CONSTRUCTIVIST EDUCATION AND EPISTEMOLOGICAL DEVELOPMENT IN ONLINE AND FACE-TO-FACE HIGHER LEARNING ENVIRONMENTS

By

REBECCA J. PRUITT

Bachelor of Arts in Child Care Administration
Oklahoma Baptist University
Shawnee, OK
1994

Master of Science in Family Relations and
Child Development
Oklahoma State University
Stillwater, OK
2000

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
December, 2011

CONSTRUCTIVIST EDUCATION AND

EPISTEMOLOGICAL DEVELOPMENT IN ONLINE

AND FACE-TO-FACE HIGHER LEARNING

ENVIRONMENTS

Dissertation Approved:

Dr. Kathryn Castle

Dissertation Adviser
Dr. Pamela Brown

Dr. Hongyu Wang

Dr. Mona Lane

Outside Committee Member
Dr. Sheryl A. Tucker

Dean of the Graduate College

TABLE OF CONTENTS

Chapter Page

I. INTRODUCTION 1

Statement of the Problem 2
Purpose of the Study 6
Child Development 6
Research Questions 8
Significance of the Study and Possible Contributions 9
Limitations of the Study 10
Reflexivity Statement 11
Definition of Terms 11

II. REVIEW OF LITERATURE 16

Constructivism 16
Cognitive Equilibrium 16
Piaget's Three Types of Knowledge 19
Social Construction of Knowledge 19
Copy Theory vs. Theory Building 21
Constructivist Education 22
Constructivism in Early Childhood Teacher Education 24
Constructivism in Higher Education 31
Women's Ways of Knowing 33
Received 36
Subjective 37
Learning Preferences of Women 37
Online Higher Learning Environments 40
Growth 40
Quality 41
Constructivism Online 43
Asynchronous vs. Synchronous Class Discussion 43
Conclusion 45

III. METHODOLOGY 46

Theoretical Framework 47

Chapter Page

Constructivist Education 48
Constructivist Processes 50
Qualitative Methodology Rationale 52
Research Context 53
Participants 53
Child Development 54
Data Sources 57
Course Assignments 58
Qualitative Interview 63
Collection of Data 64
Face-to-Face Section 64
Online Section 65
Data Analysis 68
Sensitizing Themes for Analysis 70
Trustworthiness 71
Conclusion 73

IV. FINDINGS: CONSTRUCTIVIST EDUCATION 74

Attending to the Individual 79
Respecting Developing Understandings 84
Facilitating Dialogue 88
Facilitating Inquiry 98
Facilitating Meaningful Investigations 104
Introducing Disequilibrium 111
Summary and Comparison of Online and Face-to-Face 114

V. FINDINGS: CONSTRUCTIVIST PROCESSES 118

Women's Ways of Knowing Themes 121
Childhood Struggles 122
Balancing Life and School 124
Pleasing the Teacher: Face-to-Face 126
Pleasing Self: Online 127
Frustration: Face-to-Face 129
Self-Preservation: Online 131
Constructivist Process Themes 132
Interest 133
Questioning 135
Thinking about Thinking 139
Social Interaction 144
Cognitive Disequilibrium 150
Sense Making 158
Theory Building 166

Chapter Page

Summary and Comparison of Online and Face-to-Face 171

VI. CONCLUSION 174

Constructivist Education 176
Constructivist Processes 181
Epistemological Position and Constructivist Education 184
Toward a New Teaching Philosophy 186
Future Research Possibilities 190
Limitations of the Study 191
Significance of the Study 192
Conclusion 193

REFERENCES 195

APPENDICES 205

LIST OF TABLES

Table Page

1 Women's Ways of Knowing: The Knowledge 32

2 Women's Ways of Knowing: The Knower 32

3 Women's Ways of Knowing: The Self and Voice.....32

4 Women's Ways of Knowing: Way of Knowing.....34

5 Planned Curriculum for Child Development 53

6 Face-to-Face Research Participants and Data Sources 63

7 Online Research Participants and Data Sources 65

8 Trustworthiness Chart 70

LIST OF FIGURES

Figure Page

1 Earlier Constructivist Education Thematic Scheme 74

2 Present Constructivist Education Thematic Scheme 75

3 Online Discussion Forum Instructor Responses to Students 82

4 Excerpt from the Theory Worksheet Live Chat.....89

5 Excerpts from the Online Discussion Forum.....91

CHAPTER I:

INTRODUCTION

> It is in the process of sorting out the pieces of the self and of searching for a unique and authentic voice that women come to the basic insights of constructivist thought: *All knowledge is constructed,* and *the knower is an intimate part of the known.*
>
> Belenky, Clinchy, Goldberger, & Tarule, 1997, p. 137

In a recent study of the first year experiences of kindergarten teachers, I explored the dichotomous way in which teaching philosophies are presented during teacher preparation, and the resulting view these teachers had of constructivism as a way of informing practice. An unexpected result of this study was that these teachers believed that some children could be trusted to construct their own knowledge, while others could not. Since all of the children in their classrooms were low income children who had been determined to be "low" academically, the teachers believed that they were not capable of being "an intimate part of the known" (Belenky et al, 1997, p. 137; Pruitt, 2011).

Though it came as a surprise to me, this view of low performing students is not so uncommon. As Gerald Campano points out in his chapter in *Inquiry as Stance* (2009), accusations persist throughout all grade levels "…that 'children in poverty' somehow think less abstractly and do not understand 'cause and effect' or the consequences of their actions" (Campano, 2009, 337). As an early childhood teacher educator in an urban, low income area serving non-traditional adult students, I have found that the students in my

classrooms are the very ones that have gone through the educational system without the trust that they can understand or connect in any way with the constructed nature of knowledge. Because it is my desire to see these students connect with constructivist thought so that they can in turn connect constructivist thought to their practices with young children, I have continued to work toward this goal. It is this desire that provides the backdrop for the study presented here. This chapter presents the statement of the problem, the purpose of the study, the research questions used to guide the study, and the significance of the study including possible contributions to the field. In addition, relevant terms that are used are defined, based primarily on the words of the authors whose work was used in the formulation of this study.

Statement of the Problem

Many early childhood teacher educators desire that students graduating from their programs will ultimately become constructivist in their role as teachers of young children (e.g. Castle, 2006; Taylor & Hsueh, 2005). These educators consider themselves to be advocates of Piagetian constructivism and thus believe that young children construct their knowledge through experiences in their environment with materials and other people. Therefore, these educators attempt to prepare their students to teach young children following Piagetian theory (e.g. Fosnot, 1989; McMullen, et al., 2006).

A common belief of early childhood teacher educators is that in order to develop these desirable traits in pre-service teachers, students should have higher education classroom experiences that lead them to a better understanding of how their own knowledge is constructed: "If teacher candidates are to teach their students in a constructivist manner, modeling the theory and enabling the preservice teacher to engage

with it is crucial" (Owen, 2007, p. 219). Highlighting the critical element of reflection, Castle states that "Teachers are more likely to facilitate children's construction of knowledge if they have reflected on what it means to construct knowledge" (Castle, 1997, p. 55). These statements represent educational interventions that many researchers have determined play a role in a student's movement toward constructivist thinking. However, much of the process related to movement toward awareness of the construction of knowledge is still very much unknown. There remains a gap in the literature regarding what experiences, educational or otherwise, compel a person forward toward a constructivist way of knowing.

The statement presented in the introduction, made following a large-scale longitudinal study of the epistemological positions of women from all walks of life, does not mention any particular educational strategy, but rather an internal process for the knower. Although the authors resist the notion that their model is hierarchical in nature, in the *Women's Ways of Knowing* framework, a "constructivist" is indeed presented as a woman who has reached a higher level of intellectual maturity. She is one who has gone through a process of reflection, through experiences within the world of education and without, which has brought her to a better developed understanding of epistemology (Belenky, et al, 1997, p. 137). Marra (2002) also postulates that such an awareness of one's own participation in the construction of knowledge represents a high level of epistemological development for that individual. Proposing similar strategies as the authors above, she states that the goal of education should be to "encourage epistemological development" (Marra, 2002, p. 15).

Complicating this process, though, as Catherine Fosnot points out, is that

"constructivism is a theory about learning, not a description of teaching" (Fosnot, 1996, p. 29). Indeed, defining constructivism as a "theory about learning" is inadequate still to describe an epistemological framework encompassing multitudes of theories about the construction of knowledge. However, based on the current knowledge base described above, it is considered not only acceptable but preferable practice by many to design learning environments and experiences to intentionally facilitate construction of knowledge and reflection of that process by students (e.g. Castle, 1997; Rand, 1999; Richardson, 2003). In the words of Rheta DeVries, whose term "constructivist education" underlies this study, "The unidirectional arrow between the constructivist theory and the constructivist classroom paradigm conveys the idea that we mine the theory for its relevance to practical educational efforts." (DeVries, 2002, p. 5).

Educators have encountered great difficulty in designing such experiences in higher learning classrooms (Richardson, 2003; MacKinnon & Scarf-Seatter, 1997). While intending to prepare students to become autonomous teachers who resist outside forces in order to follow Piagetian constructivist ideas, teacher education programs can sometimes rely heavily on direct instruction in theory and practice without adequate opportunities for student inquiry, self-examination and reflection (e.g. Izumi-Taylor, Sluss, & Turner, 2007). This overly prescriptive methodology is antithetical to Piagetian ideas regarding the construction of knowledge, even when applied to adult learner settings (Castle, 1997; Fosnot, 1996; Richardson, 2003). In addition, because this method of instruction is also heavily reliant on teacher authority and knowledge, it can foster over-reliance on outside authority, a deterrent to the development of autonomy (Kamii, 1982; 1984; 1991). Of those who have developed teaching methods that allow

for inquiry, discovery, and construction of knowledge, they have primarily done so in a context in which the students are physically present with the instructor and with one another (e.g. DeJong & Grooms, 1996; Kaufman, 1996).

As increasing numbers of early childhood courses are being taught in a purely online environment (Fox & Donahue, 2006), educators are becoming painfully aware of the difficulties in creating a learning environment that reflects constructivist principles within a context that is absent of the bodily presence of its participants. As students continue to report their feelings of social disconnectedness online (Slagter van Tyron & Bishop, 2009), this significant problem persists. Although some have proposed that Piagetian constructivism describes a sole learner interacting with her environment and not necessarily other individuals (e.g. Bruner, 1984), a more comprehensive and authentic view of Piaget's ideas recognizes that the element of connectedness with other humans is considered a necessary piece in all construction of knowledge (e.g. Castle, 2004; DeVries, 1992; Kamii, 1992). In her piece on the contributions of Piaget and Vygotsky, DeVries (1997) is adamant in her assertion that Piaget did not at all advocate individual construction of knowledge as separate from social interaction, but rather considered them inseparable. It is this vital component that seems to be particularly challenged in the online environment. Not only are the interactions between class participants electronic text rather than verbal conversation, they are also generally asynchronous rather than synchronous, further extending the differences between the two course delivery formats.

There are a number of benefits to teaching online, especially considering the flexibility it allows for a student population that is comprised of older, non-traditional

working adults. Indeed, many now postulate that online environments not only allow for constructivist learning, but are more conducive to teaching using constructivist education principles than face-to-face settings, primarily because of the need for individual students to navigate their own way through the learning process (e.g. Ko & Rossen, 2004).

It is reasonable to assume that the number of online learning opportunities in early childhood teacher education will continue to increase along with other higher learning fields. Because of this, it is vital that the online delivery method be examined closely for evidence of constructivist education (according to particular definitions), as well as student constructivist processes, in order to identify elements and practices that have the potential to facilitate those constructions rather than solely to impose previously agreed upon knowledge.

Purpose of the Study

The purpose of this study, which relied on constructivist theory, was to conduct a qualitative comparison of the online and face-to-face sections of the same course to discover elements of online learning environments that reflect principles of constructivist theory at work. Using a sampling of students in two sections of the same course that has been designed according to constructivist education principles (Branscombe, et. al, 2003; Castle, 1997; Fosnot, 1996; Richardson, 2003), this qualitative study examined student and instructor reflections of the course, course documents, instructor-student personal communications, online discussion forum dialogue and individual student-participant interviews. Each method of delivery was examined closely using the same principles for teaching from a constructivist perspective that guided the planned curriculum design.

Child Development

Child Development is a course that I have taught for twelve consecutive semesters, at two Midwestern colleges. As part of an associate's degree plan of study at both institutions, it is considered a sophomore level course. This is a course covering basic child growth and development that translates across associate and bachelor degree level programs in the state. For each of these last twelve semesters, I have taught the course using the online delivery method. Over time, I have watched my own teaching evolve and change, and have been somewhat painfully aware of my students' varied experiences as a result of that ebb and flow. Because of my belief that students can better understand constructivism if they have personally experienced and reflected on constructivist principles at work in their higher learning environments (Castle, 1997), I strive to follow constructivist principles in my teaching. As a result, I have remained most comfortable through the years with traditional classroom settings where I can interact face-to-face with students. Corroborating my experience, studies have found that students consistently report their feelings of being socially disconnected from their instructor and fellow classmates in the online environment. High attrition rates in online courses as compared to traditional, face-to-face classroom settings attest to this fact (Slagter van Tyron & Bishop, 2009).

The fall semester of 2010 and the spring semester of 2011 brought a unique opportunity for me to study this issue. Through the course of these two semesters, I taught both sections of Child Development; one through completely online delivery and one in a face-to-face classroom setting. Both sections were carefully designed using guidelines for constructivist education in higher learning contexts for the purpose of

providing the context for this study.

To conduct this study, I took a reflective approach to investigate my own and my students' learning and perceptions of the completed courses. Through a qualitative study of student and instructor reflections of the course, course documents, instructor-student personal communication, online discussion forum dialogue and individual student-participant interviews, I closely examined each method of course delivery using the same principles for teaching from a constructivist perspective that guided the planned curriculum design.

Research Questions

The study presented here was guided by the following research questions:

1. What elements of constructivist education are evident in online and face-to-face instructor and participant data?

This research question represents the stated purpose of this research study to examine the online learning environment through a comparison of online and face-to-face course products and instructor reflections and feedback to determine similarities and differences between the contexts related to constructivist education.

2. What kinds of processes are evident in online and face-to-face participants' course documents, student-instructor communications, online discussions, and reflections of their experiences in the course?

This research question represents the stated purpose of this study to examine the processes involved in the construction of knowledge by the students, in order to compare the online and traditional sections of the same course.

These questions require a research methodology that examines in depth the

individual experiences of the research participants as represented by textual data, described by van Manen as hermeneutic phenomenology (van Manen, 1990). As an investigation into the teaching practices of the researcher, the study is considered teacher research, according to the definitions put forth by Cochran-Smith and Lytle (1999).

Significance of the Study and Possible Contributions

This study sought to add to the growing body of literature that addresses the complexities of teaching from a constructivist educator's perspective (e.g. Carlson, 1999; Kamii, 1991;; Klein, 2001; Kroll, 2004; Noel, 2000; Zellermayer & Tabak, 2006) in both face-to-face and online contexts. In recent years, there has been exponential growth in online course delivery in early childhood teacher education because of its perceived benefits (Natriello, 2005). Concerns about the effectiveness and appropriateness of this trend are significant, and have spawned a growing number of studies on the subject (e.g. Heirdsfield, et. al, 2007). The study presented here provided a unique look into the presence of constructivist education in the planned and enacted curriculum and students' construction of knowledge in the experienced curriculum through its investigation of two sections of the same course delivered in the same year, one in a physical classroom setting, and one online. By delving deeply into these two sections of a course in child development that were designed to be as homogenous as possible in every way except for the context of the classroom, unique aspects of both face-to-face and online course delivery related to the research questions were revealed.

