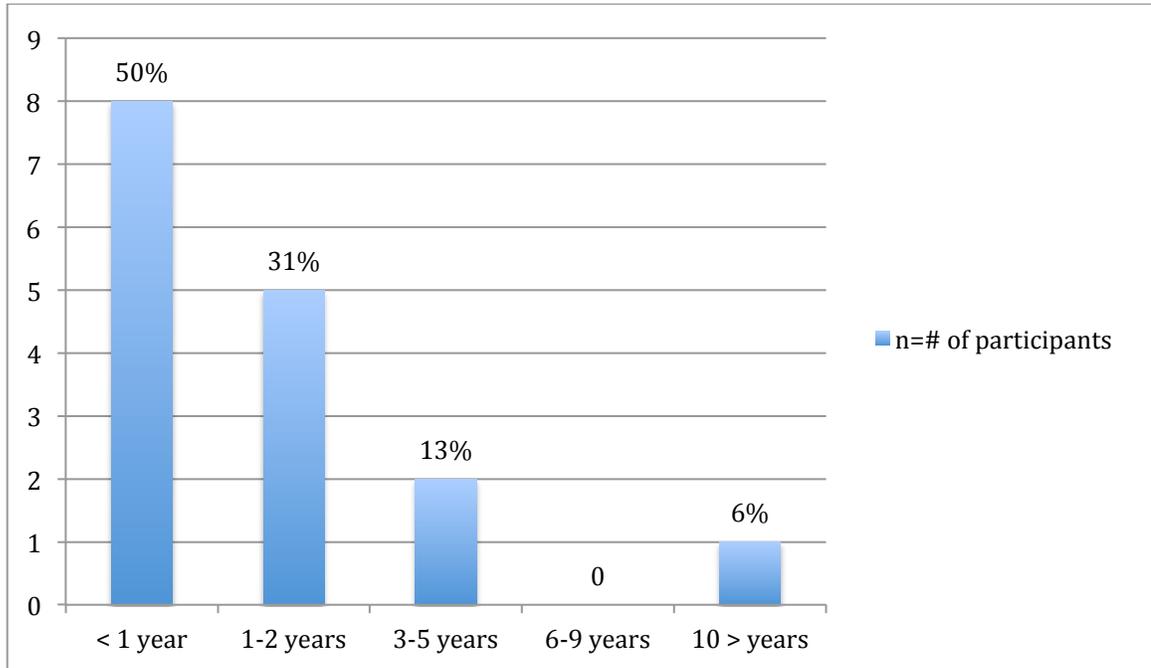


Figure 3.6 Participants' Experience with Children (Study 2)



The Workshops

The workshops consisted of a two-hour session (See Figure 3.7 for workshop outline) including pre- and post- questionnaires as well as two other worksheet activities pertaining to the topic of the participants' own experiences with curiosity and what *initiative in learning* looks like in the classroom. Study 1- Graduate Students and Study 2- Community College Students received the same workshop. Details of each element of the workshops will be described in the following sections.

Presentation

The PowerPoint presentation, *Are you Curious about Authentic Learning? The Discovery of What Curiosity Can Do For Children's Exploration and Knowledge* (Appendix A) included 26 slides exploring a variety of definitions of curiosity as stated by differing theorists, considered Piaget's beliefs on curiosity, discussed the current research related to curiosity, applied the California Early Learning Foundations to concepts of curiosity and throughout the workshop the participants actively engaged critical thinking about the role of curiosity in the classroom. The workshop began with a pre-workshop questionnaire (Appendix B) on curiosity and exploration and then participants completed a brief worksheet activity Childhood Examples of Curiosity Narratives (Appendix C) looking back at events that elicited the participants' own curiosity as children. After roughly 15 minutes to complete the activity participants were encouraged to share their experiences which would then be tied into the definitions of curiosity as stated by Freud, James, Berlyne and Piaget in the group discussion.

Piaget's beliefs about the attainment of knowledge were then discussed including The Sensorimotor Period (birth to age two) with an emphasis on tertiary circular

reactions, the “little scientist” stage. A detailed observation written by Piaget himself (seen below) was read from *The Origins of Intelligence in Children* (1952).

Observation 146. - At 1;2 (8) Jacqueline holds in her hands on an object which is new to her: a round, flat box which she turns all over, shakes, rubs against the bassinet, etc. She lets it go and tries to pick it up. But she only succeeds in touching it with her index finger, without grasping it. She nevertheless makes an attempt and presses on the edge. The box then tilts up and falls again.

Jacqueline, very much interested in this fortuitous result, immediately applies herself to studying it...

In effect, Jacqueline immediately rests the box on the ground and pushes it as far as possible (it is noteworthy that care is taken to push the box far away in order to reproduce the same conditions as in the first attempt, as though this were a necessary condition for obtaining the result). Afterward Jacqueline puts her finger on the box and presses it. But as she places her finger on the center of the box she simply displaces it and makes it slide instead of tilting it up. She amuses herself with this game and keeps it up (resumes it after intervals, etc.) for several minutes. Then, changing the point of contact, she finally again places her finger on the edge of the box, which tilts it up. She repeats this many times, varying the conditions, but keeping track of her discovery: now she only presses on the edge! (p.272)

With regard to tertiary circular reactions the personal experience that gave life to this subject for the researcher was then described (See slide #9 of the PowerPoint Appendix A).

Two key studies were then described highlighting the researchers' hypothesis, methods, and results to showcase the beliefs parents and teachers' hold (Chak, 2007) as well as the effects teachers' behavior can have on their students' exploratory behavior in the classroom (Engel & Labella, 2011) (See slide #13-15 of the PowerPoint Appendix A). The discussion then led to whether or not curiosity is foundational to learning.

Participants' attention was then guided towards the domain of social-emotional development in the California Preschool Learning Foundations, more specifically Initiative in Learning (California Department of Education, 2008). Participants were then asked to complete another worksheet activity Initiative in Learning: One Aspect of Curiosity (Appendix D) describing what they believe initiative in learning means, some examples from the perspective of children, examples from the perspective of teachers and why they think it to be under the domain of social-emotional development. Recommendations from the California Preschool Curriculum Framework on how to promote initiative in learning and curiosity were then explained including observing children pursue their own interests, modeling curiosity and enthusiasm when learning new things, engaging in play with students, and helping children generate their own ideas to solve problems (California Department of Education, 2010).

Special attention was paid to the subject of safety, in this case when to *not* promote curiosity. Cartoons depicting a child about to burn her hand on a hot stove and another child placing a knife in an electrical socket were shown to prompt the subject of safety. Subjects were prompted to share stories of a time they experienced an unsafe curious moment, whether it be from their childhood or their children or students.

Participants then had a chance to ask any questions and were then directed to the post-workshop questionnaire (Appendix E).

Figure 3.7 Outline of Workshop Presentation Components

Objectives	5 minutes
Pre-Questionnaire	20 minutes
Curiosity Narrative	25 minutes
Definitions	10 minutes
Pam's Example	10 minutes
Research Studies	10 minutes
Curriculum Framework	15 minutes
Safety	10 minutes
Questions	10 minutes
Post-Questionnaire	15 minutes

Instrumentation

Pre-workshop questionnaires, Childhood Curiosity Narrative, Initiative in Learning and Post-workshop questionnaires were devised to evaluate the effectiveness of the workshop. Participants were asked to identify themselves by a four-digit number of their choosing to ensure their confidentiality. The four-digit number was used so the researcher could manage the data by matching up the pre- and post- questionnaires, as well as the other two activity questionnaires.

Pre-Workshop Questionnaire

The instrument consisted of several components. First, questions 1-4 sought demographic information such as:

1. What is your age?
2. What is your ethnic/cultural background?
3. How many years have you worked professionally with children?
4. Do you Currently work with children?

Then, three questions and two rating scales were presented. The final three questions involved asking participants what their knowledge of curiosity was, how they would encourage it in the classroom and how familiar they are with research on this topic.

For the rating scales, participants were asked to rate on a five point rating scale (one being “not worth encouraging”, and five being “always worth encouraging”) whether 23 different characteristics were firstly, *worth encouraging* and secondly, *important to learning* (Appendix B). Some examples of the characteristics were:

adventurous, takes the initiative, has a strong desire to know, asks questions frequently, persistence etc.

Childhood Curiosity Narrative Questionnaire

The Childhood Curiosity Narrative questionnaire (Appendix C) requested participants to think back to events or objects they were curious about. Participants were asked their age at the time of the memory, the context/setting, object or situation of curiosity, what did they learn, and who helped them with their discoveries.

Initiative in Learning Questionnaire

The *Initiative in Learning: One Aspect of Curiosity* (Appendix D) included questions such as, “What does ‘initiative in learning’ mean?” “Think of some examples identifying ‘initiative in learning’ from the perspective of children,” as well as examples from the perspective of early childhood educators and how initiative in learning can intentionally be facilitated in the classroom.

Post-Workshop Questionnaire

The *Curiosity and Exploration Post Test* (Appendix E) asked participants to list the “Three most valuable things learned from this presentation,” “What populations would best be served by this presentation?” and “How useful was the information?” Additionally, there were two questions rating the presenter including what were the strengths and how could the presentation be improved. Lastly, the rating scale that was included in the pre-workshop questionnaire was re-administered to be able to note any differences in their pre- and post-workshop responses as a means for assessing the usefulness of the workshop.

The next chapter will describe the results of the workshops, including the replies to the post-workshop questionnaires, the curious memories that participants recalled from their childhoods, and the subjects' responses to the initiative in learning questionnaires.

CHAPTER FOUR

RESULTS

The results from the two workshops on curiosity generated some fascinating results. In this chapter, the results from the workshop participants' responses to pre- and post- questionnaires, as well as the Childhood Narrative and Initiative in Learning questionnaires will be reported.

Study 1 - Graduate Students

in Educational Psychology - Emphasis Early Childhood Education

Definition of Curiosity Pre-Workshop

The pre-workshop questionnaire consisted of eight questions, the first five included demographic information and the final three asked participants, "What is your definition of curiosity?" "What are some ways you encourage (or would encourage) children's curiosity?" and a short rating scale to express their current knowledge on the subject. For the purpose of this thesis the focus will remain on the question of current definitions of curiosity to note the different responses.

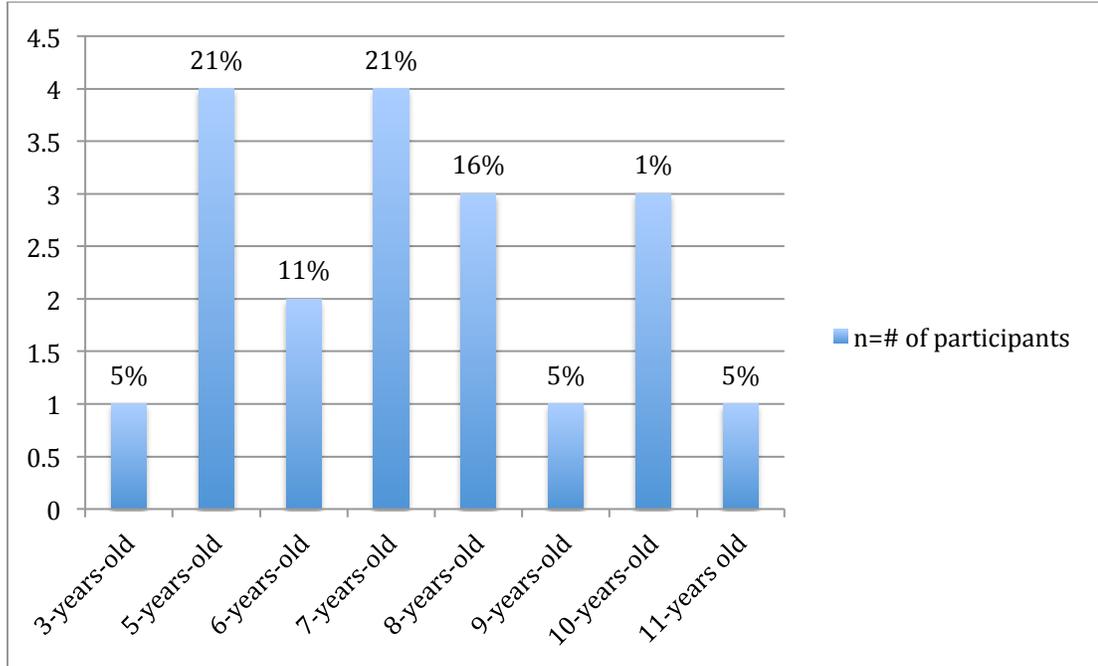
All 20 graduate students responded to the question, "What is your definition of curiosity?" Responses were analyzed and clustered into several categories. Six participants (30%) responded that curiosity was defined as an *urge or desire to understand*. Five responses (25%) indicated that curiosity was defined as *something new or novel*. Of the 20 responses, 5 participants (25%) stated that what defines curiosity is *interest*. The final 4 out of 20 participants (20%) described curiosity as *seeking knowledge*. A complete list of responses can be found in Appendix F.

Childhood Examples of Curiosity Narratives

In an activity where participants were asked to recall childhood memories of their own curiosity all 20 participants (N=20) completed a questionnaire detailing their age, the context of the event, the object or situation they were curious about as well as what they found out and who helped along the way in their discovery. One participant's response was omitted because the response being tragically personal. There were a total of eight themes that sparked the students' memory of their childhood curiosities including science, dramatic play, physical activity, animals, cooking, reading, politics, and religion. Further details of participants' replies will be shared in the following sections.

Ages. Participants were asked to identify their age at the time of their memories of curiosity, ages ranged from 3-years-old to 11-years-old. One participant stated she was 3-years-old, four remembered being 5-years-old, two stated 6-years-old, four said 7-years-old, three said 8-years-old, one recalled being 9-years-old, three stated 10-years-old, and one participant shared her memory from when she was 11-years-old. Median age was 7-years-old, mean age was 7.2-years-old, and the mode was 5-and 7-years old.

Figure 4.1 Participants Ages of Childhood Memories (Study 1-Graduate Students)



Science. Out of 19 responses, four participants (21%) remembered curious moments involving science. One participant remembered being 8-years-old and her mother remarried and became pregnant. She recalled asking her mother “how mom’s get babies.” Her mother discussed her questions with her and gave her a book to further her interests. Another participant shared how she learned about taking care of a garden. She remembered how she “would pick tomatoes and make sauce or eat it in a salad... So I learned how food went from the garden (dirt) to the table.”

Dramatic play. Four participants (21%) responded with memories of *playing* when they were younger. Pretending to be a superstar, being a mother playing house, and creating businesses where siblings sold their grandmothers jewelry. These participants families (siblings, mothers and fathers) all aided in the curiosity by helping set up jewelry

stands and giving them the freedom to transform their environment into whatever they could imagine.

Physical activity. In this classification three participants (16%) described memories of the Olympics, climbing trees, and dance class and ballet shoes. One participant describes being curious about trees and wanting to climb one. Without any help climbing up the tree she fell and as a result needed to get stitches. Now she tries to prevent accidents by facilitating curiosities in a safe way.

Animals. Of the 19 responses three participants (16%) recognized that they were curious about animals when they were younger. One participant recalled her experience with her grandmother's birds. She wanted to know how they felt (the feathers, claws and wings); she enjoyed looking at their colors and watching them fly. During a group discussion this participant shared her experience with the class and we connected her memories to Berlyne's definitions of curiosity, it turns out that this experience was a perceptual form of curiosity aroused by visual, and tactile stimuli.

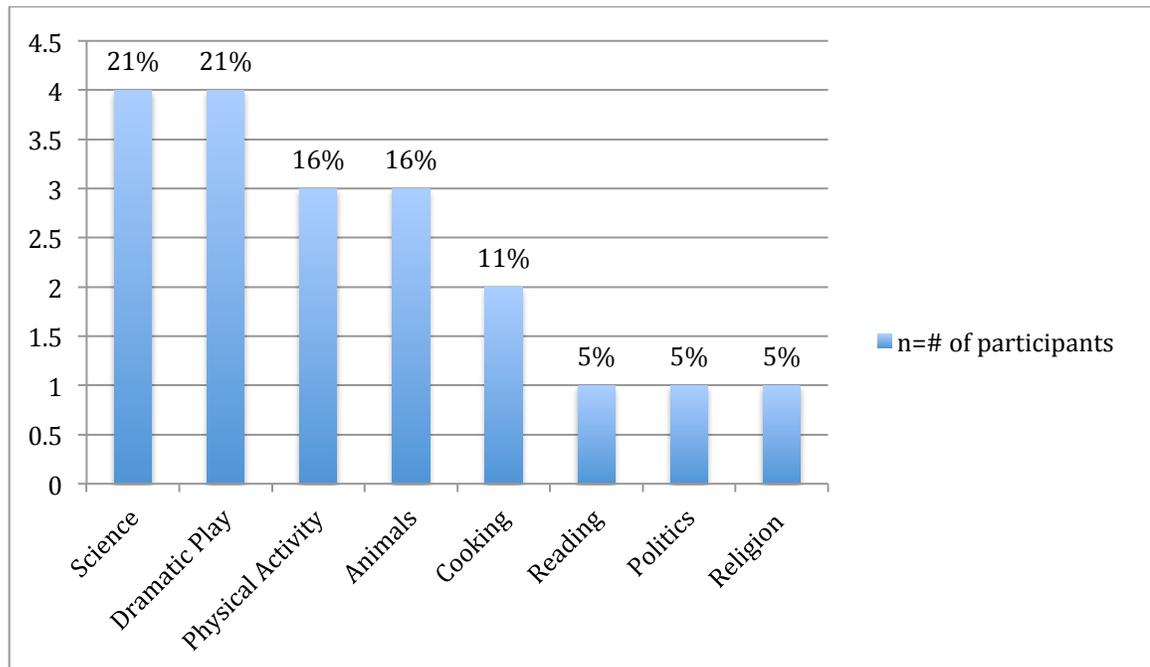
Cooking. Two participants (11%) explained that cooking was a source of their curiosity. Whether in the kitchen or outdoors cooking was an event to discover how to explore. One participant described how her mother helped her, "my mother taught me how to mix, bake, and use a toothpick to check if something was 'done.'"

Reading. Out of all 19 participants one (5%) stated that reading is what made her a curious person and helped answer her questions. She recalled that Bernstein Bears books helped her discover "how things were made, for example food or how to clean/organize."

Politics. In a surprising revelation one participant at 8-years old discovered that politics and leadership were areas of curiosity for her. Her grandmother helped her meet with Kathleen Brown and was able to watch her speak increasing her interest in politics helping her to learn “what it meant to be an active member of society.” This participant’s grandmother also helped her write a letter to Mrs. Brown furthering her interests.

Religion. In this final category one participant revealed that church and religion were where her curiosities were discovered. She questioned religion and wanted to know why her family worshiped a doll in their church in Mexico. This participant’s aunt helped explain to her the families’ motivations.

Figure 4.2 Themes of Childhood Curiosity Narratives (Study 1-Graduate Students)



Initiative in Learning

During the workshop participants were asked to explore what *Initiative in Learning* means to them and to give some examples as well as how it relates to the domain of social-emotional development. After participants filled out their questionnaires the topic was discussed as a group and slides discussing how to facilitate this intentionally were pulled from the California Preschool Learning Foundations (CDE, 2008). Responses to this questionnaire will be described more thoroughly in the following sections. A list of all responses can be found in Appendix J.

- 1. What does “initiative in learning” mean?** All 20 participants responded to this question with the majority identifying “initiative in learning” as meaning motivation to learn, taking the initiative to pursue knowledge, seeking out information, and self guided learning. One participant stated that initiative in learning meant, “that learning can be initiated by teachers, parents, etc.” indicating she believed the initiative should be taken by the educator or adult rather than children.
- 2. Think of some examples identifying “initiative in learning” from the perspective of children.** Of the 20 responses 18 (90%) identified that examples of initiative in learning from the perspective of children was mostly cause and effect type relationships. One participant used the example, “what happens if I drop this ball? It bounces, makes a loud noise etc.” Another participant described infants shaking a rattle, initiating their own learning. Comparatively, two participants (10% of all responses) replied that from the perspective of a child, initiative in learning is when children seek information for example, “a child actively seeks books on a specific topic, such as the assassination of Abraham Lincoln at the hand of Booth.”

3. What are some examples of “initiative in learning” from the perspective of how early childhood educators can facilitate this intentionally? Of the 20 participants, responses involved asking children open-ended questions, allowing children ample time to explore, introducing new things for children to be interested in and for educators to express their own interests and curiosities modeling exploratory behavior for children. For example, one participant gave the example of saying “hmm I wonder what this pen can do?” and therefore initiating a new type of thinking for children that had never done this.” Another participant suggested, “leaving material out for children to explore on their own.”

Curiosity and Exploration Post-Workshop Questionnaire

The questionnaire form was distributed at the end of the workshop. The questionnaire was comprised of seven questions rating the workshop’s effectiveness. For the purpose of this thesis the focus will be solely on the first question, “What were the three most valuable things you learned from this presentation and why?” Responses are categorized below.

Three most valuable things. All 20 graduate students responded to the questions of the three most valuable things learned as a result of the workshop. Ultimately, 20 participants times three responses each would yield a potential of 60 responses, however, the total number of responses was 54, (16 participants provided three responses, two participants gave two responses and two participants gave one response). Overall the responses clustered around seven themes, the seven categories specified included: The importance of curiosity and ways to promote it; definitions and research; safety; social-emotional / initiative in learning; differences in parents and teachers; impact of teachers;

and why the researcher chose this topic. A more detailed account of each classification will be provided in the following sections. A full list of responses can be found in Appendix H.

The importance of curiosity and ways to promote it. The majority of the responses were presented in this classification, including responses that were specific to the importance of curiosity in the classroom and the ways to promote and encourage its characteristics. Twenty-two responses (40%) were provided from participants for this classification. Responses included information such as: “the importance of engaging with children to promote initiative in learning.” Another participant replied that one of the three most valuable things she learned was, “how to encourage and promote learning through supporting children’s interests.” Additionally, one participant stated that something valuable she learned was that curiosity “increases learning because it comes from the person rather than forced.”

Research including definitions of curiosity. Responses in this category included 16 replies (30%) and comprised of definitions and research. One participant shared that one of the valuable things she learned from the workshop was the “different elements to curiosity (motivation, encouragement, confidence etc). The same participant also stated that “Chak and her study about curiosity” was of value to learn. Another participant explained that what was valuable to her was learning “how different theorists look at curiosity-helped me think about how I define curiosity.”

Social-emotional/Initiative in learning. Participants specified that they learned “how curiosity relates to social-emotional development.” Six responses (11%) made up this category. One participant stated the “aspects of why initiative in learning is under

social-emotional development,” and another shared that she learned “ways to foster initiative in learning in the classroom.”