Possible contributions of this study include the identification of elements of online learning environments that are particularly able to facilitate constructivist processes. Results of this study may also add to the understanding of the relationship

between adult women development and their own constructivist thought, both connected to and apart from educational intervention. In particular, it informs the understanding of women that have been marginalized within their previous educational environments. Researchers and educators in higher learning contexts seeking to design online environments from their own constructivist educator viewpoint may find the implications applicable to their own situations.

Limitations of the Study

As the teacher of the course sections under study and head of the department within which the course is situated, it is important to maintain my obligation to both the course objectives and the overall program objectives. As a key course in this associate's degree plan of study, Child Development provides the context for certain learning objectives to be met as outlined by the Early Care Education and Administration program. In addition, the course provides the context for certain student outcomes to be met according to our accrediting organization, The National Association for the Education of Young Children. Although data collection and analysis were conducted following the conclusion of both course sections and the posting of grades, the planning of the research project coincided with course delivery and thus, had the potential to impact these areas. Therefore, a certain academic rigor set forth by both was maintained in balance with the goals of the research study.

Conducting data collection in the subsequent semester following the completion of the course was meant to reduce the effect of student perceptions regarding the intended use of data as well as the perceived level of power that the researcher who had been their instructor had over the student-participants. As the data collected involved participant

feedback on the course and the instructor's role in the course, it is possible that there was some effect on the participant responses because of the dual role of instructor and researcher, since participants viewed the researcher as the primary audience. This dynamic was identified by Anderson, Barksdale, & Hite (2005) as a limitation of research that is conducted with current students of the researcher as participants.

Reflexivity Statement

The journey that led me to this study of my students' experiences was filled with interactions that impacted both data collection and analysis of data for this study. This statement of researcher reflexivity is my attempt to acknowledge that elements of my own perspective and voice led me to this study and necessarily affected the data collection and analyses of this study. As I conducted and presented the results of this study, I attempted to bring out the voice of my students/co-participants and their predecessors whose voices consistently influence me, in addition to my own voice. I engaged in this process of reflexivity throughout this research study.

Definition of Terms

Accommodation: As defined by Piaget, intellectual accommodation refers to a process that "reproduces the forms and movements of the objects or persons which are its models at that time" (Piaget, 1970, p. 709). According to Fosnot (1996), "new experiences sometimes foster contradictions to our present understandings, making them insufficient and thus perturbing and disequilibrating the structure, causing us to accommodate" (p. 13). Therefore, in the context of this study of adult learning contexts, the term accommodation refers to "reflective, integrative behavior that serves to change one's own self and explicate the object in order for

us to function with cognitive equilibrium in relation to it" (Fosnot, 1996, p. 13).

Assimilation: Piaget describes intellectual assimilation as the process that "assures the continuity of structures and the integration of new elements to these structures" (Piaget, 1970, p. 707). This process, according to Piaget, does not occur apart from its interaction with the process of accommodation in maintaining equilibrium. Defining it in the context of behavior, Piaget states that, "we shall call accommodation any modification of an assimilatory scheme or structure by the elements it assimilates" (Piaget, 1970, p. 708). In the context of this study of adult learning contexts, the term assimilation refers to "the organization of experience with one's own logical structures or understandings...the individual's self-assertive tendency, a tendency to view the world through one's own constructs in order to preserve one's autonomy as a part within a whole system" (Fosnot, 1996, p. 13).

Autonomy: Autonomy is defined in this study based on Piaget's view, which describes autonomy as "the ability of an individual to be self-governing – in the moral realm as well as in the intellectual realm. Autonomy is the ability to think for oneself and to decide between right and wrong in the moral realm and between truth and untruth in the intellectual realm by taking all relevant factors into account, independently of rewards or punishments" (Kamii, 1994, p. 673).

Construction of knowledge: This is a widely used phrase among advocates of Piagetian constructivism that describes how one comes to know what they know. Based on this theory, individuals come to know what they know through interactions with both the physical world and the social world. This occurs primarily through

abstract representation or making relationships among constructs. In Piaget's words, "the construction of structures we observe in the sequential stages of development in children and in the mechanisms of equilibration through self-regulation coincides with the constant constructive process used by mathematics" (Piaget, 1970, p. 728).

Constructivism: Constructivism is a theory about the relationship between the knower and the known. For this study, I refer to Piaget's theory which identified that both children and adults construct knowledge "through interaction with their physical and social world" (Chaille, 1997, p. 24). According to Piaget, the evolving relationship between the knower and the known is "neither an empirical process of discovery of a 'ready-made' external reality nor...a process of preformation or predetermination...truth lies between these two extremes...in a constructivism which expresses the manner in which new structures are constantly being elaborated" (Piaget, 1970, p. 728-729).

Constructivist educators: This term is used in the same way as it is used by Rheta DeVries and others to describe persons who strive to develop and maintain educational environments that follow Piagetian constructivist principles.

Curriculum: Curriculum as used in this study is a broad term that "acknowledges the complexity of individual interactions while honoring the role of formal education as a collective attempt to enrich individual lives" (Marsh & Willis, 2007, p. 15). This definition includes three primary facets of curriculum: planned, enacted and experienced (Marsh & Willis, 2007).

Enacted curriculum: A facet within the definition of curriculum (above) that represents

"how that guidance is provided" (Marsh & Willis, 2007, p. 15).

Equilibrium: Also referred to as "cognitive adaptation" by Piaget (1970, p. 708), cognitive equilibrium is a term that describes a balance that occurs "insofar as assimilation is still ...subordinate to the situation with the accommodation it entails; and accommodation...is subordinate to the...existing structures to which the situation must be assimilated" (Piaget, 1970, p. 709). He asserts that "such an equilibrium exists at all levels"; and thus, it is used to refer to adult cognitive tasks in the context of this study. This term is defined in more detail in Chapter III as it relates to this study.

Experienced curriculum: The curriculum as it is experienced by the students, as a result of the planned and enacted curriculum (Marsh & Willis, 2007).

Face-to-face: This term is used in this study to refer to the context of the course section that meets on campus in a classroom once per week.

Online: This term is used in this study to refer to the context of the course section that meets only in a web-based environment – Desire to Learn. Desire to Learn is an online classroom similar to Blackboard, Moodle, etc. that contains common elements of online instruction such as discussion forum, drop box for assignments, grade book, news page, etc.

Planned curriculum: Understanding that curriculum involves multitudes of elements that are both planned and unplanned by the teacher, the term planned curriculum refers to the parts of the curriculum intentionally placed by the teacher into the students' experiences of the class. According to Marsh & Willis, it is "the type of guidance to be provided" (2007, p. 15).

Reflexivity: According to Patton, engaging in researcher reflexivity means "to be attentive to and conscious of the cultural, political, social, linguistic, and ideological origins of one's own perspective and voice as well as the perspective and voices of those one interviews and to those to whom one reports" (Patton, 2002, p. 65).

CHAPTER II

REVIEW OF THE LITERATURE

Constructivism

In order to authentically study constructivist education in higher learning settings, a working knowledge of constructivism and the application of a constructivist approach in all contexts must be present. The epistemological paradigm of constructivism includes multitudes of individual theories proposed by multitudes of theorists. In the field of child development, we are drawn to the work of Jean Piaget because of his research and insight into the construction of knowledge in young children. In courses such as Child Development, students memorize his stages of cognitive development as a part of their consumption of esteemed core knowledge in the field. However, this element of Piagetian constructivism represents only a piece of a complex theory developed from decades of study.

Cognitive Equilibrium

Representations of Piaget's constructivist theory are shortsighted when focused on a maturational view of development:

> Biological maturation does nothing more than open the way to possible constructions. It remains for the subject to actualize them…It would therefore be a mistake to consider the succession of these stages as the result of an innate

> predetermination, because there is a continual construction of novelty during the whole sequence. (Piaget, 1970, p. 712)

However, the popular practice of using Piaget's labels (sensorimotor, preoperational, concrete, formal) as "delimiters and/or goals of curriculum" (Fosnot, 1996, p. 10) remains. To contrast these interpretations, Fosnot (1996) states that

> Constructivism is fundamentally nonpositivist and as such it stands on completely new ground – often in direct opposition to both behaviorism and maturationism. Rather than behaviors or skills as the goal of instruction, concept development and deep understanding are the foci; rather than stages being the result of maturation, they are understood as constructions of active learner reorganization. (p.10)

Therefore, rather than focusing on the types of logic developed in learners, constructivists should rather focus on the processes that enable the new constructions of knowledge. For Piaget, these processes could be explained through the study of cognitive equilibrium (Piaget, 1970).

> Equilibration was described by Piaget as a dynamic process of self-regulated behavior balancing two intrinsic polar behaviors, assimilation and accommodation. Assimilation is the organization of experience with one's own logical structures or understandings. It is the individual's self-assertive tendency, a tendency to view the world through one's own constructs in order to preserve one's autonomy as a part within a whole system. (Fosnot, 1996, p. 13)

Piaget's description of cognitive equilibrium can be delineated into three distinct models, each involving the concepts of assimilation and accommodation (Piaget, 1970;

Fosnot, 1996). In the first model, the individual is understood to be assimilating various schemes of action together in an attempt to assimilate an effective accommodation of these to a particular object. A common example of this in child development would be the various attempts at grasping and sucking an object that an infant will attempt until he is successful. A second model of cognitive equilibrium is described as the differentiation and integration of the whole and its parts, and the relationship of the two systems of thought to the totality that includes them. A common example of this is when a four-year-old is unable to determine that there are more animals than dogs.

A third model involves learning that occurs when the learner interacts with two logical ideas that she finds to be contradictions of one another (Piaget, 1970). Accommodation in the context of the constructivist theory of learning is viewed as a way to promote the autonomy of that individual. It is conceivable within this theory that the process of accommodation that follows the introduction of conflict or contradiction can encourage autonomy. It is a certain kind of accommodation that produces this result, however. When faced with contradiction, the learner has choices. She can simply ignore the contradictions and maintain the initial scheme or idea, she can attempt to hold to each as being specific to certain situations, or she can construct a new, encompassing theory that resolves the contradiction. In this final scenario, she engages in theory building, an important cognitive task. To describe the overall "progressive equilibrium between assimilation and accommodation," Piaget expresses the process in terms of "centration and decentration":

> …the gradually emerging equilibrium between assimilation and accommodation is the result of successive decentrations, which make it possible for the subject to

> take points of view of other subjects or objects themselves…For cognitive progress is not only assimilation of information; it entails a systematic decentration process which is a necessary condition of objectivity itself. (Piaget, 1970, p. 710)

Piaget's Three Types of Knowledge

It is important to include in this discussion on the construction of knowledge Piaget's distinction among three types of knowledge: physical, logico-mathematical and social. Physical knowledge refers to "knowledge about objects that are 'out there' and observable in external reality," (Kamii, 1979, p. 20). When children act on objects found in their environment, they construct knowledge about those physical objects. By contrast, logico-mathematical knowledge refers to the type of knowledge whose source is within the child. That is to say, that it is the knowledge children construct about relationships between objects which "exists nowhere in reality, but in the head of the one who puts the objects into this relationship" (Kamii, 1979, p. 21). These two types of knowledge are interdependent. Social knowledge also has its source outside the mind of the individual. However, it is constructed from within. Also called conventional knowledge, social knowledge involves the understanding of concepts and labels that have been constructed to be conventional truths by people (Kamii, 1979).

Social Construction of Knowledge

In attempts to categorize theorists and theories, many have chosen to label Vygotsky as a social constructivist and Piaget a cognitive constructivist. While Vygotsky did focus on dialogue more heavily than Piaget (Vygotsky, 1978) it is important to note that in proposing Piagetian constructivism as describing a sole learner interacting with

objects in the environment and not necessarily other individuals (e.g. Bruner, 1984), a more comprehensive and authentic view of Piaget's ideas is missed. That is, that it is a theory that recognizes the element of connectedness with other humans as a necessary piece in all construction of knowledge (e.g. DeVries, 1992; Kamii, 1992; Castle, 2004). In her piece on the contributions of Piaget and Vygotsky, DeVries (1997) is adamant in her assertion that Piaget did not at all advocate individual construction of knowledge as separate from social interaction, but rather considered them inseparable. In his work entitled *Structuralism* (1970), Piaget states,

> …there is no longer any need to choose between the primacy of the social or that of the intellect; the collective intellect is the social equilibrium resulting from the interplay of the operations that enter into all cooperation. (p. 114)

It is here that he describes the idea that there is a difference between "cognitive constructivism" and "social constructivism" depending on what you choose to emphasize. He asserts that the question should not be which has more prominence, but rather what is the interplay between them? According to Doll (1993), "Constructivism is a post-structuralist psychological theory, one that construes learning as an interpretive, recursive, building process by active learners interacting with the physical and social world" (p. 30).

In his chapter in *Constructivism in Education*, Richards (1995) finds areas of agreement between radical constructivism and social constructionism, though they are otherwise known as "competing research programs" (p. 58). Clarifying his position on the role of education related to these research programs, he states that "The fundamental task of education is to introduce the individual to the conversation...the interaction

between the individual subject who is to learn and the group that has been carrying on the conversation that education or learning happens." (p. 58). He proposes that radical constructivism (defined as the view that an individual constructs knowledge alone) is oversimplified. He does not like the implications of dualism for either perspective, believing that they are much more complex and overlapping. Therefore, he also rejects Gergen's claim (calling it weak) that "there is only social existence...there is individual learning, but only in a social context" (Gergen, 1995, p. 34). In conclusion, he asserts his more inclusive position by illustrating in in this way: "mathematics is a socially constructed human activity....Yet each individual constructs his or her own mathematics" (Richards, 1995, p. 60).

Copy Theory vs. Theory Building

There are several key components of these cognitive processes that involve personal exploration with objects and interpersonal communication among learners. One of these is the concept of transformation. The commonly held theory of knowledge acquisition called "copy theory of knowledge" (Forman & Kuschner, 1983, p. 47), promotes the idea that learners should develop greater skill in observation of objects and others so that they can copy actions or correctly label items. This theory of learning is based on the epistemological belief that knowledge is simply a copy of external reality. This theory is in stark contrast to Piaget's assertions that knowledge is a personal construction of the individual. This foundational belief provides the impetus for the focus on transformation that occurs as a result of the manipulation of objects. This transformation, when observed and contemplated by the learner, results in the learner's theory building processes. Theory building, therefore, is also key to the construction of

knowledge within constructivist theory (Forman & Kuschner, 1983; Piaget, 1970).

Constructivist Education

In the decades since constructivist theory gained prominence in the field of early childhood education and child development, many ideas have been debated and promoted regarding implementation of theory to practice. Complicating this process, as Catherine Fosnot points out, is that "constructivism is a theory about learning, not a description of teaching" (Fosnot, 1996, p. 29). One could go a step further to say that defining constructivism as a "theory about learning" is also inadequate to describe an epistemological framework encompassing multitudes of theories about the construction of knowledge. However, it is considered not only acceptable but preferable practice by many to design learning environments and experiences to intentionally facilitate construction of knowledge by participants, encouraging increased awareness of the process itself (e.g. Castle, 1997; Marra, 2002; Rand, 1999; Richardson, 2003).