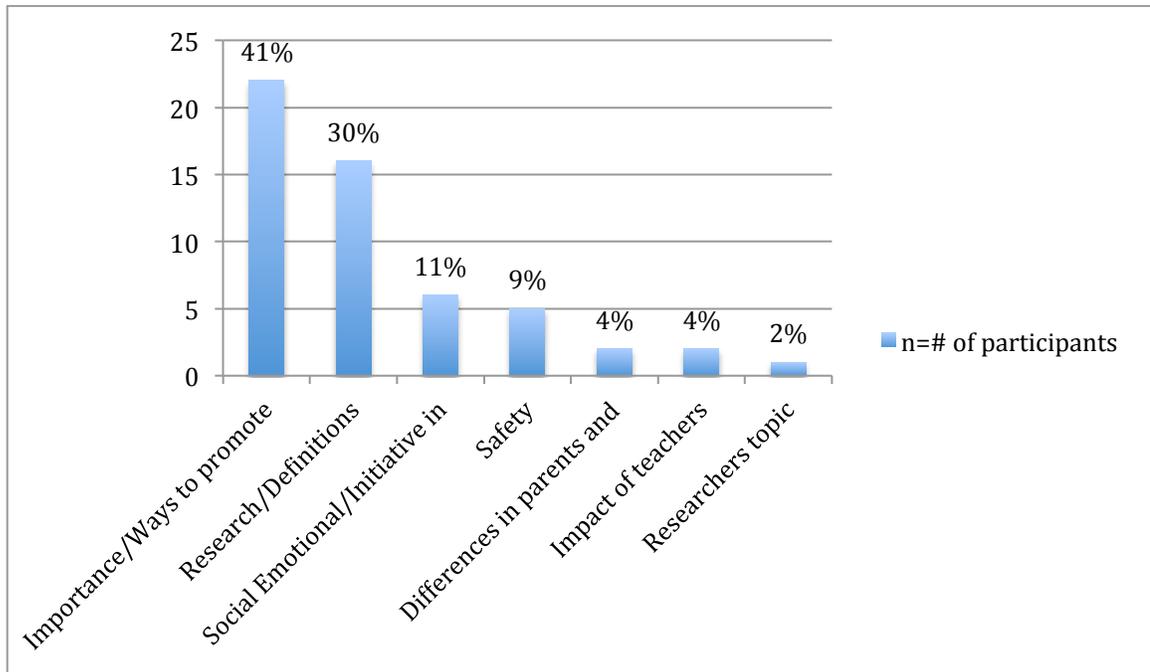
Safety. A somewhat smaller number of graduate students included how safety played a role in thinking about curiosity. Five participants (9%) stated that the safety aspect was valuable to learn about. One participant noted the “importance of safety,” and another participant explained, “emphasizing that safety is of the ultimate importance.”

Differences in parents and teachers. Two participants (4%) stated that the differences in parents and teachers were valuable to learn about. Of the two responses one participant explained that “differences in teachers and parents interpretation of what is important to encourage for curiosity.”

Impact of teachers. Two participants (4%) discovered that what teachers do impacts the curiosity and exploration of children. One participant described that “deviating from instruction or modeling curiosity encourages engagement in children,” while the second response was “how your (teacher) curiosity drives others.”

Researchers topic. One participant (2%) indicated that one valuable thing learned during the workshop was the story of how the researcher uncovered aspects of curiosity stating “I liked hearing the story of how this topic came to be-helped provide background for the info[rmation].”

Figure 4.3 Classifications of Responses to Three Most Valuable Things Learned in the Workshop (Study 1- Graduate Students)



Overall, participants in Study 1 completed each questionnaire (Pre-workshop questionnaire, Curiosity Narrative, Initiative in Learning, and Post-workshop questionnaire) and every question within those questionnaires. Participants appeared enthusiastic and contributed to small group discussions as well as offered examples to the whole class when we discussed as an entire unit. The next section will examine results from Study 2- community college students.

Study 2 - Community College Students

Definition of Curiosity Pre-Workshop

The pre-workshop questionnaire consisted of eight questions, the first four included demographic information and the final three asked participants, “What is your

definition of curiosity?” “What are some ways you encourage (or would encourage) children’s curiosity?” and a short rating scale to express their current knowledge on the subject. For the purpose of this thesis the focus will remain on the question of current definitions of curiosity to note the different responses.

To the question, “What is your definition of curiosity?” all 16 community college students responded, one participant’s reply was omitted due to the response being off topic for a total of 15 responses. Nine participants (60%) stated that what defines curiosity is asking questions and searching for information. Out of the 15 responses, four participants (26.6%) indicated that curiosity is the desire to explore. The final two participants (12.5%) described curiosity as having an interest in something. A complete list of responses can be found in Appendix G.

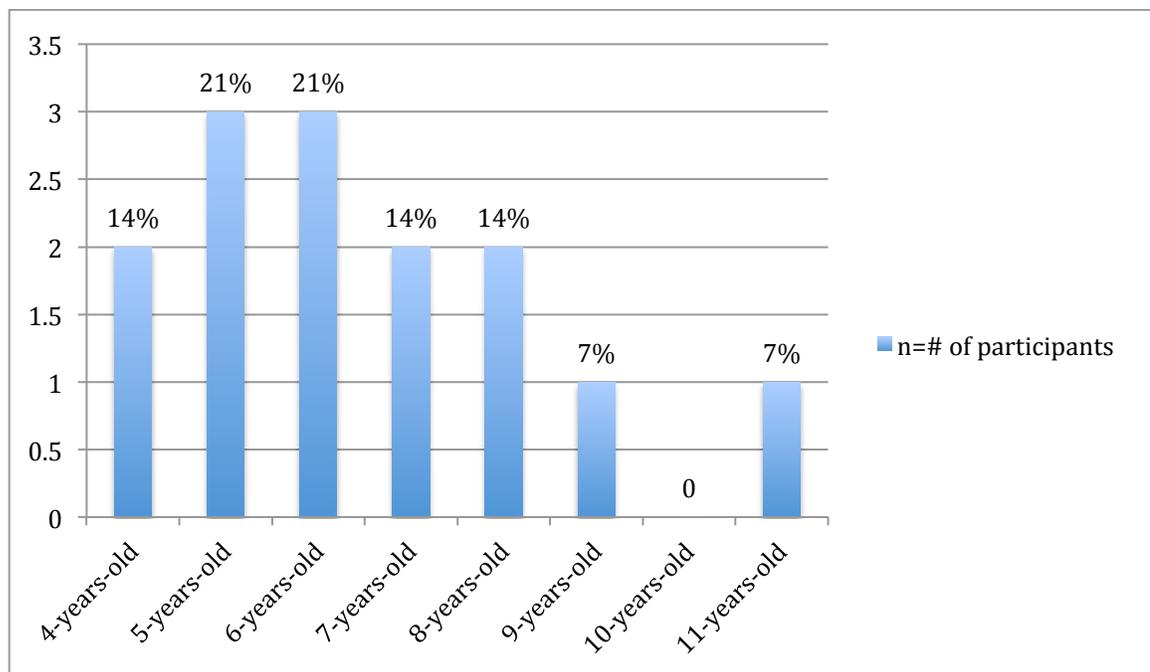
Childhood Example and Narratives

In an activity where participants were asked to recall childhood memories of their own curiosity all 16 participants (N=16) completed a questionnaire detailing their age, the context of the event, the object or situation they were curious about as well as what they found out and who helped along the way in their discovery. There were a total of four themes that sparked the students’ memory of their childhood curiosities including nature, insects/animals, cause and effect, and the afterlife. Further details of participants’ replies will be shared in the following sections.

Ages. Participants were asked to identify their age at the time of their memories of curiosity, ages ranged from 4-years-old to 11-years-old. Two participants stated they were 4-years-old, three remembered being 5-years-old, three stated 6-years-old, two said 7-years-old, two said 8-years-old, one recalled being 9-years-old, and one participant

shared her memory from when she was 11-years-old. Two participants ages were omitted because the age they entered was their current age and not the age from their memory. Median age was 7.5-years-old, mean age was 6.5 years-old, and the mode was 5-and 6-years old.

Figure 4.4 Participants Ages of Childhood Memories
(Study 2-Community College Students)



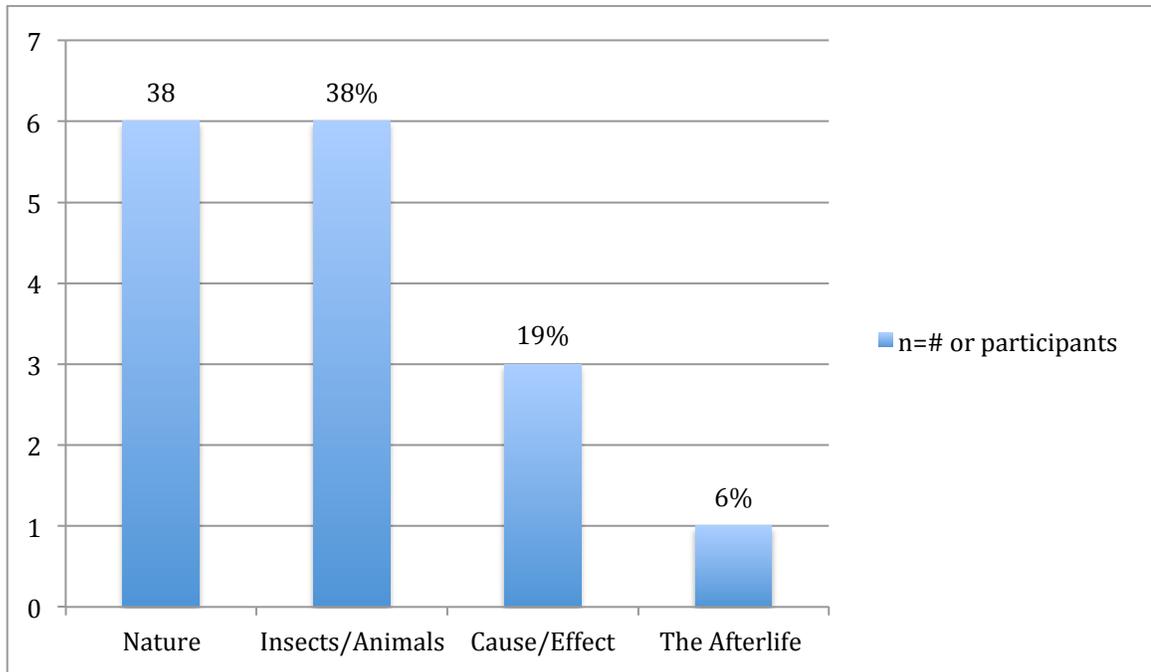
Nature. Six participants (38%) responded that nature was the source of the curious moments in their childhood. Gardening, discovering the texture on trees, watching the clouds and exploring rocks were all some experiences this category included. One participant described how she used to wonder what clouds were made of, and could they be touched, while another participant remembered pulling leaves down to smell and touch them.

Insects and Animals. In this classification 6 participants (38%) described insects and animals as being their objects of curiosity when they were younger. One participant remembered catching lizards with her dad and discussing what they ate and how they had babies. Another participant recalled washing a baby chick who had lost its mother. The chick was dirty and ended up passing away and her mother and her had a funeral for it.

Cause and Effect. Of the 16 responses 3 participants (19%) described situations where cause and effect was what triggered their curiosity. One participant explained how she was interested to see if her Barbie could swim. When placing her in the bathtub she discovered that Barbie did not swim and in fact sunk to the bottom of the tub.

The afterlife. In this final category one participant (6%) wondered if animals went to heaven. Her mother helped describe to her that animals don't have souls; therefore they do not go to heaven.