In the words of Rheta DeVries, whose term "constructivist education" underlies this study, "The unidirectional arrow between the constructivist theory and the constructivist classroom paradigm conveys the idea that we mine the theory for its relevance to practical educational efforts" (DeVries, 2002, p. 5). So while the consensus remains that constructivism should be considered a theory of learning and "*not* a method, a curriculum model, or a series of appropriate practices", prescribed practices that are deemed "consistent with constructivism" (Chaille, 2008, p. 5) abound and have provided practical support for educators of young children who adhere to a constructivist viewpoint.

In summarizing the essential elements of Piaget's constructivist theory, DeVries,

Edmiaston, Zan & Hildebrandt use "three words: interest, experimentation, and cooperation" (DeVries, et. al, 2002, p. 35). Perhaps a more useful and comprehensive summation of the application of constructivist theory comes from Branscombe, Castle, Dorsey, Surbeck and Taylor in *Early Childhood Curriculum: A Constructivist Perspective* (2003). These authors identified six curriculum strategies that use constructivist assumptions:

1. Children learn as they engage in authentic tasks they have chosen.
2. Children learn as they act on objects and interact with others.
3. Children learn when they are surprised and intrigued about phenomena.
4. Children learn as they refine and coordinate old ways of thinking.
5. Children represent what they know to others.
6. Children learn from other people in their culture and society.

(Branscombe, et al., 2003, p. iv).

Paramount in all recommendations following a constructivist approach is the careful design of classroom environments and activities that are child centered and active. Because the construction of knowledge involves individual and collective manipulation of objects in the environment, objects and loose parts must be available to young learners. Many times, materials are organized according to children's interests that are made known through careful teacher observation and documentation. Piaget's stages of development of logical thought are kept in mind when preparing these environments, and the term "developmentally appropriate" (Bredekamp & Copple, 2009) is often used to label the approach.

Constructivism in Early Childhood Teacher Education

Citing the 2001 (Bowman, Donovan, & Burns) study entitled, *Eager to Learn: Educating our preschoolers*, Sue Bredekamp reminded participants in a policy discussion on early childhood professional development of the direct link between the education teachers receive and children's developmental outcomes. For Bredekamp and many other high-profile early childhood experts, successful teachers invariably employ practices considered "developmentally appropriate." The National Association for the Education of Young Children's definition of developmentally appropriate practice continues to be widely endorsed by the major professional organizations and leaders in the fields of early childhood education and child development (e.g. McMullen, 2006) and is key to establishing the standard for high quality care for the years prior to formal schooling. DAP guidelines are based on Piaget's constructivism and represent a child centered approach to designing early childhood learning environments that focuses on both current as well as future development of the child. In using this approach, teachers recognize the child as the central piece in the curriculum, and implement active, concrete, hands-on, child-directed activities that emanate from the child's natural curiosity (Bredekamp & Copple, 2009).

Many early childhood teacher educators desire that students graduating from their programs will ultimately become constructivist in their role as teachers of young children (e.g. Castle, 2006; Taylor & Hsueh, 2005). Many of these teachers consider themselves to be advocates of Piagetian constructivism and thus believe that young children construct their knowledge through experiences in their environment with materials and other people. Therefore, these educators attempt to prepare their students to teach young

children following Piagetian theory (e.g. Fosnot, 1989; McMullen, et al., 2006). In order to implement what they have learned in these higher education settings, these new teachers of young children in all contexts may have to resist multiple pressures to abandon this theory in favor of one that promotes more didactic methods. This resistance requires autonomy on the part of the teacher (Brown, et. al, 2007). Constructivist education practices and autonomy go hand in hand.

The effect of college preparation on the beliefs of preservice and practicing teachers has received some attention in the literature. In a comprehensive study conducted by McMullen (1997), four groups of early childhood education students and graduates from Indiana University (new students, student teachers, novice teachers and veteran teachers) were studied to determine their beliefs about developmentally appropriate practice. Results showed that overall, the more education and experience the teachers and students had, the further down the continuum toward DAP their beliefs about teaching progressed (McMullen, 1997). Follow up studies have indicated that a four year degree did correlate with stronger commitments to DAP, although there was no significant difference between the effects of early education degrees and any other degree (McMullen, 2006; McMullen & Alat, 2002).

Of the few studies conducted with child care practitioners and early childhood professionals in relation to a particular training or educational opportunity, the focus has been limited to certain educational situations. For example, most investigations have centered on the correlation between either practitioners and their professional development seminars or education majors/graduates and their university coursework, thereby excluding the growing number of current practitioners experiencing university

coursework as a result of new educational requirements. One exception is a study that was conducted in 1995 that investigated the beliefs and classroom practices of child care teachers following participation in a scholarship program called the TEACH program. This study was unique in that it had a pre-test/post-test element that investigated beliefs and practices following completion of community college coursework. Results were encouraging, showing significant gains post-college in developmentally appropriate beliefs and in the developmental appropriateness of the actual classroom environments (Cassidy, et. al, 1995).

Early childhood teacher educators have a unique perspective regarding the application of constructivist philosophy to the college classroom. Knowledge and experience gained from applying these principles in early childhood classrooms directly inform the higher learning experience. Many of these educator-researchers describe a particular defining moment during which they realized the need to implement constructivist practices in their work with college and adult students (e.g. Billman, 1997; Noel, 2000). The conversation regarding how this transformation can take place and what the resulting benefits might be seems to have peaked during the late 90's, but has remained steady as educators continually seek to provide the optimum educational experience that will prepare early childhood educators to employ constructivist principles in their own practice.

For these early childhood teacher educators, the themes and strategies regarding the application of constructivist education in early childhood classrooms are the starting point for applying Piagetian principles to higher learning contexts as well (e.g. Fosnot, 1989; Taylor & Hsueh, 2005). Therefore, this translation has occurred in early childhood

education classrooms in an attempt to create a learning environment that reflects the constructivist theory these students are expected to understand and apply to future classroom situations (e.g. Castle, 1997; Rand, 1999).

Single course studies.

In a study designed to investigate teacher construction of knowledge within inquiry study groups, Orland-Barak and Tillema (2006) identified three forms of dialogue (convergent, parallel, and divergent) that seemed to indicate a construction of knowledge through dialogue. According to the authors, "All three forms of dialogue appear to provide valuable opportunities for co-constructing different kinds of understandings about practice" (Orland-Barak & Tillema, 2006, p. 2). The facilitator was found to have a key role in shaping the development of these discourses into one of the three types. This qualitative study of seven monthly conversations in the context of an in-service framework sheds light on the particular forms of dialogue that can be productive toward teachers' construction of knowledge.

Seeking to implement a social constructivist approach to teacher education, Carlson (1999) created a course that brought students through a practice-to-theory process rather than a theory-to-practice process. Rather than beginning with theory and moving toward field experiences, students began with field experiences and then co-constructed grounded theories based on their real-world experiences, which were then compared and contrasted with published research and theories. Their final project was to create a model early childhood program based on these theories. Inductive analysis of course documents revealed six emerging themes related to environments, relationships, diversity, multiple perspectives, early childhood education, and the link between

education and change (Carlson, 1999).

Authentic application of theory on multicultural education is a challenge for many who have not had personal opportunities to construct knowledge of diverse experiences. In an effort to assist students in connecting theory to practice in a multicultural education course in early childhood, Morales (1997) created meaningful assignments that were designed to encourage the construction of this knowledge. Students worked directly with children and parents to co-author a book. Beginning with a mini-research project, students moved into question posing, face-to-face interactions with families, written work and finally an oral presentation. Resulting from this experience were personal challenges to the prior knowledge and expectations of the students, and many of them now "viewed culturally diverse children and their families as rich resources of knowledge" (Morales, 1997, p.92). Experience played a role in another study seeking to identify particular educational strategies that were especially helpful in the construction of knowledge by students. Upon examining a class session in depth that was designed from a constructivist perspective, the author of the study found that certain strategies aided student learning more effectively than others. Questionnaires completed by all of the family and consumer science students indicated that overall, students learned best from cases that contained scenarios with which they had prior knowledge. Thus, experiential learning was determined to be very important and discussions only moderately helpful in learning (Jensen, 2000).

Following the typical progression of theory to practice, but seeking to design course curriculum following social constructivist pedagogy, Noel (2000) designed two successive courses in elementary education with the goal to introduce theory in the first

and experience with reflection in the second. Results highlighted four pedagogical issues that can be used in designing constructivist higher learning experiences. First, that sense making was not subject specific but pedagogically oriented. That is to say that although the students came from different subject orientations, their contributions to one another's thinking was based on theories and strategies rather than subject matter. Second, the sequence of the courses (theories first, experiences second) was effective in highlighting gaps in individual understanding and in creating questions that could be brought into the subsequent experience. Third, the awareness of their own learning process seemed to encourage the students to desire to observe the same processes in their future students. Finally, the experience of discovering the need to continually inquire about one's own practices caused the students to establish a commitment to ongoing professional development (Noel, 2000).

The use of interest centers as the foundation for design and implementation of early childhood curriculum is widely considered a prominent piece of creating a developmentally appropriate classroom (Norris, Eckert, & Gardiner, 2004). In creating a climate of experiential learning, a key component of constructivist education, two instructors of early childhood teacher education set up their own teacher education classrooms in interest centers. Students were invited to engage with the various materials in each center, according to their own interest, and at their own pace. Materials included videos, art materials, books, research materials, etc. along with various questions to answer and research topics to choose from. Following this experience, students were challenged to answer their own questions raised at the outset: "Would children stay on task? Would they learn the necessary content? How would the teacher assess students'

learning?" (Maloney & Bullard, 1997, p. 52). Responses indicated that students enjoyed the learning experience, were more on task because of personal interest, became better able to answer their own questions, and were more aware of how to integrate assessment into a learning center environment (Maloney & Bullard, 1997).

Programmatic initiatives.

Seeking to broaden the influence of constructivist education in higher learning beyond the single course or sequence of courses, some have undertaken large scale projects and degree program restructuring. Several years ago, the College of Education at New York University revamped their plan of study for education majors, incorporating several new methods such as cohort groups based on demographic homogeneity to strengthen student-student relationships and increase relevance to context, year-long courses to strengthen professor-student relationships, and incorporated video-based critical self-assessment processes. Reported as a move toward constructivist practice, the department head and author of an article reviewing the process suggests that these changes have increased the quality of the experience for all, effectively moving students toward a more authentic and constructivist approach in their own classrooms (O'Connel-Rust, 1997).

A project of the University of Missouri-Columbia and the Missouri Department of Elementary and Secondary Education, Project Construct was designed in 1983 as an institute for in-service learning that provides comprehensive training and education for practicing early childhood educators and early care and education professionals. Based on Piaget's constructivism, the institute seeks to "develop and support early childhood teachers whose practices are informed by constructivism," and holds that its

constructivist approach to teacher education, while difficult to maintain with high numbers of instructors and participants, "is having a significant impact on teachers, students, and other early childhood specialists. It is affecting change at many levels within the field of early care and education" (Schattgen, 1997, p. 35).

Constructivism in Higher Education

Constructivism as a guiding paradigm for teaching philosophy and practice in higher learning environments has gained wider acceptance among fields outside of education in recent years as well, some proposing that it has now emerged as the dominant theory behind prescriptions for best practices (e.g. Richardson, 2003). Following the line of reasoning that has led early childhood educators to allow constructivism to prescribe teaching practices with young children, Gijbels & Loyens (2009) offer a rationale for constructivism as a guide for higher education teaching practices by defining it as a "theory about how we learn, grounded in philosophy with *implications* for instruction" (p. 500). Amidst the growing acceptance of this philosophy as a guide for higher education teaching practices, some continue to argue that constructivism should not be viewed as a theory of learning at all, but purely a philosophical position regarding knowledge acquisition and makeup. Colliver (2002) suggests that principles of learning do not change based on a belief about the nature of knowledge at all, and proposes that while constructivism should be taught as the "current perspective on knowledge" (p. 50), it should not influence educational practice as if it were a theory of learning. Saunders (1992) broadens the definition of constructivism altogether by describing "so-called reality" as "the mental construction of those who believe they have discovered and investigated it" (p. 136).

Among the growing number of adherents to the application of constructivist theory to higher learning environments, these arguments do not stand. There does, however, remain an ongoing debate regarding what elements of curriculum design constitute an adherence to so-called constructivist pedagogy. In higher educational literature, constructivist education is increasingly referred to as problem-based learning (e.g. Loyens, Rikers & Schmidt, 2008; Hmelo-Silver, 2004) or new learning environments (e.g. Gijbels, van de Watering, Dochy, & van den Bossche, 2006). Gijbels & Loyons (2009) succinctly define constructivism as "a learning theory that is student-centered, since the emphasis is on students as active learners...constructing their own understanding" (p. 500). From this simplified definition, many student learning activities (indeed, any viewed as "active") would be considered "constructivist" by design.

A comprehensive view of the literature regarding the application of constructivism to curriculum development should include the viewpoints of those who question the ability of educators to adequately employ curriculum plans that will ultimately result in learners' construction of new knowledge. Terry Wood (1995), in his chapter in *Constructivism in Education,* discusses Duit's "classic developmental view" that learners construct knowledge through reflection of their own thinking, specifically resolution of conflict. "Cognitive reorganization occurs as learners attempt to overcome obstacles or contradictions that arise as they engage in activity that is purposeful to them" (p. 335). Wood believes that this position suffers greatly, as students are unlikely to recognize conflict because the beliefs of an individual are confirmed in their everyday experiences. He proposes they would "either need to already know the scientific view or to experience the inadequacy of their intuitive ideas through their own experiences"

(Wood, 1995, p. 335) and not through receiving information from the teacher. Hence the conflict teachers inevitably face: "Teachers necessarily want to encourage students to make constructions that are personally meaningful, and yet recognize that they must also construct ideas that are acceptable to the wider society" (Wood, 1995, p. 337). Wood concludes then, that leading learners to construct new knowledge solely through reflection of their own thinking is not possible. Rather, a discussion takes place in which the students get to state their own opinion, but the whole time, the instructor has in mind what she wants them to conclude. When she draws them in to her product, she has in effect done the same thing she would have done in a traditional banker-teacher situation (Wood, 1995).

Women's Ways of Knowing

Identifying multiple implications for experiences in higher education related to constructivism, Mary Field Belenky, Blythe McVicker Clinchy, Nancy Rule Goldberger, and Jill Mattuck Tarule (1997) developed a model for adult women development that adds to the theoretical foundation of this study. *Women's Ways of Knowing* is a defining work in the understanding of adult women development. It is based on information gleaned from multiple personal interviews with hundreds of women from a variety of backgrounds. The analyses of these interviews produced the foundation for a theoretical framework that describes five learning perspectives or "ways of knowing." These perspectives are Silence, Received, Subjective, Procedural, and Constructive (Belenky, et al., 1997). Because all of the interviewed participants were female, the framework is presented as being applicable primarily – though not exclusively – to women.