Figure 4.5 Themes of Childhood Curiosity Narratives
(Study 2- Community College Students)



Initiative in Learning

During the workshop participants were asked to explore what *Initiative in Learning* means to them and to give some examples as well as how it relates to the domain of social-emotional development. After participants filled out their questionnaires the topic was discussed as a group and slides discussing how to facilitate initiative in learning intentionally were pulled from the California Preschool Learning Foundations (CDE, 2008). Responses to this questionnaire will be described more thoroughly in the following sections. A complete list of responses can be found in Appendix K.

- 1. What does “initiative in learning” mean?** Among the 16 responses, four themes emerged. Twelve participants replied that initiative in learning meant not waiting

for someone else to teach you, someone who is eager to ask questions, motivation to learn, and the drive to explore what one is curious about. A differing response was one participant who described initiative in learning to be “setting in motion the encouragement of children exploring their curiosity,” indicating that she believed initiative in learning to start with educators/adults. Another participant explained initiative in learning to be “imagination to where they learn new things or from where they are learning.”

- 2. Think of some examples identifying “initiative in learning” from the perspective of children.** Of the 16 participants 12 responded. Six participants (50%) identified that examples of initiative in learning from the perspective of children as exploring on their own, *taking the initiative* described by one participant as “when children decide to do something on their own because they want to do it.” Three participants (25%) stated that what initiative in learning from the perspective of children is when they ask questions to find answers. The final three participants (25%) who responded explained that the cause and effect relationship is what initiative in learning looks like from children, giving examples of pulling objects apart, and putting them together or mixing all the paint colors together to see what happens.
- 3. What are some examples of “initiative in learning” from the perspective of how early childhood educators can facilitate this intentionally?** Of the 16 participants, 10 responded and two responses were omitted due to the replies not being relevant to the current question leaving eight responses. All eight participants (100%) explained that early educators can intentionally facilitate initiative in

learning by providing age appropriate materials and experiences that are new and interesting.

Curiosity and Exploration Post-Workshop Questionnaire

The Evaluation form was distributed at the end of the Workshop. The questionnaire was comprised of seven questions rating the workshop's effectiveness. For the purpose of this paper the focus will be solely on the first question, "What were the three most valuable things you learned from this presentation and why?" Responses are categorized below.

Three most valuable things. Of the 16 community college students, 15 responded to the question of the three most valuable things learned as a result of the workshop. Ultimately a 15 x 3 would yield a potential of 45 responses though the total of response was 33, (8 participants provided three responses, two participants gave two responses, five participants gave one response, and one participant did not respond). Overall the responses clustered around eight themes, the eight categories specified included: Importance of curiosity and how to promote it; impact of teachers; safety; research and definitions; initiative in learning/social emotional; children are curious; peer feedback; and independence. A more detailed account of each classification will be provided in the following sections. A full list of responses can be found in Appendix I.

The importance of curiosity and ways to promote it. The majority of responses are presented in this classification, including responses that were specific to the importance of curiosity in the classroom and the ways to promote and encourage its characteristics. Ten responses (30%) were provided from participants from this category. One participant discovered the importance "to inspire curiosity," one participant

indicated that nurturing curiosity was something valuable she learned and another participant was motivated to do more science experiments with her students.

Impact of teachers. Responses in this category included seven replies (21%) and included the importance of educators' actions. One participant indicated, "teacher curiosity promotes learner curiosity, inspirational reminder." Another participant stated to "be self aware of my own behavior around my child as they are emulating my actions."

Research including definitions. Of the 33 responses, six participants (18%) identified research and definitions were valuable to learn from the current workshop. Participants included that learning the different definitions from Berlyne, Frued and James was significant to them as well as Piaget's observations from *The Origins of Intelligence in Children*.

Safety. Three participants (9%) specified that safety aspect was something that was valuable to learn from the workshop. Participants stated that safety should be first, and "there are certain places you should not encourage curiosity."

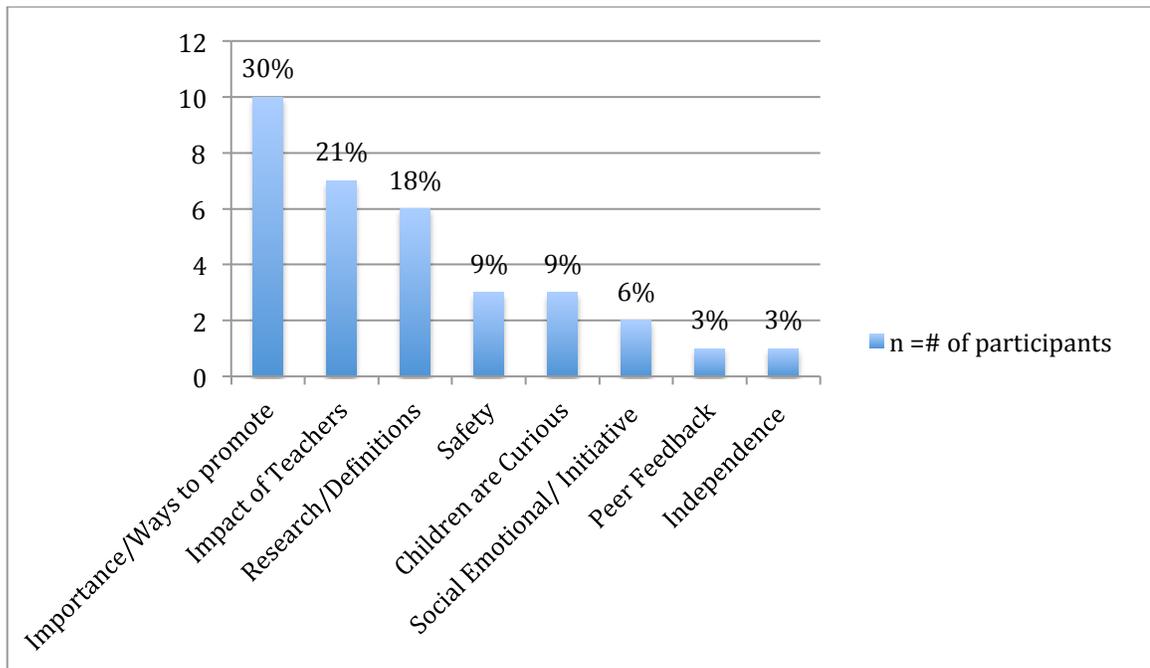
Children are curious. Another three participants (9%) stated that one of the valuable things they learned from the workshop was that children are "inherently curious."

Initiative in Learning/Social Emotional Development. In this classification two participants (6%) indicated that discussing Initiative in Learning and connecting social emotional development to curiosity was what they deemed valuable from participating in the current workshop.

Peer feedback. One participant response (3%) described the discussions with their classroom peers being something valuable to them.

Independence. A surprising response was from one participant (3%) who stated that teaching children to be independent was a valuable thing she learned from the workshop on curiosity.

Figure 4.6 Classifications of Responses to Three Most Valuable Things Learned in the Workshop (Study 2- Community College Students)



Overall, participants in Study 2 turned in each of the four questionnaires (Pre-workshop questionnaire, Curiosity Narrative, Initiative in Learning, and Post-workshop questionnaire) however, many answers were left blank or were off topic. In one questionnaire, one particular question had a response rate of only 75%. Participants appeared less than eager to have group discussions although; a few of the same offered up suggestions and participated.

Comparison of Studies

A comparison between Study1- graduate students, and Study2- community college students will be discussed further in the next chapter.

CHAPTER FIVE

DISCUSSION

The purpose of this thesis project was to expose early childhood students to the role children's curiosity can have on their social-emotional development as well as their drive to learn through a workshop. This chapter will discuss the findings from the workshops, first, the most valuable thing learned, then the similarities and differences between the two groups (Study 1 and Study 2), followed by implications and suggestions for future research.

The Most Valuable Thing Learned

Near the beginning of the workshop participants were encouraged to share their memories of curious experiences they had as children. Participants' memories ranged from science and dramatic play to politics and religion, proving just how much interest can differ. This activity gave participants a chance to remember their curiosities as children helping them appreciate how important second looks, and the questions children ask are; ultimately igniting their passion to encourage their students' explorations.

The post-workshop questionnaire distributed after the workshop asked participants to express the *three most valuable things* learned from the workshop, of all the responses one theme was dominant, 41% of Study 1- Graduate Student participants and 30% of Study 2- Community College students responded that the importance of curiosity and the ways to promote it were what was one of the most valuable things they learned from the workshop which was excitedly the main goal of the workshop.

Similarities Among Study Groups

The comparison of results between Study 1- Graduate Students and Study 2- Community College Students had some similarities and yet differed significantly in some ways. Overall there were three areas of similarity shared between Study 1 and Study 2. These included the participants' definitions of curiosity, Childhood Curiosity Narratives, as well as the ages from which their memories occurred (ages 5-7). Overall the themes paralleled each other with few differences.

Results from the Curiosity Narratives offered up a fascinating theme. The ages of participants' experiences from their childhood were most frequently between the five and seven-years of age in 53% of Study 1- Graduate Students and 56% of Study 2- Community College students. Weisner (1996) stated that,

The 5 to 7 transition involves changes in internal states and competencies of the maturing child- shifts in cognitive capacities, self-concept, visual perceptual abilities and social abilities. The transition marks the emergence of...the ability to maintain attention and to focus on a complex problem, and planfulness and reflection (p. 295)

The significant theme of the ages of remembrance for participants is evidence that not only is this time of development pertinent to children's future but the way educators encourage experiences during this time is something that appears to be long lasting.

Differential Responses

One substantial difference between studies was the response rate to the four questionnaires (Pre-workshop questionnaire Post-workshop questionnaire, Curiosity Narrative, and Initiative in Learning). In Study 1- 100% of the graduate students gave

detailed responses to all questionnaires. Comparatively, in Study 2 there were some patterns of concerning replies; some questions had a response rate of 100% whereas others had less response. For example, some participants had difficulty differentiating between children and adults actions with regard to initiative in learning. For example, to the second question in the Initiative in Learning form, “Think of some examples identifying ‘initiative in learning’ from the perspective of children,” four participants (25%) did not respond. In the third question “What are some examples of ‘initiative in learning’ from the perspective of how early childhood educators can facilitate this intentionally?” Ten participants responded however, two of those responses were off topic from the question, leaving only eight responses (50%) to interpret.

Participants’ ages and experience working with children is a strong indication of why these dissimilarities exist. In Study 1- 80% of graduate students were between the ages of 23-32, compared to Study 2- Community College Students being between the ages of 18-27 (50%). Study 1- graduate students had mainly (75%) three or more years experience working with children, while the majority (81.25%) of Study 2- community college students had less than three years experience working with children.

And of course, the graduate students had already earned bachelor’s degrees, while the community college students had not. This collection of data begs the question, “How do concepts evolve over time?” It would be intriguing to witness the developmental sequence between early childhood educator students’ responses with less than 12 units, measure their responses again at an Associate degree level, Bachelor degree level and Masters level of education to see just how they develop. The hypothesis would be that

with age and experience replies to these documents, such as Initiative in Learning, would provide a more substantial amount of depth in subject matter.

Overall, a substantial difference between Study 1- Graduate Students and Study 2- Community College Students was apparent throughout the workshop and during group discussions. In Study 1, participants appeared to be eager to contribute when prompted to share their experiences from their Curiosity Narratives, and the discussion on Initiative in Learning. As a group we were able to relate multiple childhood experiences to the definitions of theorists for example, one participant shared her memory of wanting to touch her grandmother's birds and feel the feathers which translated well into one part of Berlyne's (1960) definition of curiosity, diverse curiosity (related to a person's search for stimuli).