This framework is particularly insightful for research and teaching in early

childhood teacher education, as the field continues to be predominantly comprised of women. I have created the following tables to represent my current understanding of the *Women's Ways of Knowing* framework:

Table 1

Women's Ways of Knowing: The Knowledge

SILENCE	**RECEIVED**	**SUBJECTIVE**	**PROCEDURAL**	**CONSTRUCTED**
absent	absolute	personal	understood/known	complex
		felt	accommodation	integrated
		multiple	objective	contextual

Table 2

Women's Ways of Knowing: The Knower

SILENCE	**RECEIVED**	**SUBJECTIVE**	**PROCEDURAL**	**CONSTRUCTED**
powerless	powerless	distrusting	connected/separate	passionate
voiceless	recipient	source	player	shaper
selfless	auditory	disconnecting	systematic	reflective

Table 3

Women's Ways of Knowing: The Self and Voice

SILENCE	**RECEIVED**	**SUBJECTIVE**	**PROCEDURAL**	**CONSTRUCTED**
selfless	embedded	self-centered	embedded	self-reclamation
voiceless	voiceless	private voice	embedded	real talk

Viewing this framework in terms of progressive developmental stages reveals that movement toward constructivist thinking is progress. The knower begins in a state of

isolation characterized by powerless selflessness, and moves forward through the stages until she becomes a reflective learner that is connected with her own thoughts and feelings while also attending to the thoughts and feelings of others. There is a back and forth way about which the voice and the self are perceived by the knower, each developing a different area of growth. The culmination of the growing process, described as the constructed way of knowing, is an integration and revision of the positive elements of the previous "ways of knowing" and includes an understanding of the contextual and constructed nature of knowledge (Belenky, et al., 1997). This pattern is very similar to the work of William Perry (1970) who developed a model of intellectual development with his research on males that provided the backdrop for the Belenky, et al. (1997) study. According to the *Women's Ways of Knowing* authors:

> To see that all knowledge is a construction and that truth is a matter of the context in which it is embedded is to greatly expand the possibilities of how to think about anything, even those things we consider to be the most elementary and obvious. (Belenky et al., 1997, p. 138)

Based on the viewpoint that the underlying goal is to move progressively through the stages, any educational intervention should involve not only the current method by which information must be delivered to a person in a particular stage, but also the method that will facilitate movement out of that stage and into the next (Belenky, et al., 1997). The following table shows the way in which knowledge is best received and/or processed at each stage:

Table 4

Women's Ways of Knowing: Way of Knowing

SILENCE	RECEIVED	SUBJECTIVE	PROCEDURAL	CONSTRUCTED
shown	hearing	intuition	evaluation	self-examination
	clear-cut		analysis	exploration

Two of the five learning perspectives presented in the *Women's Ways of Knowing* framework are highlighted in the next sections, as they have been found in previous research to be the most prominent "ways of knowing" found in child care providers and elementary teachers (Belenky, et al., 1997; McAninch, 1993).

Received

The received learning perspective is the second of five "ways of knowing" described by the authors. A person operating from this perspective feels voiceless, and her self-concept is embedded in her relationships and roles, and in others' opinion of her. She believes that truth is absolute and that it originates from experts and authorities. For this person, words are central to the learning process and she learns best by listening to trusted authority. Research has shown that many elementary school teachers operate as received knowers (McAninch, 1993). This "way of knowing" is a unique barrier to the ability to effectively learn and employ various theories such as those presented in a typical child development course. This is because received knowers tend to naturally disregard theoretical knowledge and application when theories seem to differ from each other and can be seen as competing with one another. Because received knowers believe in absolute truth as it comes from authority, they are more comfortable with one right answer rather than competing alternatives (Belenky, et al., 1997). Interestingly, while a

person is in the received phase, free-form academic environments can be very irritating. Because of the burdens outside her academic pursuits, she doesn't want to add the burden of "mapping out her own structure" (Belenky, et al., 1997, p. 204).

Subjective

The third perspective described by the authors is the subjective perspective. A person operating from this perspective is gaining her voice and sense of self. Truth is still considered absolute, but its origin has moved from outside authorities to the self. As a result, experts and authorities are disregarded to make way for experience, the primary teacher. Some research has indicated that the majority of elementary school teachers operate in this subjective way of knowing, causing them to rely most heavily on personal experience as a way of informing practice. Teachers have been described as "highly intuitive and unanalytical," relying on their own personal experience and that of their peers (McAninch, 1993, p.7). Their practice is "craft embedded," meaning that it revolves around ideas, techniques, and products rather than theoretical strategies and the like (McAninch, 1993, p. 8).

Exposure to methodology and procedures that analyze various knowledge claims and points of view, or as the authors describe, a new "language" with which to express your opinion, a process to analyze it all, can be helpful during this stage. The learners are expected to engage the knowledge itself, not just their feelings about it. The student learns through this type of educational process that gut feelings are not infallible (Belenky, et al., 1997).

Learning Preferences of Women

Beyond the specific ways in which each "knower" best receives knowledge at a

certain point in time, there are several recommendations given by the authors as to how women in general most effectively learn. None of these is a stand-alone concept, with each overlapping the others in some way (Belenky, et al., 1997).

Reliance on relationships.

One of the underlying assumptions about women in general made by the *Ways of Knowing* authors is their reliance on relationships in learning. As stated above, viewing the five perspectives presented by the authors in terms of progressive developmental stages reveals that movement toward connectedness is progress (Belenky, et al., 1997). "Connected teaching" is described as a method in which the expert examines the needs and capacities of the learner and composes a message that is…'courteous' to the learner" (Belenky, et al., 1997, p.194). It involves demonstrating trust in the learner's abilities and own knowledge by recognizing and possibly even giving credit for products of a personal nature, giving personal praise and approval, and assessing student's current knowledge for use in planning and curriculum development in order to "support the evolution of their students' thinking" (Belenky, et al., 1997, p. 218).

Also included in the concept of connected teaching is the practice of breaking into small groups, preferably long term and grouped by affinity, engaging in collaborative explorations and allowing for criticisms. In addition, the instructor may show the process by which personal conclusions were reached, exposing not only successes, but also failures in thinking in order to expose her own critical reflection. Other goals are to construct truth not through conflict but through consensus and as an instructor to be totally and non-selectively present to the student during interactions (Belenky, et al., 1997).

The “feminine mode of teaching” is a separate but related concept presented by the authors that involves in part the giving of theory or particular language that will help to describe some established experiential knowledge. It is a concept described as teaching with a goal to be “realer” and “see things close at hand” (Belenky, et al., 1997, p.199). It involves giving the learners opportunities for firsthand observation and in-context learning. More specifically, it includes attempts to tap into the knowledge students have used in child rearing and then to attribute value to that type of knowledge. To teach in the feminine mode is to acknowledge the varied nature of maternal thinking, taking into consideration that something does not have to be replicated exactly the same way in every situation to be real. Teaching in this way would involve giving reasons to explain observations and experiences along with shared language to explain and describe established experiential knowledge (Belenky, et al., 1997). One could take this method and apply it to those who have had experiences teaching young children in a classroom as well.

Balance between freedom and structure.

Another element important to the educational experience of women described by the authors was that of the balance between freedom and structure in the completion of the course and overall educational experience. Because many women operate as received knowers, which is a dualistic way of understanding truth (right vs. wrong, black vs. white), a free-form academic environment can be very irritating and may turn them off completely. Conversely, too much structure can be suffocating and alienating as well. Therefore, the recommendation is to provide balance between the two (Belenky, et al., 1997).

Midwife vs. banker teacher.

A contrast is described between what the authors refer to as midwife teaching and banker teaching. These concepts are derived from the work of Freire (1970). The goal of the banker-teacher is to instill knowledge into the learner by providing the information, essentially depositing information into the learner, much like a banker deposits money into the bank. The midwife teacher is one who seeks to draw out knowledge from within the learner rather than depositing information into her. This type of teacher is "one who would help them articulate and expand their latent knowledge" (Belenky, et al., 1997, p. 217). The term midwife is used because the teacher assists the students in giving birth to their own ideas and does not do the students' thinking for them. The midwife teacher has concern for the students' emerging newborn thoughts and supports the evolution of their thinking. The focus shifts from the instructor's knowledge to the students' knowledge as it specifically relates to practical, everyday life. The learning cycle then is confirmation-evocation-confirmation (Belenky, et al., 1997).

This view of learning falls in line with constructivist views of learning. Clearly, the learning that occurs is a construction of knowledge by the learner with the assistance of a facilitator-teacher (the midwife). Departing from the Piagetian view somewhat is the lessened focus on conflict and the heightened focus on confirmation. Hearkening back to the "feminine mode of teaching" described above, the midwife teacher model affirms rather than challenges current knowledge as the springboard for new.

Online higher learning environments

Growth

In their final report of an eight year ongoing study of online education in the

United States, Allen and Seamen (2010) provide staggering statistics from their survey of institutions nationwide. Estimates showed that the number of students taking at least one class online had risen to 5.6 million in the fall of 2009, as compared to 1.6 million students in the fall of 2002. The largest increase occurred between 2008 and 2009, with 1 million more students taking at least one online course in 2009 (Allen & Seamen, 2010).

The view of academic leaders regarding the quality of online learning has gradually increased over time, with public university academics leading the way. Still, according to the 2010 report, "one-third of all academic leaders polled continue to believe that the learning outcomes for online courses are inferior to those for face-to-face instruction" (Allen & Seamen, 2010, p. 10). Survey results indicate that those with more online course offerings generally have a more favorable view of the quality of online learning. However, the authors do point out their own dilemma:

> One question that a series of survey snapshots cannot address is which came first – is it that those institutions with a positive opinion towards online are more likely to implement and grow online courses and programs, or is it that institutions with experience with online develop a more positive attitude as their online offerings grow? (Allen & Seamen, 2010, p. 11)

Quality

Research conducted on the quality of online learning environments began in the 90's with multiple studies comparing online to face-to-face contexts in terms of significant differences. Many studies showed no significant difference between the two types of delivery on student learning outcomes. More recently, studies have begun to focus more heavily on teaching methods rather than modes of delivery. Therefore, there

continues to be no generally accepted measure of the quality of online learning environments (Mitchell, 2009).

Most studies investigating higher learning delivery methods have historically focused on the traditional student, a person who is 17-22 years old and who in our current point in history is commonly referred to as a "technology native." The student-participants in the study presented here range in age from 28 – 56 years old and vary widely in their previous exposure to technology, and in particular technology use in learning environments. Research on these non-traditional, older adult students has focused primarily on live, face-to-face classroom environments. Little research has addressed how these students navigate through an online course as compared to the face-to-face classroom setting.

A 2010 study by Fengfeng sought to fill that gap through the use of a case study design, interviewing both instructors and students to obtain reactions and evaluations of the online learning experience. The researchers outlined particular elements of online teaching that can address the needs of adult learners specifically. A prominent finding of this mixed-methods study was that the grading of online discussions had a negative effect on the students' willingness to conduct personal inquiry and social construction of knowledge. According to the author, results indicated that there seemed to be a "prevalence of one-way, individualistic, and superficial interactions. Consequently, participation in online interactions becomes more grade-driven than collective-inquiry-oriented" (Fengfeng, 2010, p. 818). The author concluded that because of this trend, online text may not be the best way to determine cognitive presence.

Constructivism Online

Constructivism is considered by many to be an increasingly dominant foundational theory for pedagogy in online education (Garza-Mitchell, 2009). Indeed, the online learning environment has many elements that are central to constructivist education. For example, in the online environment, the individual student is at the center of the learning experience, rather than the instructor. It is certainly more difficult for the instructor who seeks to maintain a more visible role to do so in the online environment. Within this situation, students are forced to actively participate in their own learning process. There are multiple choices left up to the student such as where they will study, how they will study, and even what they will study in the online environment that are not as readily available in traditional face-to-face courses. Online learning environments can also be especially conducive to context-based or work-based learning, opportunities to take personal responsibility to record and reflect upon their own learning, actively participate in "seeking out information, making connections, and building knowledge" and communicate with other learners without the barriers of time and place (Paurelle, 2003).

Synchronous vs. Asynchronous Class Discussion

Class discussion has traditionally been considered a major part of designing a learning environment for adults that is conducive to constructivist learning. In traditional, live classrooms, class discussion can take place fairly naturally as the instructor takes the lead by asking open-ended questions based on the class session goals and facilitating the conversation throughout.

The primary difference between the contexts of the two course sections

investigated by the study presented here is the class discussion element. Beyond the obvious difference of the physical or non-physical presence of the discussion participants, there are other distinctions between the two as well. While one discussion was held in a physical classroom synchronously, the other was held in an online, virtual environment over the period of a week – asynchronously. This is a significant difference that has been generally considered problematic in terms of students' ability to perceive the discussion as being a conversation, such as what might occur in a traditional classroom setting. This perception, in turn, affects their learning in terms of their opportunity to socially construct knowledge in the online environment. This difference has caused many in the early childhood field in particular to balk at the very idea of delivering early childhood course work online. Indeed, research has shown that the online environment can feel very lonely for many students. Self-reports have indicated that students in these online environments, particularly older adult students who are less accustomed to interacting electronically, struggle to feel connected to their instructors and fellow classmates. However, research is beginning to demonstrate that this situation does not need to exist just by nature of the online environment.

A key component of establishing a feeling of connectedness for students is the felt presence of the teacher. Some recent studies have sought to understand how students come to feel teacher presence in the online environment. In one such study, it was found that through careful course design, instructors can make their presence known more effectively. For example, ensuring that students "knew the course learning objectives, understood and followed the instructions, believed that the objectives were met, and believed they were part of a learning community overall" were found to be effective ways

to ensure teacher presence was felt (Jones, 2011, p. 99). This study of two law courses also found that the online discussion board and creating group projects for students to participate in were key factors in this as well (Jones, 2011).

Conclusion

Creating and evaluating environments that facilitate constructivist processes is a compelling and worthy goal that is also very difficult to accomplish. A comprehensive evaluation of attempts toward such an accomplishment can be even more elusive. A working knowledge of the prominent ideas related to the application of constructivist ideas to teaching and learning environments, enhanced by attention to a particular model (*Women's Ways of Knowing)* that emphasizes the female experience within constructivist education environments assisted the study presented here by providing the backdrop for study design and analysis of data. The following chapters will describe the design of the study and findings.

CHAPTER III:

METHODOLOGY

This study was designed to explore elements of constructivist education in the delivery of two sections of a course entitled Child Development, one face-to-face section and one online section, as well as the constructivist processes found in the experiences of each group of students who completed the course with the same instructor, but in the context of two very different modes of delivery. This study of both face-to-face and online environments adds to the understanding of constructivism in online courses and in early childhood teacher education in general.

In order to establish a comprehensive view of the presence (or absence) of experiences that could be identified with such a multi-dimensional theory as constructivism, I created two research questions to guide the study:

1. What elements of constructivist education are evident in online and face-to-face instructor and participant data?
2. What kinds of processes are evident in online and face-to-face participants' course documents, student-instructor communications, online discussions, and reflections of their experiences in the course?

Each of these two questions took the investigation in a distinct direction, and together required a complex process of study preparation, data collection, and data analysis. The

first research question required an in-depth investigation of my own planned and enacted curriculum. The second question required a focus on the experienced curriculum, and thereby an in-depth investigation of the lived experiences of the student-participants as they navigated their way through each section of the course. Therefore, the investigation of these questions placed this study in line with current definitions of teacher research (Cochran-Smith & Lytle, 1999) as well as hermeneutic phenomenology as described by van Manen (1990).