Comparatively, Study 2 participants as a whole seemed less than enthusiastic to divulge in conversation, when prompted with questions participants looked down or just didn't speak. However, one participant was more than willing to share her experiences and opinions. The lack of participation in Study 2 gave the feeling of the workshop feeling unfinished and rushed. Without the discussion portion of the workshop much of the value of the information is lost because participants did not appear to link their experiences to the definitions and research that were shared from the PowerPoint.

However, the differences between the two settings could also be a result of the role of the presenter to each of the two groups. In Study 1, the graduate students were familiar with the researcher: as their teaching assistant and as a fellow graduate student. In this regard there was both familiarity, an established cohort experience, and a sense that the participants themselves would soon be asking others to help participate in their

own studies over the next year or two. In this case, the established relationships among the presenter and the participants could be an important factor in their level of participation. On the other hand, in Study 2, the presenter was unknown to the community college students and would not have had the same cohort-building experiences of the graduate students from Study 1.

With regard to the quietness of the Study 2 Community College Students, there may have been deference to the status of the presenter (a soon-to-be MA level scholar) versus a younger and less formally educated audience. The lower-division students may have also been less accustomed to speaking in class and bearing some responsibility for contributing to the overall learning of the group, as is the case in a graduate seminar. One final explanation for the “looking down” behavior might be a result of more Latino/a students in the community college group Study 2 (50%) compared to that in the Study 1, graduate students (30%). Showing respect for authority is often associated with lowering one’s eyes in many cultures, including the Latino culture.

Implications

A fascinating issue is how knowledge is constructed, what is it that elicits the attainment of knowledge? Early childhood educators would do well to acknowledge the content of what they teach and the curiosity children have and use that to their advantage in educating their young students. Building the lesson upon students’ questions and interests can make learning meaningful and relevant to children. Some important aspects of curiosity to pay respect to are: the classroom environment, novelty/interests (whether new or prior), and sufficient time for exploration.

Environment

An integral piece of encouraging curiosity is the setup of the environment that children inhabit. Children typically develop interests just by living their daily lives however early educators can expand their opportunities by bringing in new objects that children may not encounter daily. Successful completion of setting up the environment includes, adding new objects, and more objects to an already flourishing center that children are previously flocking to. Prior knowledge and novel objects are unquestionably essential to inspiring curiosity.

Novelty and Interests

While it is a large component of curiosity, novelty is not always the most important aspect of curiosity; curiosity could be seen as a form of prior knowledge for example, a child who is exceptionally interested in dinosaurs and consistently searching for more information on the different species is curious because the subject is not only interesting but it is familiar. In the case of Pam, the curious toddler from the workshop, first, new materials were available to her so that she could explore her interests and then ample time was given for her to investigate what those materials looked and felt like.

Time Management

While Pam was originally interested in the new materials provided for her, she undoubtedly became increasingly curious about the way that she could use the materials. Pam held her chalk with independence moving it across the paper, she continued to make lines on her sheet of black paper and felt the powder substance on her hands. Forty-five minutes of this continued exploration resulted in one happy toddler who had ample time

to explore objects on her own accord, then when she was finished she set down her chalk and moved away from the table to something new.

Modern Day Classrooms

The lessons learned through curiosity are endless when activities are open-ended and given sufficient time to evolve. “Ultimately, the job of the teacher is not merely to indulge curiosity but to inspire it. Teachers must persuade students that they want to learn what they in fact need to learn” (Engel & Labella, 2009, p. 48). Encouraging and modeling curiosity can be quite the balancing act and might seem easier said than done, “A teacher committed to consistently modeling curiosity will have to be astute, flexible, and firm, juggling the excitement of spontaneous exploration with the exigencies of classroom management” (Engel & Labella, 2009, p. 48).

Depending on the school, early childhood educators in a preschool class typically have the freedom to explore an abundance of topics with children of their choice however, what might the implications be when children reach grade school, where the curriculum is often prescribed by rigid state standards and assessed for fixed knowledge?

Future Research

Engel and Labella (2009) stated, “Consistent and judicious modeling of curiosity has the radical potential to revolutionize classroom culture in American public schools” (p. 49). Yet, without the research to prove the importance and impact curiosity has on children’s learning and development it’s presence may continue to be absent in classrooms across America. What can future research tell us about learning based on children’s curiosity in an environment of high-stakes testing and district-directed goals?

A disappointing theme seems to be the lack of research specifically targeting curiosity. “Curiosity has been linked positively to cognitive development, learning motivation, attachment, identity formation, personal growth, and perceptual learning and development, yet little information exists as to why and how” (Reio et al., 2006, p. 121). Our understanding of curiosity remains unclear with evidence that curiosity may be vital to development, a motive of human behavior as well as pertinent to human occupations including education, occupations, and recreation (Reio et al., 2006).

The subject of curiosity might lead to important innovations in teaching and learning. Attention to diversity issues such as gender, culture, religion etc. should be included in future studies to note that the role of curiosity will vary in children in different classrooms, homes, and countries. It is the hope of the current study that it might spark readers’ own curiosities about the topic of curiosity and that future research might delve more deeply into this topic. Aren’t you curious to learn more?

References

- Berlyne, D.E. (1954). Theory of human curiosity. *British Journal of Psychology*, 43 (3), 180-191. Doi: 10.1111/j.2044-8295.1954.tb01243.x
- Byman, R. (2004). Curiosity and sensation seeking: A conceptual and empirical examination. *Personality and Individual Differences*, 38, 1365-1379.
doi: 10.1016/j.paid.2004.09.004
- California Department of Education. (2009). *California preschool learning foundations. Volume I*. Sacramento, CA: CDE Press.
- California Department of Education. (2010). *California preschool curriculum framework. Volume I*. Sacramento, CD: CDE Press.
- Chak, A. (2007). Teachers' and parents' conceptions of children's curiosity and exploration. *International Journal of Early Years Education*, 15(2), 141-159.
doi: 10.1080/09669760701288690
- Engel, S. (2011). Children's need to know. *Harvard Educational Review*, 81, (4), 625-645
- Engel, S. & Labelle, M. (2009). *Encouraging exploration: The effects of teaching behavior on student expressions of curiosity*. Manuscript submitted for publication.
- Ginsburg, H., & Opper, S. (1969) *Piaget's theory of intellectual development: An introduction*. Prentice Hall: Engelwood Cliffs, NJ.
- Freidus, H. (2010). Finding passion in teaching and learning: Embedding literacy skills in content-rich curriculum. *New Educator*, 6(3-4), 181-195.
doi: 10.1080/1547688X.2010.10399600

- Hannikainen, M., & Rasku-Puttonen, H. (2010). Promoting children's participation: The role of teachers in preschool and primary school learning sessions. *Early Years, 30* (2), 147-160. doi: 10.1080/09575146.2010.485555
- Lowenstein, G. (1994). The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin, 116*, 75-98
- Neitzel, C., Alexander, J. M., & Johnson, K. E. (2008). Children's early interest-based activities in the home and subsequent information contributions and pursuits in kindergarten. *Journal of Educational Psychology, 100*(4), 782-797.
doi: 10.1037/0022-0663.100.4.782
- Piaget, J. (1952). *The origins of intelligence in children*. New York, NY: International Universities Press
- Reio, T. r., Petrosko, J. M., Wiswell, A. K., & Thongsukmag, J. (2006). The measurement and conceptualization of curiosity. *Journal Of Genetic Psychology, 167*(2), 117-135.
doi: 10.3200/GNTP.167.2.117-135
- Subbotsky, E. (2010). Curiosity and exploratory behavior towards possible and impossible events in children and adults. *British Journal of Psychology, 101*, 481-501.
doi: 10.1348/000712609x4705
- Thomas, R. M. (2005) (6th Ed.). *Comparing theories of child development*. Belmont, CA: Thomson-Wadsworth

Weisner, T. (1996). The 5 to 7 Transition as an Ecocultural Project. In A. J. Sameroff & M.M. Haith (Eds.) *The five to seven year shift: The age of reason and responsibility*. (pp. 294-326) Chicago, IL: University of Chicago Press.

**Appendix A PowerPoint Presentation: The Discovery of What Curiosity Can Do for
Children's Exploration and Knowledge**

Are you Curious about Authentic Learning?

THE DISCOVERY OF WHAT CURIOSITY CAN DO FOR CHILDREN'S EXPLORATION AND KNOWLEDGE



Objectives

- To explore a variety of definitions of curiosity as stated by differing theorists
- To consider Piaget's beliefs on curiosity
- To discuss current research related to curiosity
- To apply the California Early Learning Foundations to concepts of curiosity
- To actively engage critical thinking about the role of curiosity in the classroom (ages 0-5)

Curious about Your Curiosity



Curiosity and Exploration Pre-test



Looking Back...

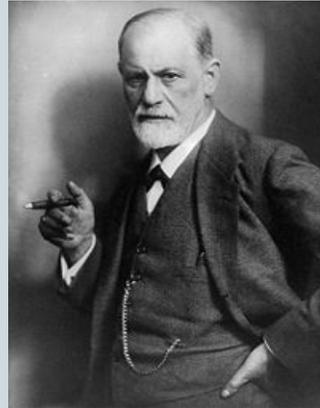


- As far back as you remember, what things were you curious about as a child?



What Psychologists Say About Curiosity...Freud

- Lowenstein (1994) stated that Freud (1915) referred to curiosity as a “thirst for knowledge” (p. 77).

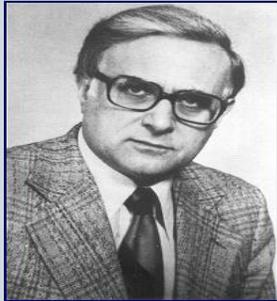


And according to James

- According to Lowenstein (1994), James (1890/1950) a psychologist and philosopher, suggested that curiosity had two types. The first a desire for novelty in the environment and the second a desire for specific types of information.



Different Forms of Curiosity



- Perceptual
- Epistemic
- Specific
- Diverse

Berlyne (1960, 1978)

Piaget and the *Origins of Intelligence*



- According to Engel (2009), Piaget (1969) was one of the first child observers to document babies and toddlers tireless efforts of attempting to make sense of what they see and hear contributing to their intellectual development. In other words, knowledge is gained by children's curiosity being piqued.

Curiosity in the First Two Years...

- **Level 1: The Sensorimotor Period (Birth to Age Two)**
 - Primary circular reactions
 - First month: Simple reflexes
 - 2-4 months: repeats actions of own body (sucking fingers, hearing sounds produced by himself, improved sense of visual and auditory connections)
 - Secondary circular reactions
 - ✦ 4-8 months: reproduces interesting events initially discovered by chance, responding to simple games such as peek-a-boo
 - ✦ 8-12 months: Deliberate and purposeful with people and objects (but not fully intentional, no new behaviors are being employed)
 - Tertiary circular reactions
 - ✦ 12-18 months: “little scientist” new means through active experimentation, the first real thinking
 - ✦ 18-24 months: New means through mental combinations, represents an object that is not present, much more deliberate
(Ginsburg & Opper, 1969)

My Working Operational Definition

- Curiosity is an emotion and trait expressed through exploration, investigation, motivation and ultimately, learning.



A Toddler's Experience with Tertiary Circular Reactions



Pam's Story



On a Need to Know Basis



- “Young children’s curiosity and exploration, which are expressions of their eagerness to know, if nurtured, can be a key motivational force for the acquisition of knowledge”

(Chak, 2007, p. 142).