For this qualitative study, I explored student and instructor reflections of the course, course documents including assignment instructions and student products, individual student-participant interviews, online discussion forums, and student-instructor correspondence. This chapter provides the details regarding the theoretical framework for the study and the appropriateness of the use of qualitative methods within that framework. I describe the particular aspects of qualitative methodology that were used in conducting this study, and the rationale for the use of those methods in investigating these questions. I have also included a general description and rationale for the qualitative interview using an interview guide and analysis of course documents. Finally, I present my rationale regarding the addition of the researcher voice in both the analysis and representation of the study.

Theoretical Framework

Constructivism is, at the same time, the subject under study and the theoretical framework behind this study. Defined by Fosnot (1996) as a "post-structuralist psychological theory…that describes how structures and deeper conceptual understanding come about" (p. 30), constructivism, when used as a theoretical

framework, arguably mandates the use of qualitative methods that can provide enough depth to adequately explore the complex interplays in experience that can reveal the process whereby individuals come to conceptual understandings. Therefore, I employed a constructivist methodology to select data sources and create the methods for analyzing data. Methods used for collecting and analyzing data to investigate both questions followed a similar pattern for each that I will describe below.

Constructivist Education

As described in Chapter II, the term "constructivist education" can be used to encompass many different approaches to planned and enacted curriculum. To investigate my first research question regarding the presence of constructivist education in my planned and enacted curriculum, I chose to follow certain authors whose particular approaches seemed to hold the most appeal to me personally. They are Catherine Fosnot, Kathryn Castle, and Virginia Richardson. To provide the context for this study, and especially the comparison of the two different modes of delivery, face-to-face and online, I designed the course curriculum to be as similar as possible between the two methods of delivery, and to follow principles of constructivist education. This is outlined in Table 5 below. Particularly helpful in enacting the curriculum was the following description of the professor's major role in creating an environment that follows constructivist principles through the use of a major class project that facilitates meaningful student inquiry:

> The professor's major role is to introduce the project, initiate interest, organize the collaborative groups, provide class time for discussion, draw attention to inconsistencies in explanations, introduce disequilibrium, and attempt to

understand students' understanding of constructivism. During moments of disequilibrium, students need support and encouragement from the professor and from peers. Time must be spent at the beginning of the course in establishing a classroom atmosphere of trust and security. Small collaborative groups need time to establish themselves and commit to mutual objectives. Students need to feel accepted, comfortable, relaxed, and affirmed. They can be encouraged to take risks, ask questions, ask for clarification from others, formulate hypotheses, and experiment. Classroom time can be provided for discussions, debates, and experimentation. Journal keeping and paper writing promote reflection and lead to developing insights about teaching and learning (Castle, 1997, p. 65).

These particular elements of creating an atmosphere that facilitates constructivist processes were kept in mind regarding design and implementation of the curriculum in each of the course sections, and subsequently the analysis of data coming from the planned and enacted curriculum data sources. To bring clarity to this process, the following specific principles were pulled from all three authors:

- Attend to the individual and respect students' backgrounds and developing understandings of and beliefs about elements of the domain (Richardson, 2003, p. 1626).
- Provide class time for discussion (Castle, 1997, p. 65). Facilitation of group dialogue that explores an element of the domain with the purpose of leading to the creation and shared understanding of the topic (Richardson, 2003, p. 1626).
- Allow learners to raise their own questions, generate their own hypotheses and models as possibilities, and test them for viability (Fosnot, 1996, p. 29).

- Offer challenging, open-ended investigations in realistic, meaningful contexts, allowing learners to explore and generate many possibilities, both affirming and contradictory. (Fosnot, 1996, p. 29).
- Introduce disequilibrium (Castle, 1997, p. 65). Illuminate, explore, and discuss contradictions (Fosnot, 1996, p. 29). Draw attention to inconsistencies in explanations (Castle, 1997, p. 65).

These principles were utilized in two distinct ways. First, they provided guidance for the planned and enacted curriculum during the preparation of the context for the study. Then, during the analysis phase, they provided the themes to sift the data that had been gathered from the planned and enacted curriculum for each course section and mined for emerging themes. This entire process was carried out in order to investigate research question one.

Constructivist Processes

As demonstrated in Chapter II, much has been postulated over the last several decades regarding how to identify constructivist processes. Based on my assumption of their appropriateness to this particular context as well as the high level of agreement among scholars about their relevance in higher education contexts in general (e.g. Castle, 1997), I chose the following themes to sift the data: interest, questioning, thinking about thinking, social interaction, cognitive disequilibrium, sense making, and theory building.

According to DeVries and Zan (1994), "Adults are often capable of constructive effort even when interest is at a low level...however, the absence of interest can prevent effective effort. When our interest is thoroughly engaged, our efforts are most productive" (p. 63). Therefore, interest plays an integral part in not only facilitating

productive effort but as an indicator of constructivist principles at work in an educational environment (Castle, 1997).

When students raise their own questions, they are engaging in the learning process in a way that reflects constructivist principles at work. Inquiry is a key element of constructivist processes. However, it must be student inquiry and not teacher inquiry that provides the impetus for construction of knowledge by the learner. Thinking about thinking is a process that generally occurs through intentional reflection of knowledge construction. Several elements of the planned curriculum for this course were designed to encourage this type of reflective thinking. The primary evidence for thinking about thinking came from the mid-term reflection. Throughout the class discussions and activities, I planned experiences that were meant to initiate students' reflection on classroom teaching and child care program administration practices.

Social interaction is a key component of constructivist processes. As described above in the literature review, the leading scholars argue that Piagetian constructivism inevitably involved interactions with others, as learners are always interacting in some way with others (e.g. DeVries, 1992; Kamii, 1992; Castle, 2004). Class discussions, both in the traditional classroom and in online discussion boards, group project reflections, and interviews revealed elements of social interaction present in each context.

Cognitive disequilibrium is also referred to as cognitive confusion. "Disequilibrium occurs when students puzzle over inconsistencies, conflicting views, exceptions to the rules, or events that do not appear to make sense" (Fosnot, 1989 as cited in Castle, 1997). Disequilibrium is considered a part of the process toward a deeper understanding because of its ability to compel students toward attempts at sense making.

Evidence of cognitive disequilibrium was found in various data sources, including the analyzed results of the investigation of question two.

Sense-making activities provide evidence that students are actively engaged in the learning process, that they are constructing knowledge. In the Castle (1997) study, students "questioned, looked for patterns, developed insights, came to conclusions, and related their own learning to...their own teaching" (p. 62-63). The primary data source providing evidence for sense making in this study was the Proficiency Project (Appendix B). Theory building is the culmination of the assimilation and accommodation process (Piaget, 1970). Theory building was intentionally facilitated through the final reflection (Appendix D), and therefore the majority of evidence related to this theme was found in these reflections.

During the final analysis phase, the themes described above provided the categories to sift the data that had been gathered and mined for emerging themes related to the experienced curriculum for each course section. This process was carried out in order to investigate research question two.

Qualitative Methodology Rationale

A constructivist epistemology postulates how we know what we know. While many attempts are made to observe how people come to know what they know, a qualitative methodology is especially appropriate for the study of such a personal and complex process. As Patton (2002) describes, qualitative inquiry "makes possible description and understanding of *both* externally observable behaviors *and* internal states (worldview, opinions, values, attitudes, and symbolic constructs)" (p. 48). Gathering data that is textually rich and personal provides the kind of data that can offer insight into the

complex process these participants have gone through in their construction of knowledge. Qualitative methods allow the researcher the ability to layer both data collection and analysis processes so that a deeper understanding of the phenomenon can be reached (Patton, 2002).

As a teacher research study, this study was an investigation of my own teaching practices, specifically the elements of the planned and enacted curriculum that represented constructivist education principles for teaching. As Cochran-Smith and Lytle (1990) argue, "teacher-researchers are uniquely positioned to provide a truly emic perspective that makes visible the ways students and teachers together construct knowledge…Because their research process is embedded in practice, the relationship between the knower and known is significantly altered" (p. 448).

As a hermeneutic phenomenology, this study was an investigation of the lived experiences of my student-participants as they experienced the course. As van Manen describes, it was an attempt on my part to "reflect phenomenologically on experiences of teaching…as a teacher…In other words, I attempt(ed) to grasp the pedagogical essence of a certain experience" (van Manen, 1990, p. 78).

Research Context

Participants

Face-to-face.

Of the 19 students enrolled in the course, 17 worked full time in the field of early childhood while taking the course. One has not yet had a job in the field, and one worked part-time as a teacher in a mother's day out program. To provide rich description that will assist in placing the findings of this study in context for the reader, I describe the

participants more in depth in chapter five, using excerpts from their personal summaries that relate to childhood family and educational experiences in the Bronfenbrenner Ecological Systems paper (Appendix F).

Online.

Of the eleven students that completed the course, all but two were currently working full time in an early childhood program. Several were family child care home providers. Excerpts from the Bronfenbrenner Ecological Systems paper of those that participated in the study are provided in chapter five as well, alongside the face-to-face participant descriptions.

Child Development

ECEA 2113: Child Development (Appendix A) is a course that introduces students to the most common theories of child development. The child's physical, cognitive, and social and emotional development is explored. As students move through the semester, they are exposed to basic child development information in chronological order from prenatal to elementary school age. The information is presented in four stages: infant, toddler, preschool, and school age. Concurrently with this chronological progression is a presentation of major theorists in the field of early childhood education. These major theorists include John Dewey, Maria Montessori, Erik Erikson, Jean Piaget, Lev Vygotsky and Urie Bronfenbrenner.

As stated earlier, the planned curriculum of ECEA 2113 was aligned with selected principles or imperatives that have been presented by Catherine Fosnot (1996), Virginia Richardson (2003) and Kathryn Castle (1997) regarding how to apply the constructivist approach in educational settings. Course activities were created and categorized

according to each selected principle for each section of the course – the online section and the face-to-face section.

The following chart is a representation of pieces of the planned curriculum that were designed to align with a particular guiding principle or teacher role recommendation:

Table 5

Planned Curriculum for Child Development

Principle/recommendation to apply the constructivist approach: Attention to the individual and respect for students' background and developing understandings of and beliefs about elements of the domain (Richardson, 2003, p. 1626).	
Planned Curriculum piece: *Bronfenbrenner Ecological Systems paper.	
Principle/recommendation to apply the constructivist approach: Facilitation of group dialogue that explores an element of the domain with the purpose of leading to the creation and shared understanding of the topic (Richardson, 2003, p. 1626). Provide class time for discussion (Castle, 1997, p. 65).	
Planned Curriculum piece:	
Face-to-face Section *****In-class discussion along with instructor facilitation and feedback	**Online Section** *Online class discussion along with instructor facilitation and feedback
Principle/recommendation to apply the constructivist approach: Allow learners to raise their own questions, generate their own hypotheses and models as possibilities, and test them for viability (Fosnot, 1996, p. 29).	
Planned Curriculum piece: *****Students create three observation questions to use as a guide for personal observation and analysis (in Proficiency Project).	
Principle/recommendation to apply the constructivist approach: Offer challenging, open-ended investigations in realistic, meaningful contexts, allowing learners to explore and generate many possibilities, both affirming and contradictory. (Fosnot, 1996, p. 29).	
Planned Curriculum piece: *****Student analysis of observations based on their own questions (in Proficiency Project).	

Principle/recommendation to apply the constructivist approach:
Illuminate, explore, and discuss contradictions (Fosnot, 1996, p. 29). Introduce disequilibrium (Castle, 1997, p. 65).
Planned Curriculum piece
*Introduction of unfamiliar and/or unwelcome concepts, ideas. *Individual detailed Instructor feedback on Proficiency Project.

Face-to-face.

Class sessions for the face-to-face section of Child Development occurred once each week on Monday evenings from 7:05-9:30pm for 16 weeks. On several occasions, class concluded before 9:30pm, but stayed in session for the duration of the scheduled time most class periods. Though each class session was unique, there was a general pattern of regular activities. Most class sessions began with announcements (due dates, returned papers, etc.), followed by a mini-lecture introduction to the topic. Following this, there were several variations to how the course content was delivered or investigated. During multiple class sessions, the class was divided into small groups and asked to read or re-read portions of the assigned chapter. They were given some direction about what to discuss, what to look for, questions to answer, etc. Following this time, they were asked to report to the whole class their discoveries or interesting points of discussion related to the question. Another mini-lecture generally followed each report, in an attempt to synthesize information and encourage additional construction or deconstruction of ideas related to the topic.

One class session was reserved for students to work in their groups on the group project, one class session was reserved for the class presentations, and one class session was used to demonstrate and engage the students in hands-on learning activities for young children's cognitive development. At some point during almost every class period,

time was spent discussing the proficiency project.

Online.

The online course was held on the university system's online classroom web site, entitled Desire to Learn. This was my second semester to teach in Desire to Learn, though I was familiar with the system as a student. My previous experience teaching online was using Moodle, a similar operating system for online learning.

My general pattern for teaching this class is to post the syllabus and course schedule, along with all supporting documents inside the Content section. Each week, I posted announcements in the News section, the section that opens up for students upon login (see Appendix I). Announcements primarily included reminders about what was due and when, along with consistent offers for personal assistance if needed. There is a section called the Dropbox, where the students place their completed assignments. There is also a section called Grades, where students can see their grades as they are posted. I did not use the Quizzes section, opting instead to have my students complete the same essay-style reflection papers that the face-to-face students completed. Finally, the discussion forum was used weekly to host asynchronous discussions with the students.

Data Sources

Data sources for this study included course assignments, instructor reflections, qualitative interviews, online discussion forum text, and student-instructor electronic communication. The course assignment descriptions and qualitative interview description are given here, followed by an explanation of the process of collecting the data from the research participants.

Course Assignments

Artifacts included in each round of analysis were mid-term reflections, final reflections, proficiency projects, group projects, the Bronfenbrenner summary paper, and group project reflections for all that agreed to submit these assignments for analysis. Also included as artifacts were student-instructor electronic correspondence, electronic discussion forums and chats, instructor reflections, and mid-term and final reflections.

As described in Table 5, the course assignments for Child Development were designed with particular elements of certain definitions of constructivist education in mind. One assignment in particular carries the weight of student responsibility regarding graded projects for this course. The assignment is called Proficiency Project (Appendix B), and is primarily a reflection on observations. The students are required to observe for at least ten hours total, distributed as observing one child for two hours from each age group: infants, toddlers, preschoolers, and school agers. The two additional hours could be used to observe any age group.

This project was the primary tool in my mind for creating a "constructivist education" environment. I was intentionally vague in my instructions for this project, and let them know that they were free to format the project as it made sense to them, as long as the project contained the elements that I asked for:

- running records of observations
- summary of observations with analysis based on developmental checklists and theories of child development and three questions of their own about each age group

- activities designed for that child (with interest centers, early learning guidelines for preschool, etc.)

I did not give them a page/length requirement or an outline of how it should be laid out. I did provide tools to help with observations, such as developmental checklists and forms for organizing observation notes during the observations (Appendices I, J). My intention in withholding examples and certain details was to move toward a more student-centered process, in which students could have control over certain elements of the project. This is a practice that I encourage students to use in their work with young children, so that the children can have freedom to construct their own knowledge by using their own interests and ideas to experiment and try different ways of working through a project.