“Teachers’ and parents’ conceptions of children’s curiosity and exploration”



(Chak, 2007)

- Chak (2007) investigated whether parents and teachers of preschoolers in China valued curiosity as a characteristic with regards to education.
- Subjects: Pilot study-N=84 (n=64 preschool teachers, n=20 parents)
Main Study- N=321 (n= 195 teachers, n= 126 parents)
- Methods: Survey and open ended questions

What do the results say?

- Results indicated the items rated highest by parents and teachers were *interested in novelty* (SD=0.72), *has a strong desire to know* (SD= 0.75) *asks questions frequently* (SD=.072) and *is visually aware of things around* (SD=0.76).
- Teachers rated the following characteristics more highly than parents: *uses different methods to search for answers* (p<0.001), *manipulates to find out answers* (p<0.001), *makes detailed observations* (p= 0.006), *visually aware of things around* (p=0.003), *has a strong desire to know* (p=0.001), *adventurous* (p<0.001) and *persistence* (p=0.001).
- Parents gave *active* a higher rating (p<0.001) than teachers.

(Chak, 2007)

“Encouraging exploration: The effects of teaching behavior on student expressions of curiosity”

- Engel and Labelle (2009) aimed to discover if children demonstrated more curious behaviors after a teacher modeled exploratory behavior.
- Subjects: 30 4th and 5th graders (11 females, 19 males)
- Method: *Bouncing Raisins*
- Results indicated that the children who witnessed their *teacher* deviate from the task expressing her curiosity were much more likely to spend time engaged with the materials in her absence ($p < .001$).
- However, in examining whether subjects were more likely to introduce novel deviation in the researchers absence, the effect approached, but did not reach significance ($p < .065$).



(Engel & Labelle, 2009)

Is Curiosity Foundational to Learning?

“Young children’s natural curiosity, interest, and self-confidence that they can discover the answers to their questions are a central component of their capacities to benefit from learning opportunities” (CDE, 2008, p. 26).



Initiative in Learning

- What does “initiative in learning” mean?
- Think of some examples identifying initiative in learning from the perspective of children.
- Think of some examples of this from the perspective of how early childhood educators can facilitate this.
- Why do you think “initiative in learning” is under the domain of social-emotional development in the *Preschool Learning Foundations*?

What can Early Childhood Educators Do to Promote Initiative in Learning and Curiosity?

The California Preschool Curriculum Framework (vol. 1) recommends...

- Provide ample space, use child-sized shelves and furnishings, and adapt materials to make all learning areas and activities accessible
- Make use of adaptive tools and play materials to help the autonomous exploration of children with special needs
- Observe individual children while they pursue their own activities

(California Department of Education, 2010)

More ideas to promote Initiative in Learning

- Model curiosity and enthusiasm when you learn new things
- Encourage children to choose activities based on their own interests
- Engage in play and exploration with children instead of simply supervising
- Provide ample time for free exploration, scheduling play and exploration periods of at least one uninterrupted hour at a time

(California Department of Education, 2010)

More curriculum recommendations

- Help children generate ideas for solving problems
- Model persistence during challenging tasks
- Document and display children's work
- Periodically reassess the preschool environment



(California Department of Education, 2010)

When NOT to Promote Curiosity!!

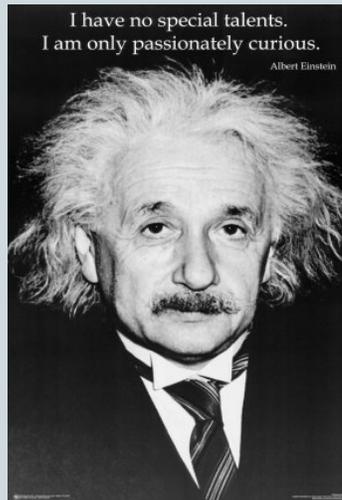
Some things are better left
untouched!!



Questions?



Post-Test



References

- Berlyne, D. E. (1954). Theory of human curiosity. *British Journal of Psychology*, 43 (3), 180-191.
doi: 10.1111/j.2044-8295.1954.tb01243.x
- Byman, R. (2004). Curiosity and sensation seeking: A conceptual and empirical examination. *Personality and Individual Differences*, 38, 1365-1379.
doi: 10.1016/j.paid.2004.09.004
- California Department of Education. (2009). *California preschool learning foundations. Volume 1*. Sacramento, CA: CDE
- California Department of Education. (2010). *California preschool curriculum framework. Volume 1*. Sacramento, CA: CDE
- Chak, A. (2007). Teachers' and parents' conceptions of children's curiosity and exploration. *International Journal of Early Years Education*, 15(2), 141-159.
doi: 10.1080/09669760701288690

References continued

- Engel, S. (2011). Children's need to know. *Harvard Educational Review*, 81, (4), 625-645.
- Engel, S. & Labelle, M. (2009). *Encouraging exploration: The effects of teaching behavior on student expressions of curiosity*. Manuscript submitted for publication.
- Freidus, H. (2010). Finding passion in teaching and learning: Embedding literacy skills in content-rich curriculum. *New Educator*, 6(3-4), 181-195.
doi: 10.1080/1547688X.2010.10399600
- Ginsburg, H., & Opper, S. (1969) Piaget's theory of intellectual development: An introduction. Prentice Hall: Englewood cliffs, NJ.
- Hannikainen, M., & Rasku-Puttonen, H. (2010). Promoting children's participation: The role of teachers in preschool and primary school learning sessions. *Early Years*, 30 (2), 147-160.
doi: 10.1080/09575146.2010.485555
- Loewenstein, G. (1994). The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin*, 116, 75-98.

References continued

- Neitzel, C., Alexander, J. M., & Johnson, K. E. (2008). Children's early interest-based activities in the home and subsequent information contributions and pursuits in kindergarten. *Journal Of Educational Psychology*, 100(4), 782-797.
doi: 10.1037/0022-0663.100.4.782
- Piaget, J. (1952). *The origins of intelligence in children*. New York, NY: International Universities Press
- Reio, T. r., Petrosko, J. M., Wiswell, A. K., & Thongsukmag, J. (2006). The measurement and conceptualization of curiosity. *Journal Of Genetic Psychology*, 167(2), 117-135.
doi: 10.3200/GNTP.167.2.117-135
- Subbotsky, E. (2010). Curiosity and exploratory behavior towards possible and impossible events in children and adults. *British Journal of Psychology*, 101, 481-501.
doi: 10.1348/000712609x4705
- Thomas, R.M. (2005) (6th Ed.). *Comparing theories of child development*. Belmont, CA: Thomson-Wadsworth

Appendix B: Pre-Workshop Questionnaire

Participant # _____

Curiosity and Exploration Pretest¹

Thank you for your participation in this pretest and subsequent posttest of today's workshop on Children's Curiosity and Exploration. The information collected will become essential data for my thesis; your thoughtful and well-considered answers will be greatly appreciated. You may skip any question you wish however, the more detailed your responses the better I will learn from your experiences.

1. What is your age?
 - a) 18-22
 - b) 23-27
 - c) 28-32
 - d) 33-37
 - e) 38-42
 - f) 43-47
 - g) 48 or older
2. What is your ethnic/cultural background? _____
3. How many years have you worked professionally with young children?
 - a) Less than one year
 - b) 1-2 years
 - c) 3-5 years
 - d) 6-9 years
 - e) 10 or more years
4. Do you currently work with children either as a job or intern? Yes or No
5. If yes, please specify your position, the age group you work with and the ratio in the classroom.
 - a) Teacher- age group:_____ ratio:_____
 - b) Teacher assistant- age group:_____ ratio:_____
 - c) Administrator- job title_____
 - d) Other (please specify) _____
 - e) If no, what age group are you most familiar with? _____

¹ Special thanks to Hadas Mizraji, MA, (2011) for her development of this pretest.

4. What is your definition of curiosity?

5. What are some ways you encourage (or would encourage) children 's curiosity?

8. How would you describe your understanding of the following areas based on the scale below?

	Very Little	A Little	Some	A lot	Expert
How curiosity is defined	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Research on curiosity	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
How to promote curiosity in young children	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>

Thank you!

Characteristics of Curiosity Rating Scale¹

Please rate whether these characteristics of curiosity are **worth encouraging** on a scale of 1-5

	Please Circle One				
	<u>Not worth Encouraging</u>	<u>A Little</u>	<u>Somewhat</u>	<u>Very</u>	<u>Always worth Encouraging</u>
<i>Category 1: Motivation</i>					
Adventurous	1	2	3	4	5
Takes the initiative	1	2	3	4	5
Has a strong desire to know	1	2	3	4	5
<i>Category 2: Exploratory Behavior</i>					
<i>(a) Manipulation</i>					
Likes to touch things	1	2	3	4	5
Manipulates to find out answers	1	2	3	4	5
<i>(b) Perceptual Exploration</i>					
Observes attentively	1	2	3	4	5
Is visually aware of things around	1	2	3	4	5
Detailed observation	1	2	3	4	5
Is aware of sound around	1	2	3	4	5
Listens carefully	1	2	3	4	5
<i>(c) Epistemic Behavior</i>					
Asks questions frequently	1	2	3	4	5
Continuously searches for answers	1	2	3	4	5
Uses different methods to search for answer	1	2	3	4	5
<i>Category 3: Nature of and Response to Stimulus</i>					
Interested in novelty	1	2	3	4	5
Interested in unknown	1	2	3	4	5
Interested in complexity	1	2	3	4	5
Eager to get answers quickly	1	2	3	4	5
Easily attracted	1	2	3	4	5
Intensity of arousal declines quickly	1	2	3	4	5
Persistence	1	2	3	4	5
<i>Category 4: Personal qualities related to curiosity</i>					
Active	1	2	3	4	5
Creative	1	2	3	4	5
Imaginative	1	2	3	4	5

¹ Special thank Amy Chak (2007) for the development and use of these characteristics and rating scales.

Characteristics of Curiosity Rating Scale¹

Please rate whether these characteristics of curiosity are **important to learning** on a scale of 1-5

	Please Circle One				
	<u>Not important To Learning</u>	<u>A Little</u>	<u>Somewhat</u>	<u>Very</u>	<u>Always Important to Learning</u>
<i>Category 1: Motivation</i>					
Adventurous	1	2	3	4	5
Takes the initiative	1	2	3	4	5
Has a strong desire to know	1	2	3	4	5
<i>Category 2: Exploratory Behavior</i>					
<i>(a) Manipulation</i>					
Likes to touch things	1	2	3	4	5
Manipulates to find out answers	1	2	3	4	5
<i>(b) Perceptual Exploration</i>					
Observes attentively	1	2	3	4	5
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Is aware of sound around	1	2	3	4	5
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Interested in complexity	1	2	3	4	5
Eager to get answers quickly	1	2	3	4	5
Easily attracted	1	2	3	4	5
Intensity of arousal declines quickly	1	2	3	4	5
Persistence	1	2	3	4	5
<i>Category 4: Personal qualities related to curiosity</i>					
Active	1	2	3	4	5
Creative	1	2	3	4	5
Imaginative	1	2	3	4	5

¹ Special thanks to Amy Chak (2007) for the development and use of these characteristics and rating scales.

Appendix C: Childhood Examples of Curiosity Narratives

Participant # _____

Thinking as far back as you can, what things were you curious about as a child? How old were you? How did you find out about what was intriguing you? Who helped, or didn't help you?

Age:

Context/Setting:

Object or situation of Curiosity:

What did you find out? How did you discover it?

Who helped or did not help?

In what ways does your childhood curiosity bubble up for you now as a Master of Arts student in Early Childhood Education?

Appendix D: Initiative in Learning Questionnaire

Participant # _____

INITIATIVE IN LEARNING: ONE ASPECT OF CURIOSITY

1. What does “initiative in learning” mean?
2. Think of some examples identifying “initiative in learning” from the perspective of children.
3. What are some examples of “initiative in learning” from the perspective of how early childhood educators can facilitate this intentionally?
4. Why do you think “initiative in learning” is under the domain of social-emotional development in the *Preschool Learning Foundations*?

Appendix E: Post Workshop Questionnaire

Participant # _____

Curiosity and Exploration Posttest

1. What were the three most valuable things you learned from this presentation and why?

2. What populations do you think would best be served by this presentation?

3. How useful was the information in this workshop? Please circle one and explain.

Not Useful Somewhat Useful Useful Very Useful Why?

4. What were the strengths of the presentation? Please be very specific.

5. How could the presentation be improved? Please be very specific.

6. After participating in the curiosity workshop, to what extent did you:

	Not at all	A Little	Somewhat	A lot	Wow! A BIG hit!
Explore a variety of definitions of curiosity	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Consider Piaget's beliefs on curiosity	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Discuss current research related to curiosity	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Review and apply the Early Learning Foundations to	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Actively engage critical thinking about the role of curiosity in the classroom	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>

7. How would you describe your understanding of the following areas based on the scale below?

	Very Little	A Little	Some	A lot	Expert
How curiosity is defined	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Research on curiosity	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
How to promote curiosity in young children	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>

Comments are most welcome!

Appendix F: Participants' Definitions of Curiosity (Study 1- Graduate Students)

- “Having a innate desire to want to understand the reason behind actions, or how something functions” (#1959).
- “Desire and motivation to learn about something” (#1900).
- “Wanting to explore something to learn from it. An urge to learn by exploration” (#1320).
- “A desire to understand the workings/things/objects, etc within your environment” (#4949).
- “Curiosity is anything you want to find out about or examine more. It is something that may interest you” (#0522).
- “The need to seek answers to questions burning within. Wanting to know who, what, when, where, how, and why about everything” (#9768).
- “Children experimenting with new objects or with familiar objects in new ways, also combing behaviors or actions to try something different and new” (#8360).
- “When something excites you or catches your attention and you are eager to learn more” (#0617).
- “The child’s interest to learn new ideas, new games, new activities, etc. (#7870).
- “Children exploring an unknown thing/event with an open eye, meaning with out judging” (#0511).
- “When a child is attracted to something and stays captivated by it because they are learning something new from it” (#0420).
- “Having a strong interest in something that it provokes an action such as a second look or poking a head up higher to get a better view” (#5959).

- “I really see it as cause and effect. When children are interested in learning how things work and the many different ways they can use the object” (#0701).
- “A natural occurring interest in a person, place object or concept” (#3349).
- “The ability to initiate interest in a n object or topic” (#7551).
- “Being interested to explore materials or a topic to gain deeper understanding” (#4090).
- “To expand knowledge about something (environment, topic, object, etc) with intristic [sic] desire” (#4444).
- “When someone wonders about something and wants to know more about it and/or questions it” (#5555).
- “Wanting to know about something or someone” (#1101).
- “Wanting to know more about things, seeking knowledge” (#1127).

Appendix G: Participants' Definitions of Curiosity (Study 2- Community College Students)

- “What they are mostly interested in” (#5462).
- “My definition of curiosity is being nice and kind to ther [sic]. You have manners and use your nice words” (#0318).
- “Wanting to know more about something and taking action to learn more” (#4080).
- “someone who is very curious till they find out the solution of what is was/is” (#4321).
- “Wanting to learn or discover more about a topic that the person might not be as familiar with” (#3105).
- “When a child has questions whether they voice it or not” (#0873).
- “A healthy appetite for exploring and learning more about one’s surroundings and environment” (#1313).
- “To want to explore/gain more knowledge on desired thing/ subject” (#2893).
- “ open your mind” (# no participant number).
- “ability to explore, ask questions, face challenges” (#0623).
- “learn “for what” or “what is that” (#0432).
- “The natural and immediate questioning response a child has when presented with a new thought or experience” (#1713).
- “Explore and learn the unknown” (#5006).
- “Something than [sic] you’re interested in learning more about” (#0942).

- “Curiosity is when you wonder about something and want to find out about it” (#9264).
- “The desire to question and know about an item or subject. Enthusiam [sic] for learning” (#1393).

**Appendix H: Participants' Responses on Post-Workshop Questionnaire (Study 1-
Graduate Students): "Three Most Valuable Things Learned"**

#1959

- Reinforcing the concept or embracing curiosity in young children as a means to construct their knowledge

#0420

- Increases learning because it comes from the person rather than forced
- Curiosity increases the chances that you will be attentive which means you'll retain more information
- Teachers should make classroom setting to induce curiosity therefore children will learn more.

#0617

- Definition of curiosity can vary
- Different types of curiosity
- Why it is important in school/home

#0511

- The study info and how one can be conducted
- How your (teacher) curiosity drives others
- How children can be curious at all /diff times

#4444

- How curiosity relates to social-emotional development
- The many different definitions of curiosity
- The raisin study was interesting too

#9768

- How to encourage curiosity
- Why some parents don't encourage certain types of curiosity
- Parents and teachers differ only slightly in terms of what types of curiosity should be encouraged.

#1127

- Chak and her study of curiosity
- Children need to be encouraged for initiative in learning
- Different elements to curiosity(motivation, encouragements, confidence, etc)

#7870

- Safety at home dealing with curiosity
- Children are always curious to learn

- Encourage questions in class
#5555
- How to promote curiosity in the classroom
- How important curiosity is
- Studies about curiosity
#7551
- How to promote curiosity
- How to avoid shutting down children's curiosity
- Questions from children are not wrong questions

#5959

- How to promote curiosity in children
- The importance of engaging with children to promote initiative in learning
- Deviating from instructions or modeling curiosity encourages engagement in children.
#0701
- The meaning of curiosity
- How can it be enforced in the center
- How it applies to Piaget
#0522
- How to encourage and promote learning through supporting children's interest
- About my own childhood curiosity and development
#3349
- Curiosity is key to learning
- Curiosity is under social emotional domain
#8360
- Aspects of why initiative in learning is under social-emotional development
- Ways to foster initiative in learning in the classroom
- Differences in teachers and parents interpretation of what is important to encourage for curiosity
#1320
- Initiative in learning
- Safety in curiosity
- Cultural differences in curiosity
#1900

- Tools for promoting initiative in learning so I can better facilitate this in my classroom
- Different quotes about curiosity because it shows how versatile it is
- Emphasizing that safety is of the ultimate importance.
#4090

- How different theorists look at curiosity-helped me think about how I define curiosity
- The way the foundations talk about promoting curiosity-gave ideas on what I can do in my work
- I liked hearing the story of how this topic came to be-helped provided background for the info.
#1101

- How important it is to allow children to explore and construct their own knowledge.
#4949

- That curiosity is important and should be fostered. Emergent Curriculum!
- What bouncing raising are
- Importance of safety

**Appendix I: Participants' Responses on Post-Workshop Questionnaire (Study 2-
Community College Students): "Three Most Valuable Things Learned"**

#1713

- Teacher curiosity promotes learner curiosity. Inspirational reminder)
- Baking soda "Bouncing Raisins" (fun science I'm going to do in after care
- Having to rate the behaviors made me think

#9264

- The word curiosity bringing it up makes me want to spark curiosity in the children I teach

#5006

- Be self aware of my own behavior around my child as they are emulating my actions
- Nuture [sic] curiosity
- Promote curiosity

#2893

- The importance of reeping [sic] curiosity in children alive
- Teaching them to be independent
- Saftey [sic] should always be required

4321

- Everything on how a parents way grows on the children how she/he may react the same as you

#No participant number

- The curiosity is realy [sic] important for everyone no matter what age

#4080

- Why curiosity is important
- How to promote curiosity
- Different definitions of curiosity

#1313

- Children are inherently curious
- Children's reactions and explorations are molded through us
- There are certain places you should not encourage curiosity

#0318

- Children are curiosity [sic]
- Safety 1st
- People can be curios of a lot of things

#3105

- Found out different definitions of curiosity
- How to support kids curiosity
#5462

- That it is important to not present or do things I wouldn't want them to do
#1393

- Berlyn's/Freud & James thoughts on curiosity
- Experiment w/ raisins! (Fun & Interesting)
- Initiative for learning
#0942

- To inspire curiosity
- Connection to social-emotional development & curiosity
- How important it is to model
#0873

- Listening to the input [sic] and thoughts of other people in the class was helpful
- The reading of the book on Piaget, and the table discussions
#0623

- It reminded me to do more science experiments with my kids
#0432

- No Response

Appendix J: Participant Responses to Initiative In Learning Questionnaire
(Study 1-Graduate Students)

1. What does “initiative in learning” mean?
 - “Actively moving to learn and gain knowledge without influence of push from someone else” (#1101)
 - “Wanting to learn on your own and actively seeking what you are curious about” (#0617)
 - “When you start your own learning...you want to learn/know something that no one else is telling you too” (#0511)
 - “taking the lead in learning, not waiting for explicit instruction” (#9768)
 - “It means being motivated to go forth and discover ideas.” (#0522)
 - “I think it means taking steps to learn something new by your own means. You can seek this out through other peoples or experiment on your own” (#4444)
 - “It means that learning can be initiated by teachers, parents, etc.” (#4949)
 - “Having the desire to learn.” (#7551)
 - “It means that the student will engage in the process of discovering about the ideas, materials or whatever the desired knowledge to be gained” (#3349)
 - “Taking control of how/what you want to learn” (#1127)
 - “seeking out information/answers without guidance” (#1959)
 - “I believe it means the interest to learn” (#7870)
 - “taking initiative, or having the motivation, to persue [sic] learning” (#8360)
 - “Self-guided learning” (#1900)
 - “Taking charge of your own learning, pursuing knowledge” (#4090)
 - “An individuals drive to know how something works” (#0701)
 - “Being curious about things...enough to get you motivated to learn more about something” (#5555)
 - “taking additional steps in learning something instead of just sitting and expecting knowledge to come” (#5959)
 - “it means that the child iniciates [sic] an activity of curiosity to learn” (#1320)
 - “a person begins inquiring questions about what they’re going to learn” (#0420)
2. Think of some examples identifying “initiative in learning” from the perspective of children.
 - “A child asking a lot of questions and actively exploring” (#1101)
 - “What happens if I drop this ball -> it bounces, makes loud noise etc.” (#0617)
 - “Just wanting to know what an objects can or can’t do” (#0511)
 - “when a child actively seeks books on a specific topic, such as the assassination of Abraham Lincoln at the hand of Booth” (#9768)
 - “My volunteer site I observed how the children construct pairs meaning two and another word pears meaning food you eat. The children were actually understanding to an extent and trying to learn more at 2 ½ years old” (#0522)