Within this project, individual pieces were designed to fall in line with a specific principle or recommendation from Fosnot (1996), Castle (1997) and Richardson (2003) regarding planned curriculum that can be considered constructivist. For example, the creation of three observation questions to use as a guide for observation, analysis, and development of activities to meet that child's individual needs was designed to "allow learners to raise their own questions, generate their own hypothesis and models as possibilities, and test them for viability" (Fosnot, 1996, p. 29). The actual analysis portion of the assignment in which students are asked to take the summaries of their observations and compare with established developmental knowledge and theory was designed to "offer challenging, open-ended investigations in realistic, meaningful contexts, allowing learners to explore and generate many possibilities, both affirming and contradictory" (Fosnot, 1996, p.29).

Bronfenbrenner Ecological Systems summary paper.

The Bronfenbrenner Ecological Systems paper was designed to communicate to the students my personal value for their stories and past experiences as well as highlight in an authentic way the ecological systems model. I was hopeful that the students would engage in this assignment with an understanding that I was personally interested in their lives and situations, thereby communicating to them my "attention to the individual and respect for students' background and developing understandings of and beliefs about elements of the domain" (Richardson, 2003, p. 1626).

In reading these summaries of the students' childhood experiences for both sections, I was moved by the depth and honesty that was evident in their writing. On the whole, students described not only events and facts, but added their feelings and reflections as well. The assignment itself is very straightforward, asking students to respond to description prompters (Describe your family, your school and teacher, etc. – see Appendix F) at a particular time in their childhood (example given is age 10). Included in the instructions is the option to illustrate creatively using photos, cartoons, etc. None of the students from either section chose to use any artistic illustration. Instead, they created very nice word pictures through their detailed descriptions. Interestingly, the writing mechanics (spelling, grammar, sentence structure, etc.) were remarkably better on this assignment than on others.

Group presentation.

The group presentation (Appendix E) was designed to follow two constructivist principles highlighted by Castle (1997) and Branscombe, et. al, 2003: student interest and learners presenting what they know. For the face-to-face section, the way I chose to

divide the students for the group project was to list the five theorists on the board and then have the students write their name under the theorist they were most interested in. With slight adjustment (and grouping the absentees together), the groups were formed in this way. Undoubtedly, some students chose their theorist based on who else had signed up before them. There was no rhyme or reason to the timing of the sign ups – they just came up on their own. To help them understand how to complete the project, I gave them a document with the requirements listed, and verbally explained how they should put it together and present it. I answered questions that were raised in class so that all could hear.

For the online section, I requested that students email me the name of the theorist (from the five choices) that they were most interested in learning more about. Several students responded right away, several responded with additional prodding, and several did not respond at all. Two of the students that were personal friends outside of class decided together on a theorist so that they would be placed in a group together. I divided the students up according to their preferences, and then filled in the spots with those that had not responded.

Theory worksheet.

A standard assignment in this course was a one-page assignment entitled Theory Worksheet (Appendix K). This assignment is simply a match-up between a list of theorists or theories and their definitions. In order to appease my personal distaste for the format of this assignment, I chose to facilitate a large group discussion to complete it. This discussion was conducted in a very similar way in both the face-to-face classroom and in the online section.

During the face-to-face class session, we read together each definition, and then I called for thoughts about what that definition might represent. We discussed each one briefly as a group, gathering several different ideas, and then came to a conclusion about how to label that definition. This procedure was conducted in a very similar way in the online classroom through the use of a live chat session (Appendix L).

Final reflection.

In designing the final exam/reflection (Appendix D), my intent was to create a situation in which the students were required to confront themselves with both agreed upon and conflicting ideas found within the various theories we had studied, analyze these based on their own thoughts and experiences, and come up with a new theory that encompassed both. This experience was intentionally designed to elicit within the students the process of accommodation described by Piaget, in which the learner engages in theory building as a way to reconcile conflicting views while maintaining their own independent thoughts, thus moving toward autonomy.

A second scenario was presented within the reflection that asked students to respond to a parent who complained about the amount of time spent in play. This question also required accommodation in that students were to synthesize theory related to children and play, and use their own thoughts stemming from personal experience to formulate their answer. In the face-to-face classroom, the students completed this reflection paper in class, with their textbooks and notes available to them for reference. In the online classroom, they were given a certain amount of time to complete the reflection, open book as well.

Qualitative Interview

I chose to use a formal qualitative interview to glean from each participant her perceptions regarding her experiences in the course. I used the interview guide approach as described by Patton (2002), which follows topics and issues that have been determined in advance, has been designed in an outline form, and allows for flexibility by the interviewer in terms of sequence and additional prompts used. Using this type of open-ended outline allowed for a systematic procedure in which important topics were discussed, yet allowed the flow of the conversation to lead as is needed to gain all of the relevant pieces potentially present in that participant's retelling of her experiences.

Each participant chosen for an interview was interviewed once, and each interview lasted approximately 30 to 45 minutes. These interviews lasted between 30-45 minutes approximately, and took place at a variety of locations, all based on the personal preference of the participants. One took place at a Starbucks, one at the participant's home, three in the classroom in which the course was held, and five in my office. Participants from the fall 2010 face-to-face course section were interviewed during the spring 2011 semester. Participants from the spring 2011 online section were interviewed during the summer 2011 semester.

All interviews were audio recorded using a digital recorder, and I transcribed them personally following the completion of the interview. Transcription took place as soon as possible following the completion of the interview in order to preserve my ability to include any relevant non-verbal cues. The purpose of the interview was to address any questions coming from the initial analysis of the course assignments, as well as to initiate conversation that could reveal experiences related to the identified themes of interest,

disequilibrium, social interaction, questioning, making sense, thinking about thinking, and reflecting on teaching (Castle, 1997).

Collection of Data

This study was originally designed to be conducted using participants from two different sections of Child Development (one online, one face-to-face) during the same semester of fall 2010. At the close of the fall 2010 semester, there were enough participants from the face-to-face section that gave consent to participate, but only two from the online section gave their consent to participate in the study. Therefore, I chose to continue with the same course design and delivery for the spring 2011 online section and alter my time line for completion of data collection.

I gathered data from the fall 2010 face-to-face participants directly following the completion and submission of final grades for that class. This included conducting one-on-one interviews and the gathering of course documents and materials. Initial review and analysis of course documents following the highlighting approach, (van Manen, 1990) took place before interviews were completed. I followed the same process of data collection for the spring 2011 online section after completion and submission of final grades for that class, and after a satisfactory number of students gave consent to participate.

Face-to-Face Section

Following the completion of the fall 2010 semester, all students from the face-to-face section of Child Development were invited to participate in the study. As the semester ended, I mentioned to the face-to-face students that I would be conducting a research study following the conclusion of the semester and would invite them to

participate. I emphasized to them that participation in my research study was in no way related to their own studies or participation in the class or future classes. I then contacted each of them through email following the posting of final grades. I asked each of them to provide the following course assignments as sources of data:

- Bronfenbrenner Ecological System Summary Paper
- Mid Term Reflection
- Final Reflection
- Proficiency Project
- Group Presentation and Reflection – Theories of Childhood

In addition, I asked each to grant permission for participation in the following:

- two one-on-one interviews
- one focus group session

Of the nineteen students that completed the course, twelve responded to my request by agreeing to submit one or more data sources. Although more than five students gave permission to conduct an interview, I chose to only interview five, per my original intent for number of interviewed participants. The five that were interviewed were the first five that returned the consent forms granting this permission (see Table 6).

Though several gave permission to conduct focus groups and a second interview, I decided not to pursue these avenues for gathering data, as I was finding great difficulty in scheduling a focus group session and felt that the data collected through the first interview and course document analysis was sufficient to address the research questions. The following chart illustrates the actual data sources provided by each participant. Participant names are pseudonyms to protect personal identity.

Table 6

Face-to-Face Research Participants and Data Sources

	Interview	Summary Paper	Mid Term	Final	Proficiency Project	Group Project
Sandy			X			
Kelly		X	X	X	X	X
Precious		X	X	X	X	X
Deanna		X	X	X	X	X
Carol	X	X	X	X	X	X
Lisa	X	X	X	X	X	X
Avery	X	X	X	X	X	X
Maria	X	X	X	X	X	X
Takyra	X	X	X	X	X	X
Sarah		X	X	X	X	X
Betty		X	X	X	X	X
Tina			X			

Online Section

Following the completion of the spring 2011 semester, all students from the online section of Child Development were invited to participate in the study. I chose not to mention the study to this group of students until after the semester was completed. I contacted each of them through email following the posting of final grades. I asked each of them to provide the following course assignments as sources of data:

- Bronfenbrenner Ecological System Summary Paper
- Mid Term Reflection
- Final Reflection
- Proficiency Project
- Group Presentation and Reflection – Theories of Childhood

In addition, I asked each to grant permission for participation in the following:

- two one-on-one interviews

- one focus group session
- Instructor/Student Correspondence (Email)
- Online discussions (discussion forum, live chat)

Of the eleven students who completed the course, seven responded to my request by agreeing to submit one or more data sources. However, I was only able to make contact with five of these students in order to obtain written consent to participate. All five students agreed to participate in an interview, and I chose to conduct an interview with four of them. Again, this decision was based on timing of consent. I chose the first four that gave consent for an interview. In addition to this, though several gave permission to conduct focus groups and a second interview, I decided not to pursue these avenues for gathering data, since once again I was finding great difficulty in scheduling a focus group session and felt that the data collected through the first interview and course document analysis was sufficient to address the research questions. Therefore, the following chart illustrates the actual data sources requested from provided by each participant. Participant names are pseudonyms to protect personal identity.

Table 7

Online Research Participants and Data Sources

	Interview	Summary Paper	Mid Term	Final	Proficiency Project	Group Project	Email	Discussion Forum
Martha		X	X	X	X	X	X	X
Linda	X	X	X	X	X	X	X	X
Kathy	X	X	X	X	X	X	X	X
Melissa	X	X	X	X	X	X	X	X
Emma	X	X	X	X	X	X	X	X

Data Analysis

The data collection and analysis for this study was a complex process that involved several rounds of data collection and analysis. As described above, each research question required a different approach, and there were two different sets of participant data to work with. Interviews were conducted soon after course assignment documents had been collected and reviewed. I transcribed each interview personally, and added them to the other course documents that included student assignments and instructor reflections for the face-to-face section, with online discussion forum text, emails, and online news page announcements added to the online section data set.

Ultimately, I analyzed four complete sets of data within two distinct phases of the study: two sets of the face-to-face data immediately following the fall 2010 semester, and two sets of the online data following the spring 2011 semester.

As the first step in data collection and analysis following the completion and transcription of qualitative interviews for each section, all documents were copied and divided into two sets for each group of participants. The sets were not necessarily identical, as some data sources were deemed to be relevant to one research question and not the other. However, much of the same data was included in both sets. Each set of documents was then analyzed based on the unit of analysis for each research question. So, to investigate question one, documents were analyzed using constructivist education as the unit of analysis. Then a new set of documents from the same course section participant group was analyzed based on the unit of analysis for question two: constructivist processes. Therefore, the number of pages that were individually analyzed for this study was large, at over 1000 pages of data.

The mid-term (Appendix C) and final reflections (Appendix D) are course assignments in particular that are meant to glean information from students regarding their experiences in the class. The questions are written to elicit both general and specific information that may or may not have been obtained through interaction with the curriculum and with others in the class. Analyzing these reflections provided insight into what questions should be asked during the formal participant interview in order to explore more deeply the constructed knowledge and the meaning making processes of participants.

The process to analyze all data sources followed the same general sequence. For each data source, I began by reading through the document, looking for emerging themes within the unit of analysis found in that particular source for each participant. Continuing to follow an inductive process, I then coded each document according to emerging themes. Coded data for all participants for each section, representing one of the research questions, were grouped together to find emerging themes. Following this process, constructivist education themes were imposed on the emerging themes from the data sources analyzed to answer question one, so sifting of the data according to those categories could be accomplished. I followed the same process for research question two, sifting the emerging themes through the categories for constructivist processes. Following this process, I subjected my thematic schemes to a peer debriefer, a colleague with a background in psychology and experience with both quantitative and qualitative research, who reviewed the themes in relation to the data through a collaborative process over a period of several days in which we debated and discussed and reworked the data. The result of this process was the development of a new schema for each that seemed to

more closely reflect what could be found in the data.

Sensitizing Themes for Analysis

As a constructivist framework was used for selecting data sources and collecting data, so a constructivist framework created the categories for analyzing data. Following the recommendation of Patton (2002) to always begin qualitative analysis inductively, my method for analysis of data for both questions most closely resembled the method described by van Manen (1990). I began with a wholistic approach, in which I scoured the data for overarching themes found in chunks of data. I followed this with a highlighting approach in order to identify units of analysis and find patterns in the data. The unit of analysis for each of my two research questions was a concept I wanted to investigate (constructivist education and constructivist processes), rather than just the experiences of individuals. For this process, then, individual data was combined into course section groups (online group and traditional group) to search for the themes. After themes emerged inductively from the data, the sensitizing concepts were imposed in order to sift the data and determine the presence of these categories in the data. Following this process for each research question, I compared themes across groups (online and face-to-face) to find similarities and differences between. Finally, the results from both investigations were brought together to observe the interplay between constructivist education and constructivist processes. This final process was informed by the imposition of the epistemological framework described in Chapter II called *Women's Ways of Knowing* (Belenky, et al.,1997).

For question one, sensitizing themes came from the selected constructivist education principles gleaned from Fosnot, Richardson and Castle (Table 5). For question

two, sensitizing themes were the seven themes identified by Castle (1997) as being evidence of constructivist processes. These themes are interest, disequilibrium, social interaction, questioning, making sense, thinking about thinking, and reflecting on teaching.

Although the overarching lens used to interpret the results of this piece of the study is the broadly defined concept referred to as constructivist processes, the additional lens of the *Women's Ways of Knowing* framework (Belenky, et al., 1997) provided focus in determining what mediating factors are affecting how these particular students are constructing knowledge within this setting. Because of the unique nature of this study that involves only female participants, this epistemological model that is closely aligned with constructivist views of learning and development was an especially relevant lens with which to interpret the data for research question two. In addition, this particular framework was incorporated in order to engage more fully in the process of reflexivity throughout the reporting of this study, as the framework has been a topic of study for me for several years, and continually impacts my planned and enacted curriculum. In essence, it is an integral piece of the hidden curriculum in my classrooms.

Trustworthiness

The term "trustworthiness" is used to describe the reliability and validity of qualitative research. Several criteria have been outlined by Lincoln and Guba (1985) that may be useful in determining the level of trustworthiness that may be found in a study. These criteria involve credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985). In brief, the use of auditing serves to promote both dependability and confirmability, while the use of member checking and peer debriefing

can be used to ensure credibility (Lincoln & Guba, 1985).

For the study described here, a variety of methods aided in the establishment of trustworthiness of the qualitative data. Credibility was pursued through the use of peer debriefing. Peer debriefing is described by Lincoln and Guba (1985) as "...a process of exposing oneself to a disinterested peer in a manner paralleling an analytical session and for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within the inquirer's mind" (p. 308).

An additional method for addressing credibility was the triangulation of data sources, the use of multiple methods of data collection: participant interviews, online discussion dialogue, instructor reflection, and collection of artifacts. According to Patton (2002), the triangulation of data sources is a method that involves "cross-checking the consistency of information derived at different times and by different means" (p. 559). The triangulation of sources provided the opportunity to compare perspectives among participants, check for consistency between documents and participant perceptions as expressed in interviews and electronic communications, etc (Patton, 2002). I believe that by triangulating sources in this way, I was able to gain a deeper understanding of the topic under study.