- “If a child wants to build a tall block tower. They may repeat doing it over and over if it keeps falling. They may learn larger blocks go on the bottom for more support and smaller ones go on top” (#4444)
 - “Color mixing. 1 tub of blue water 1 tub of yellow. Place small cups for children to fill and discover the color change when mixed” (#4949)
 - “When an infant grabs a rattle and shakes it. In this situation the infant initiate in learning (actively finding out what the rattle can do)” (#7551)
 - “Infant-brightly colored rattle that makes noise when shaken, that causes the child to crawl towards it. 3 or 4-year-old- at the water table- the child pours water from one container to another to pour- then might take the water to another place to pour” (#3349)
 - “Mixing paint, missing water with sand, humping from a higher elevation, carrying objects, asking questions” (#1127)
 - “Some of the children at my fieldwork site are working on constructing a motorboat. They have identified w/o help what is needed to build a motor boat, such as a gas tank and engine” (#1959)
 - “How to cut, how to write, why different letters make different sounds” (#7870)
 - “Ask questions, tries new things” (#8360)
 - “A child sees an ant and follows it to discover a whole row of ants and discovers they are bringing food to the colony” (#1900)
 - “A child notices that hitting two objects together created a loud sound. They test it again to see results and see what happens when they hit them harder or softer or with other toys” (#4090)
 - “Having a step stool in the bathroom the child is drawn to it. Turns it twice, and then pushes it against a counter to see what’s on top” (#0701)
 - “Children are curious about many things...they touch, play, and talk about things they are interested in” (#5555)
 - “Taking the chalk and drawing lines on the black paper, looking for books that spark curiosity in children, asking questions” (#5959)
 - “eg. The child is curious to learn how to bounce a ball; so the child may initiate [sic] the activity (cause & effect) by imitating a past behavior such as bagging on the floor” (#1320)
 - “1. A child looks at an object and follows it with it’s gaze
2. the child will want to feel it, touch it, put it in his/her mouth following a ball that rolls, a rattle, etc.” (#0420)
3. What are some examples of “initiative in learning” from the perspective of how early childhood educators can facilitate this intentionally?
- “Early Childhood educators can put art materials that will intrigue the children and document what the children are interested in so that they can be mindful of the materials that they provide” (#1101)
 - “Set up activities and ask children, ‘what would happen if...’ ‘Lets figure out what happens when...’” (#0617)
 - “The child dropping something and seeing what happens-then dropping diff [different] objects and observing what happened then. Then teachers giving child more diverse items to throw and from different heights/angles” (#0511)

- “an EC educator an model questions to ask and outside the box thinking and reflection” (#9768)
 - “Early childhood educators can be encouraging of learning by promoting and supporting children’s interest” (#0522)
 - “EC Educators may facilitate this by setting up centers or following a child’s lead in order to facilitate learning” (#4444)
 - “Same as # 2- ‘color mixing. 1 tub of blue water 1 tub of yellow. Place small cups for children to fill and discover the color change when mixed” (#4949)
 - “Modeling curiosity. For example saying, “hmm I wonder what this pen can do?” and therefore initiating a new type of thinking for children that had never done this” (#7551)
 - “Educators facilitate this by “playing with the materials with the children, showing excitement for the activity-or-finding out what interests the child-and using that to facilitate learning-link-dinosaur counting” (#3349)
 - “asking open ended questions, providing activities that are hands-on, using encouraging words (promoting emotional support)” (#1127)
 - “when the teacher discuss[sic] the motor boat construction with the group building she ask “what materials do you think the gas tank should be made of? The two choices (after discussion) were plastic and metal. Next she ask which do you think will float or sink because the tank needs to stay afloat. Then at the meting (Reggio inspired school) a group of children were assigned to investigate which would float or sink” (#1959)
 - “the interest to teach children to write their names or spell their names, the interest to teach a toddler to kick or catch a ball” (#7870)
 - “provide many different manipulatives/toys that foster learning through play, for examples setting up a table of counter bears and colored bowls after a circle time about counting and sorting” (#8360)
 - “take that interest and support it w/books, an ant farm, etc. Expand on it by studying other animal communities” (#1900)
 - “Teachers create an environment for children to be able to explore on their own and engage materials. Centers set-up with provocation that draws attention” (#4090)
 - “Providing materials that challenge the children in new exciting ways. Present them differently and see what they construct” (#0701)
 - “teachers can model getting excited and curious about an activity/ topic, teachers can model asking questions such as why? What? Lets see what happens if I _____?” (#5555)
 - “leaving the room after introducing materials to allow children to engage in it. Allowing time for children to ask questions. Leaving material[sic] out for children to explore on their own” (#5959)
 - “The child explores an object on his own and builds own knowledge” (#1320)
 - “they can bring in toys that make noise, bright colors, or different textures” (#0420)
4. Why do you think “initiative in learning” is under the domain of social-emotional development in the *Preschool Learning Foundations*?

- “Because in order to initiate learning successfully and to the full extent you must communicate about it” (#1101)
- “It comes from your feelings about learning something specific” (#0617)
- “because it is linked to their emotion and socialization-they must want to learn in order to be able to “learn” the social Ques [sic] from others as well as being able to learn others emotional being” (#0511)
- “seeking knowledge and the willingness to satisfy curiosity by any means requires emotional strength and confidence in ones self-efficacy” (#9768)
- “it may be under social-emotional development because without support and encouragement children may shy away from wanting to learn or become insecure” (#0522)
- “Possibly because initiative learning can be a good foundation for self-esteem and peer relationships” (#4444)
- “because initiative, especially in preschoolers, is something they receive socially (from teachers, peers, etc.)” (#4949)
- “Because social development is created through initiative and learning of others (peers, teachers, parents). If a child is seeking answers or actively touching objects to see what it can do, the child therefore has imitated this type of behavior” (#7551)
- “It is about communication that said initiative in learning should be across all domains- but if the child feels good about what he or she is doing-they will continue to learn about-or play with a an [sic] idea or materials. Feelings are the emotions, so that’s why it is under social/emotional” (#3349)
- “without confidence(which is usually encouraged) children may not take initiative to learn the way they need to” (#1127)
- “how a child is developing socially can dictate the level of interaction a child will seek” (#1959)
- “social-emotional can relate to curiosity because being curious is a feeling” (#7870)
- “social-emotional development is a large domain that encompasses “initiative in learning” because schooling is a social entity. Together as a class children learn how to actively seek information, and as a group develop these ideas and facts in a positive social environment” (#8360)
- “It teaches self-sufficiency and teaches children how to learn in a social setting with peers” (#1900)
- “A child needs to have the proper self-esteem to feel confident enough to pursue interests and explore in many different ways” (#4090)
- “Because it is really emphasized through peer-relations! They begin say ‘look what I can do with this’ The child tries it and then says ‘you can also do this’” (#0701)
- “maybe because children can gain this skill while interacting with others. Interacting with others enhances their curiosity as children will see what other’s do and what they say and think” (#5555)
- “things like asking questions or engaging with others in new materials require social development (interacting with peers and adults)” (#5959)

- “It is important to know if it came from the child’s curiosity or if the teacher facilitated or created the curiosity” (#1320)
- “because it’s something that’s innate. Taking an initiative is in a person it’s not something you can teach because sometimes people don’t like to be forced into something. It just makes them want to do it less. It comes from your emotions/feelings” (#0420)

Appendix K: Participant Responses to Initiative In Learning Questionnaire
(Study 2-Community College Students)

1. What does “initiative in learning” mean?
 - “The drive that causes someone to manipulate and explore what they are curious about or wish to know” (#1713)
 - “motivation to drive towards a study or anything without anyone instructing you to do something. The interest is great enough to drive someone to learn” (#1393)
 - “To make a stand, take it upon yourself or motivate you to want to learn” (#0942)
 - “It is when actions are being taken because of curiosity. When a child is trying to get answers” (#0873)
 - “When you do something and you don’t think about it” (No Participant #)
 - “Eager to ask questions starts things on their (own?)” (#3105)
 - “Means that you go and do it 1st and try it. Not wait for someone else” (#0318)
 - “It means setting in motion the encouragement of children exploring their [sic] curiosity, and facilitating activities that support it” (#1313)
 - “to want to learn, be interested in learning new things” (#4080)
 - “When you do it buy [sic] your self [sic] you want to do it on your own” (#5462)
 - “willingness to explore” (#0623)
 - “taking a stand in what you want to learn” (#9264)
 - “When the child is learning something new. And he knows” (#0342)
 - “Taking control in trying some thing new with ones self” (#0293)
 - “making an effort to learn” (#5006)
 - “I think it “initiative in learning” means imagination to where they learn new things or from where they are learning and goes to an imagination” (#4321)

2. Think of some examples identifying “initiative in learning” from the perspective of children.
 - “child tastes play-do, child pours all paint cups together, child asks questions about books, child tries to pull object apart, tries to put object together” (#1713)
 - “Studying things in a park: leaves, butterflies or birds and a child begins to ask questions, examine. Basically using all their senses to explore the world around them” (#1393)
 - “Putting thoughts into action... I feel like reading, I am going to get a book” (#0942)
 - “I have a student that asks a lot of “why” he also says a lot of things like what happens if we?” or ‘Hey, lets try doing it like this’. This is his way of showing initiative in the things he is curious about. Another child may not be so verbal about it. They might just try it without saying anything” (#0873)
 - “Do this, pick of” (No Participant #)
 - “I am unfamiliar with this topic” (#3105)
 - “I am going to pick up my pen 1st when the child trys [sic] is 1st

- “He or she shows you what they can do 1st” (#0318)
 - “If a children is interested in turtles, bringing in books, toys and even real turtles to allow a child to explore” (#1313)
 - “When children decide to do something on their own because they want to do it” (#4080)
 - “When you pick up your pen and do it your self you don’t wait for them to tell you” (#5462)
 - “when children explore in the garden and find worms” (#0623)
 - “I think if they like the song, book, materials they want to do it” (#9264)
 - “What color, size, shape is that or they want to touch everything and some time wants to feel with the math” (#0342)
 - “using the example of the children with the raisins” (#0293)
 - “asking questions e.g. what is that?” (#5006)
 - No Response (#4321)
3. What are some examples of “initiative in learning” from the perspective of how early childhood educators can facilitate this intentionally?
- “Educator presents open ended activities such as “nature treasure hunt” or ‘science museum field trip’ that allow children to shape their own learning. Educator is aware of learning situations in the environment and allows children freedom to explore” (#1713)
 - “Use all the domains to excite the senses” (#1393)
 - “ECE can ask questions and based on the answers provide materials that are of interest” (#0942)
 - No Response (#0873)
 - No Response (No Participant Number)
 - “I am unfamiliar with this topic” (#3105)
 - No Response (#0318)
 - No Response (#1313)
 - “When a child choose to switch activities because of her interests” (#4080)
 - “By telling them when they are done with there [sic] activity they can start on something else” (#5462)
 - “Support the children with materials or by helping them to answer questions they may have” (#0623)
 - “Introduce the materials in different ways” (#9264)
 - “Ask to the teacher all the time- touch the things see the things” (#0342)
 - “Studying Montessori I read of an example of her giving her students a lesson on drying their noses and they were so grateful [sic] they learning how to do it” (#0293)
 - “Provide materials at the eye level of a child” (#5006)
 - No Response #4321
4. Why do you think “initiative in learning” is under the domain of social-emotional development in the *Preschool Learning Foundations*?

- “Because initiative stems from a core confidence and can be fostered or squelched socially and emotionally in a child” (#1713)
- “Children are reinforced by experiences of learning and healthy relationships” (#1393)
- “Because to be able to take the initiative the students need to have some social-emotional skills [sic]” (#0942)
- “There is a social interaction involved and the emotions of excitement and curiosity” (#0873)
- No Response (No Participant Number)
- No Response (#3105)
- “Because your emotions are the one’s tell-ing [sic] you if you can go 1st or not” (#0318)
- No Response (#1313)
- “Taking control of your feelings” (#4080)
- “Because it has to do with the inside of there [sic] feelings” (#5462)
- “children need to have the self confidence to ask the teachers questions or their peers” (#0623)
- “Because what you want to do has to do with the emotion of the person” (#9264)
- “Because they ask all the time” (#0342)
- “Because is is they [sic] way a child handles right and wrong and wether [sic] to be adventurous/ cautious” (#0293)
- “Because it requires a child to speak and articulate their thoughts” (#5006)
- No Response (#4321)