An additional consideration related to trustworthiness criteria for qualitative research is the idea of transferability. As a parallel to external validity, transferability refers to the generalizability of results to other cases for which the results may be transferred (Lincoln & Guba, 1985). To this end, I used thick description of the participants and learning environments in order to address transferability by providing enough detail to allow readers the ability to determine generalization to another context.

To provide support for confirmability, an audit trail was kept and triangulation of sources used. The table below provides a visual description of the methods used to address trustworthiness for this study:

Table 8

Trustworthiness Chart

credibility	transferability	dependability	confirmability
triangulation	thick description	external audit	triangulation
peer debriefing			audit trail

Conclusion

Through the process of data collection and analysis, a deeper understanding of constructivist education in online and face-to-face classrooms emerged, along with a deeper understanding of constructivist processes of these two groups of participants as each group navigated through a very different mode of course delivery. In the next two chapters, the findings from data collection and analysis for each research question are presented, along with the cross case analysis comparing the two sections, and conclusions about each unit of analysis in the context of its own study. Following this, a conclusion chapter provides insight from the comparison of the results of both research questions, along with the insights gained from imposing the *Women's Ways of Knowing* framework (Belenky, et al., 1997).

CHAPTER IV: FINDINGS

CONSTRUCTIVIST EDUCATION

> One learns a lot with and from her. She knows so much herself, but she still has lots of respect for whatever we have to offer in class. And she has a very special way of sort of elevating what a student says. It seems like a really reciprocal process. She gets a lot out of teaching us and learning from us, and we learn from her.
>
> Belenky, Clinchy, Goldberger, & Tarule, 1997, p. 127

The author of this reflective statement is a college junior named Naomi who was reflecting on her experience in one elective seminar course in modern drama. Naomi was one of the women interviewed for *Women's Ways of Knowing* (Belenky, et al., 1997). I have chosen this quote as the backdrop for the findings presented here, as it is a nice illustration of what I hope to see in the reflections of my own students.

This chapter presents the findings related to research question one regarding what elements of constructivist education are evident in both the face-to-face section and the online section of Child Development. Subjecting one's own teaching practices to a process of analysis brings with it many complexities. Cochran-Smith and Lytle (2009), who describe practitioner research as a study in which "…the practitioner himself or herself simultaneously takes on the role of researcher" (p. 41), provide in-depth views of the multi-faceted work of practitioner research, stating that "The term *self study* is used

almost exclusively to refer to inquiries at the higher education level by academics involved in the practice of teacher education" (p. 40).

To study the presence of constructivist education in a college course is to study a particular instructor's curriculum, including intent and implementation. Although the "hidden curriculum" is an ever-present factor as well, encompassing personal preferences of teacher and students, power relationships, political influence, etc., it is certainly beyond the scope of this study to pinpoint and adequately describe (Marsh & Willis, 2007, p. 14). Because curriculum is defined in many different ways, I have chosen a particular working definition that "acknowledges the complexity of individual interactions while honoring the role of formal education as a collective attempt to enrich individual lives" (Marsh & Willis, 2007, p. 15). This definition includes three primary facets of curriculum: planned, enacted and experienced (Marsh & Willis, 2007). This chapter presents the findings from analysis of data collected regarding the planned curriculum ("the type of guidance to be provided") and the enacted curriculum ("how that guidance is provided") (Marsh & Willis, 2007, p. 15). In the absence of actual recorded transcripts of face-to-face class sessions, data collected to investigate this research question included instructor reflections on class sessions (Appendix M), assignment instructions, written instructor feedback on assignments, and participant interviews. For the online class, data sources included online discussion forum responses (Appendix N), online chat forum text (Appendix L), participant interviews, emails, and written and electronic instructor feedback.

Following the guidelines detailed in Chapter III to establish trustworthiness, I mined the data for emerging themes first through an inductive process and then by sifting

those themes through the following sensitizing themes (Patton, 2002) that describe constructivist education:

- Attend to the individual and respect students' backgrounds and developing understandings of and beliefs about elements of the domain (Richardson, 2003, p. 1626).
- Provide class time for discussion (Castle, 1997, p. 65). Facilitation of group dialogue that explores an element of the domain with the purpose of leading to the creation and shared understanding of the topic (Richardson, 2003, p. 1626).
- Allow learners to raise their own questions, generate their own hypotheses and models as possibilities, and test them for viability (Fosnot, 1996, p. 29).
- Offer challenging, open-ended investigations in realistic, meaningful contexts, allowing learners to explore and generate many possibilities, both affirming and contradictory. (Fosnot, 1996, p. 29).
- Introduce disequilibrium (Castle, 1997, p. 65); Illuminate, explore, and discuss contradictions (Fosnot, 1996, p. 29); Draw attention to inconsistencies in explanations (Castle, 1997, p. 65).

Analyzing more than 1,000 pages of data required a systematic process. This research question required an approach that is most authentically described as teacher research, meant to uncover evidence of my own adherence to particular methods of teaching that are considered constructivist. It has been well argued that teacher research can and must serve as an autonomous form of research, without the need for an additional methodological label, so that its contributions to the field of education can be clarified (Campano, 2009). However, the process for analyzing data in this initial inductive phase

of data analysis most closely resembled van Manen's process of uncovering or isolating themes. I began with a wholistic reading approach in which I searched for large, overarching themes in the data as a whole. Following this, I moved into the selective highlighting approach in which I chose particular phrases and sections that seemed to be essential in relation to the research question. Finally, I searched line-by-line to mine the data for emerging themes (van Manen, 1990). This was a physical process in which hard copies of all data were literally cut and highlighted and moved around on the floor as themes emerged and evolved. Following this process, I imposed sensitizing themes on the data for sifting (Patton, 2002).

Moving through the process of inductively searching for themes found within instructor feedback and class session reflections, and then applying the constructivist education principles to the emerging themes, was not a linear process. For example, evidence I originally believed to be supportive of a constructivist education theme was sometimes moved into an alternate emerging theme upon further investigation, and vice versa. The following figure shows a scheme I developed at one point in the process to explain the themes. At this point in time, each section had been analyzed separately, and many similar themes had emerged. The constructivist education themes had been imposed as well, again revealing similarities between the two, but clearly delineating between the emerging and constructivist education themes. I highlighted with a different color the themes that were not prominent in the other group in order to expose the differences:

Face to Face Themes	Online Themes
Emerging Themes **Direct instruction.** ***Concepts, knowledge.*** *Core knowledge presentation.* *Correction of ideas.* ***Agreement.*** ***Closed ended dialogue.*** **Seeking personal connections.** **Process guidance.** ***Respecting process attempts.*** ***Guidance using questions.*** ***Guidance using instructions.*** ***Request for more content.*** **Constructivist Education** **Individual attention.** **Respecting emerging understanding.** **Open ended dialogue.** **Facilitating meaningful investigations.** **Attention to inconsistencies.** **Student interest.** **Interaction with materials.**	**Emerging Themes** **Direct instruction.** ***Concepts, knowledge.*** *Core knowledge presentation.* *Correction of ideas.* ***Guiding questions.*** ***Closed ended dialogue.*** **Seeking personal connections.** **Process guidance.** ***Respecting process attempts.*** ***Guidance using questions.*** ***Guidance using instructions.*** **Constructivist Education** **Individual attention.** **Respecting emerging understanding.** **Open ended dialogue.** **Facilitating meaningful investigations.** **Attention to inconsistencies.** **Student interest.**

Figure 1: Earlier constructivist education thematic scheme

For several of these themes, my assumption was that the emerging theme was a slight but significant variation of the constructivist education theme. At the time, I felt that this was an important discovery. For example, rather than finding evidence for open ended dialogue as constructivist education principles recommend, I found evidence for closed ended dialogue, in which the instructor's predetermined discussion results were imposed. However, upon even further investigation using the research literature and discussions of Piaget's constructivism as well as a process of peer debriefing in which each of the themes in the above table were subjected to ongoing discussion and peer review over a period of several days, the emerging themes that had been previously determined to fall outside the scope of constructivist education as a separate emerging theme seemed to actually fall within the constructivist education ideals, albeit with interpretive latitude. Thus, a new scheme came into view, one that followed the imposed

themes in this way:

Attending to the individual
Respecting developing understandings
Facilitating Dialogue
Facilitating inquiry
Facilitating meaningful investigations
Introducing disequilibrium

Figure 2: Present constructivist education thematic scheme

The present thematic scheme encompasses all of the themes from the earlier scheme within the constructivist education theme they supported or informed. Discussion of these themes follows here, with links to literature and data excerpts woven throughout.

Attending to the Individual

Richardson (2003) describes "attention to the individual and respect for students' background" (p. 1626) as a key component of constructivist education that lays the foundation for all other instructional practices. This type of attention and respect comes from intentionality on the part of the teacher. Castle (1997) describes her method of setting the stage for the rest of the semester by creating an atmosphere of warmth and acceptance in this way:

> Time must be spent at the beginning of the course in establishing a classroom atmosphere of trust and security…Students need to feel accepted, comfortable, relaxed, and affirmed (Castle, 1997, p. 65).

In face-to-face classrooms with non-traditional students unfamiliar with unspoken protocol in college settings, creating a comfortable and relaxed atmosphere of mutual respect can prove to be a formidable challenge for me at times. The following reflection on the very first face-to-face class session reveals that I followed my general pattern for

the first day of class:

> Whenever I introduced myself, I touched a bit on my years of experience and education. As it usually happens, I sensed a bit of disconnect whenever I mentioned my education (masters, working on my doctorate), but much more of a connection with the students when I talked about my experience in the classroom – particularly as a 2 yr old teacher and the large number of children I was responsible for (Appendix M, Instructor Reflection 8/23).

This reflection reveals my ongoing evaluation of the reactions of the students to me in our initial interactions. By mentioning specifically my experience in the child care classroom, I attempted to communicate my own connection with their vocational positions, since most of these students were much more in tune with their role as working adults than their new role as college students. On the whole, this was received well and students responded reciprocally, albeit with some surprise. However, very early on in the semester, several of the students attempted to challenge me in a public manner. For example, they would question me harshly and talk loudly to their neighbors during class. This situation was mentioned by several of the participants in their interviews in response to questions about their feelings related to the class discussions. Comments such as the following from Takyra's interview illustrate how disruptive this was in the beginning: "...behind you…people are constantly talking, and their voice is over yours, and you can't really hear what she's (the teacher) saying, because you're hearing all that..." (4/28/11)

My attempts to address this situation were to remain calm and try to address the concerns of those that were especially vocal and disruptive with firmness and respect. As time went on, because of my commitment to make every effort toward constructivist

education, I tried to listen as carefully as I could to the stories and comments made by students that had the potential to distract from the planned topic or cause difficulty in some other way, and give them credibility with my responses. For example, one student told about her attempts as a grandmother to keep her grandchildren in line using harsh punishment. I listened closely to what she described, gave credence to some of the ideas that she shared, affirmed the emotion and felt needs behind the story, and used her own ideas to bring the group around to behavior and guidance approaches more closely aligned with developmentally appropriate practice (Bredekamp & Copple, 2009). Over time, this same student began to come up to me during breaks and ask questions about her grandchildren and the children she cared for in the classroom setting, showing what I interpreted to be a growing trust.

As class sessions progressed, I found that I was consistently mindful of the relationship between my students and myself. There was a particular face-to-face class session that was especially meaningful for one particular student, with whom I was able to develop a special relationship as the semester progressed. It is described in this instructor reflection from 10/4:

> With the text moving on into details regarding conception and prenatal development, the class moved into a discussion of teen pregnancy. As students recounted stories and shared personal theories related to the textbook information, ideas about health care and responsibility came out, with some sharing slightly negative views toward the teenage mothers themselves because of the difficult life they had chosen for their children. At this point, one student in particular spoke up for the first time ever. She shared with the class that she had been a teen

> mother, and described how grateful she was to have that child in her life in spite of the difficulties. While she was sharing, I thought that she had possibly been hurt by some of the comments that had been shared. I responded to her story with agreement and affirmation, but failed to take the conversation to any further productive point. On subsequent occasions, this student (pseudonym Lisa) seemed to remain positive about the class. (Appendix M, Instructor Reflection 10/4)

Interestingly, Lisa wrote about the experience in her mid-term reflection, responding to a question about a strength she had shown in class:

> Speaking out about a controversial topic that I feel so strongly about because I was a part of society's statistics on teenage pregnancy. And speaking on a topic that has happened years ago and is still a problem today. (Lisa, Mid-Term Reflection, 10/12/11)

At some point during that class session, Lisa felt safe enough to step out and speak up about her own personal situation. Because she was not in the habit of speaking during class, this was a unique experience for her, and one that she presumably dared not attempt apart from an atmosphere that had evolved to develop a certain measure of safety and acceptance.

In the online environment, creating an atmosphere of mutual respect, warmth, and acceptance is a very different endeavor. In the face-to-face classroom, teachers can utilize body language, tone, and facial expressions to demonstrate these qualities to the individuals in the room. These tools are altogether absent in the online environment. However, online students must interact one-on-one with their professor during the

process of navigating through the course. This creates a special opportunity for the professor to give attention to individuals.

From time to time throughout the online discussions and instructor feedback, comments were made that revealed some effort to make personal connections. Special effort was made to be "totally and non-selectively present" with the students as they navigated through the course (Noddings, 1984, p. 180). Believing that creating a constructivist learning environment included this principle to a certain extent, I made special efforts to respond immediately to emails and phone calls from the online section as a way of following this recommendation. As it turned out, I did have several interactions on a more personal level through email and inside the synchronous chat, as a student requested help with personal parenting issues. Linda commented in her interview that she was surprised by the quick responses, having been accustomed to waiting several days for a response from her instructors. In essence, the attention to the individual in the online setting was truly an individual interaction, while many of the encounters within the face-to-face classroom were within the context of the group sessions.

The Bronfenbrenner ecological systems paper described in chapter three was the piece of the planned curriculum that was meant to intentionally follow this principle for both course sections. By providing students with the chance to explore and then articulate their childhood experiences, they were not only experiencing the ecological systems model from the perspective of their own lives, but were also given a special opportunity to provide their instructor with personal background information.

Respecting Developing Understandings

Having taught for several years, I have struggled with the idea that evidence of true learning and discovery may only rarely be taking place in my presence, regardless of the delivery format. Throughout each semester with these two groups of students, I found myself continually seeking out ways to support the learning when I saw it taking place. "Respect for…developing understandings of and beliefs about elements of the domain" (Richardson, 2003, p. 1626) is another key component of constructivist education that sets the tone for the learning experiences of the students. My attempts to demonstrate personal respect for their developing understandings of and beliefs about the content being studied were made in hopes to encourage them further along. Special attempts were made during both the online and face-to-face class discussion times, when students would venture to speak about the topic based on their own personal experience. The following excerpts from instructor reflections on the face-to-face class sessions illustrate this:

> During this discussion, students talked about what they had noticed from children in their care (especially siblings that showed differences between one another) as well as their own children and grandchildren. I felt that it was a good opportunity for them to verbalize their views and for me to affirm their personal caregiving experiences and resulting opinions about child growth and development. (Appendix M, Instructor Reflection, 8/30)
>
> Chapters 8 and 9 cover heredity, environment and development, and the stages of conception and prenatal development. Following the lead of the students during the discussion of heredity, we camped on issues related to twins. Several of the

> students had twins in their programs, and wanted to conjecture about the differences and similarities they had observed between the individuals in each set of twins. This led to a conversation about sibling similarities and differences they had observed as well. (Appendix M, Instructor Reflection, 10/4)

Allowing their own shared experiences to take the lead within the face-to-face class discussions provided me with the opportunity to affirm their developing understandings of a particular topic. In the online discussion forum, while some students referred to their personal experiences related to a topic, both they and I seemed to focus more heavily on the informational content of their responses. I only responded sporadically, but when I did share my responses, I generally focused on the topic rather than on the students' experiences with that topic. This was a slightly different approach than the one I took in the face-to-face classroom discussions where I could interact more personally with students. Here is an example from the online discussion forum in which I offered my response to a student during a discussion about materials for learning:

REBECCA PRUITT - Apr 10, 2011 9:11 PM

You've hit on some of the truly important cognitive benefits of dramatic play for young children. Your example of the co and the cash register is a big one for children that are approaching Kindergarten or are in Kindergarten. This is an import concept that they are learning during that time. I like what you said about the block building. Many, many math and language concepts are learned best through play with unit blocks, such as positional words (over, under, beside), fraction (two of these equal one of those), etc.

REBECCA PRUITT - Apr 10, 2011 8:58 PM

Yes. One to one correspondence is a very important math skill that can be developed through play during the preschool y Counting out plates, napkins, etc. during pretend play as well as during snack time really helps develop this ability.

Figure 3. Online discussion forum instructor responses to students.

In these responses, there is a sole commitment to the information. These responses represent about three quarters of my responses when there was a concept or topic I wished to address. Therefore, I found a difference between the online and face-to-face discussions regarding the nature of the dialogue. I focused on the concepts themselves

more often in the online discussions, but focused on individual's relationships to concepts more often in face-to-face discussions.

The group project and presentations were an opportunity for students from both sections to use their own interest to conduct an investigation and then present what they had found to the rest of the class. Each student received a form with feedback that had a rubric at the top with a numeric grade, and then narrative typed in at the bottom. The same feedback was given to each member of a group regarding that project. While much of the feedback praised efforts toward the process and presentation, some represented efforts toward respect for developing understandings regarding the theorist presented, such as: "I liked that you added the stages through adulthood"; "The handout of real life examples was very thorough and helpful in putting together theory with practice"; "You brought out some very important elements of Vygotsky's theory, such as Zone of Proximal Development (ZPD) and the importance of speech in the young child's development"; etc. I gave this type of feedback on all of the group projects.

The proficiency project was intended to provide an opportunity for students from both sections to explore and articulate the concepts presented in the class within their summaries and analyses. Students took advantage of this opportunity to varying degrees, and with various responses from me as their instructor. By design, the opportunity existed within the assignments to read carefully students' attempts at analyses and connections to established developmental and theoretical knowledge and encourage them along the way. However, only some evidence of this was found, with less than one quarter of the proficiency project feedback representing this type of guidance. For example, when a particular student wrote about a child that she observed in her summary

and analysis saying, “Cognitively, something that stuck out to me was that when I would call her name to her, she did not look around to respond,” I stated “very good observation.” In doing so, I communicated my agreement with the student’s thoughts that this was an event that may relate to cognitive development, and possibly also some respect and encouragement for her growth in understanding. However, no specific feedback was given to further along the thinking on this issue. This type of feedback was the most common, and was found on more than three quarters of all feedback on the proficiency project.

In the following example from a students’ proficiency project, the student gave an explanation that mentioned Vygotsky in a way that showed the student was attempting to understand his theory, but struggling:

At the age of 3, children’s pretend representational play provides a Zone of Proximal Development in which they participate in nonreal activities and places.

Wishing to support this student’s exploration of the theory, but wanting her to develop a better understanding, I simply stated, “good reference – study more closely.” This response represents a common one found in the instructor feedback throughout both course sections, found in more than three quarters of all feedback on the proficiency project. The theme of respect for developing understandings was therefore revealed primarily in the group project feedback for both sections in which all projects received this type of feedback. In the face-to-face discussion times, I adopted a personal approach to supporting developing understandings by listening and responding to students’ personal examples of concepts. This occurred in about three quarters of the class sessions, as discussions were held frequently. In the online discussion forum, I supported

developing understandings less frequently, with my interactions being limited to less than half of all discussions.

Facilitating Dialogue

Class discussion is an integral part of creating a constructivist atmosphere (Castle, 1997, p. 65). The construction of social knowledge necessitates social interaction, and includes direct instruction by an instructor at appropriate times (DeVries 1997; Kamii, 1979). The class sessions for the face-to-face section of Child Development were quite similar to what might be expected in a typical early childhood teacher education classroom. I was especially attentive to my own words and actions during these particular sessions, however, because of my intentions to subsequently study its constructivist elements. Because of this, I was constantly mindful of what kinds of questions I was asking, how I handled the responses, how I could help to encourage/generate interest, how I could create opportunities for cognitive dissonance, and how I could facilitate a need for the students to direct their own learning experience. My intent was to facilitate "group dialogue that explores an element of the domain with the purpose of leading to the creation and shared understanding of the topic" (Richardson, 2003, p. 1626). As a result, the typical pattern for the large group discussions (following the small group work) was the following:

1. Pull a topic from the reading that I believe is especially relevant to these students' practice and corresponds with what I personally value and want to convey something about.
2. Introduce the topic in some way: a personal story, reading a quote from the text, describing the topic in a general sense, etc.

3. Ask a question that is intended to bring out examples from personal experience.
4. Listen to the responses carefully for at least one of two things:
    a. bits and pieces of opinion or practice that I can either affirm outright or comment on in a respectful and/or sympathetic way, or
    b. what I believe to be the main idea of the individual's story or personal theory that I can repeat and retell in a respectful and/or sympathetic way
5. In repeating and retelling the above, I try to bring it to a point that reflects my personal views on the subject (that also usually reflect the views of the textbook author).
6. Repeat steps 4 and 5 until I feel that all that desired to share had a chance to share.
7. Summarize the discussion as a whole, again bringing it to the point that reflects my personal views on the subject, emphasizing application points for current practice.

Upon examination of these actual steps in conducting a class discussion, I found that my procedure for leading group discussions did not necessarily lead to "creation and shared understanding of the topic" as much as I had hoped (Richardson, 2003, p. 1626). Rather, both my personal intent and enactment of facilitating discussion tended to center more on leading the group to consensus on an already established understanding of the topic. However, according to constructivist theory, the development of social knowledge does not preclude the intent and direction of a teacher or more knowledgeable other (Kamii, 1979).

Closed ended dialogue is a term that I used in my earlier thematic schema (see

Figure 1) to refer to the facilitation of a group dialogue that explores an element of the domain with the purpose of leading to agreement with established core knowledge**.** Recognizing the complexities involved in leading a group to create an authentically shared understanding, I created this label to assist in the analysis of both face-to-face and online discussions related to their intended purpose and outcomes. Evidence related to the theme of dialogue facilitation was repeatedly found in the instructor reflections on class sessions, specifically mentioned in twelve out of sixteen sessions. For example:

> To discuss Chapter 5 (learning through play), I conducted a whole group discussion about how children learn through play, in which I asked questions that I hoped would spawn thinking, acknowledged responses, and attempted to clarify certain points. Learning through play is one of my primary points to emphasize with all of my classes, and so I spent a significant amount of time and effort in bringing the conversation around to this conclusion when possible. (Appendix M, Instructor reflection 9/13)

The following excerpt from my instructor reflection on face-to-face class sessions describes talking points for class discussion. It reveals the fundamental goal that I had for each discussion. As I reflected on each issue, I highlighted each end point of the discussion:

> I listed topics for talking points, discussion for these chapters that included the following: multicultural education (here I emphasized an authentic, whole classroom approach vs. the "tourist" approach), constructivist vs. behaviorist (emphasizing constructivism as preferred), praise, natural motivation to learn, play environment, and computer use (emphasizing that while in general, sitting in

> front of screens is not recommended, there are certain new literacies that include computer use that some children may not have access to at home and therefore need exposure to in child care/preschool settings). (Appendix M, Instructor Reflection 9/20)

Learning through play is a concept that was emphasized repeatedly in this course. It is an issue that I have spent countless hours studying, writing about, and presenting. In this next excerpt, it is clear what my intentions were regarding the class discussion on the case study that was presented:

> In one of the case studies in the text, parents were worried about the amount of time children were spending in play. My attempt this class session was to involve the class as a whole in a discussion regarding the importance of play in child development. My intent was to move them toward a more holistic view of play that includes the many benefits of cognitive development, and not just social-emotional development. Many interesting comments were made by students, and some showed signs of progress toward that view. (Appendix M, Instructor Reflection, 11/8)

The statement that, "some showed signs of progress toward that view" is especially revealing in the context of this discussion. There were specific goals in mind related to the conclusions that these students would make at the end of the discussion session.

There was one assignment in particular that created a bit of angst for me as one who sought to follow constructivist principles in my teaching. This was an assignment entitled "Theory Worksheet" (Appendix K). It was a one-page matching assignment that called for students to determine which statement represented what child development

theory or theorist. The following is an excerpt from the face-to-face class session in which I led the students to complete the worksheet together as a group by coming to consensus on each one through large group discussion:

> In order to do this (theory worksheet), I opened each question up for discussion and allowed them to discuss together until the correct answer was agreed on, and then we moved on to the next one. (Appendix M, Instructor Reflection, 11/22)

This method of completing the assignment created a more collaborative and interactive experience for the students, falling in line with the constructivist education principles used to design the course by demonstrating the development of social knowledge.

Interestingly, the facilitation of online group dialogue followed a very similar pattern as the face-to-face dialogue sessions. Questions for asynchronous discussion were designed at the outset that mimicked the questions used in the face-to-face class in an effort to create an atmosphere as similar to the live classroom as possible for the purpose of this study. As students interacted online, however, my presence was sporadic. When I did participate with my own comments and questions, I was directive in the ways illustrated previously.

Here is an excerpt from the live chat session, demonstrating the effect of the instructor presence on creating a lively dialogue that is ultimately closed ended. The chat was set up to discuss the Theory Worksheet (Appendix K), and followed the same pattern as the live discussion in the face-to-face section. Names have been changed to pseudonyms, and some comments were removed because of a lack of consent

pruittr: so...who wants to take a shot at #1?
linda: Lev Vygotsky
pruittr: Lena (right?) why Vygotsky?
(comment by non-consenting participant removed)
linda: IZPD and in scoffolding
linda: ZPD*
linda: sorry i have fat fingers
linda: scaffolding*
pruittr: so I'm guessing you see ZPD and scaffolding in #1?
pruittr: anyone else see that?
linda: Yes because the interaction with classmates and teachers and self
kathy: Through play the child develops abstract meaning separate from the objects in the world
pruittr: (name removed) and (Kathy), great thoughts - do you agree then that this is vygotsky?
kathy: yes i do agree
pruittr: you all are right - he described children's development using the term zone of proximal development and said that teachers, adults, "more knowledgeable others" can help by scaffolding

Figure 4. Excerpt from the Theory Worksheet live chat

Because there was a right and wrong answer to this question, naturally the discussion leads to this answer (Vygotsky). This example demonstrates a place on the continuum that would be further toward a black-and-white didactic approach than many of the other online and face-to-face discussions that were held, but could still fall within the realm of the construction of social knowledge. Therefore, although many of the discussions would most authentically be described as at least somewhat directive, they allowed for student input, opinion, consideration, etc. that moved them closer to a personal commitment or belief about a particular topic that now happened to be informed by research and commonly accepted core knowledge.

Therefore, the evidence from the online instructor discussion responses and prompts and instructor feedback on assignments demonstrates that there was an ongoing commitment to leading students through discussion to a closer personal connection with the thoughts and ideas of fellow classmates, as well as an agreement with the established core knowledge of the field. In almost every question asked or problem pinpointed, I can recognize the underlying motivation to move the students toward a particular stance

regarding the topic. However, this practice is not necessarily in conflict with constructivist ideas, which allow for direct instruction at appropriate times (Kamii, 1979; DeVries, 1997).

There were some examples coming from the data of both the face-to-face and online sections that demonstrated a more open-ended dialogue had occurred. The following excerpt from a face-to-face class session reflection illustrates an instance in particular in which I felt I better allowed the students to come to their own conclusion and shared understanding of a particular topic. Even though they landed in a familiar place, I allowed them the control over what conclusions the conversation led to:

> Chapter 1 includes descriptions of individual children for the purpose of examining the idea of the "typical child" and what special needs might be evident in each. We discussed in a large group the students' ideas related to these concepts. This led into a discussion about nature vs. nurture. This discussion progressed as is normally expected, with some leaning more toward nature and others leaning more toward nurture, but all seeming to come to agreement that both are in play regarding overall child development. (Appendix M, Instructor Reflection 8/30)

In the online discussion forums, I varied my participation so that comparisons could be made between the styles of interaction. As a result, several weeks of student dialogue took place without my interaction at all. Because of my absence, students were allowed the opportunity for open-ended dialogue without interference from me, their instructor. That is to say that while I facilitated their discussion by giving them an open ended question to answer related to a particular topic or scenario, I did not jump in to

comment on the various conclusions and theories they created both individually and collectively as a group. The following figure containing excerpts from the online discussion forum includes several initial responses to the question and some of the responses to these posts. Without instructor intervention, students are engaged in theory building within the context of the social environment and with their own ideas as the final word (names have been changed to pseudonyms):

Posted instructor question: In this week's chapters, you read about many different aspects of a child's life that affect his or her natural motivation to learn. Look at the following specific sections of your readings to talk about how each of these things affect a child's motivation to learn:
*teacher's attitude about socio-cultural background/diversity of children
*classroom environment/materials
*teacher's talk - use of praise, rewards, tone of voice, etc.

LINDA - Feb 19, 2011 12:40 PM

I believe it is a **teacher's attitude about socio-cultural background/diversity of children** responsibilty or at least be informed with the knowledge of every child's background, morals and beliefs that are learned at home. Childen all have a different way of learning, no child learns the same method so when a child comes from a low or middle income background and bring their values and beliefs to a classrom they will be some diveristy. She must allow the children to accomadate their beliefs with her way of teaching for the child to be successful.
In the classroom environment/materials affect a child's motivation to learn when a teacher has a well organized room a child is visible at all times to ensure the safety for the child in learning area. A child will experience success when they play and learn when they play with appropriate materials creatvie area.
When a **teacher's talk - use of praise, rewards, tone of voice, etc.** it encourages the children in a positive way. It helps their self esteem and motivates them to want to be success. I know as an adult when I do something that requires praise I look for validiation so for a child to feel praised and reward will do wonders for their learning abiltiy to aspire to do well.
In child development the teacher's who encourage students create an environment in which a child continues to learn and is not afraid to make mistakes and learn from them. I believe when a teacher encourages a child she creates, positive self-esteem, and a willingness to explore, and the acceptance one self and others.

Re: Natural Motivation to Learn
LINDA - Feb 19, 2011 12:42 PM
Emma I do believe when a child has the appropriate tools for learning they cannot go wrong with a teacher who encourages a child with words of praises and motivation.

<<< Replied to message below >>>
Authored by: EMMA
Authored on: Feb 16, 2011 1:28 PM
Subject: Natural Motivation to Learn

Re: Natural Motivation to Learn
MARTHA - Feb 20, 2011 8:15 AM
I agree if we have the proper materials in our classroom will help the child excel in their learning

.<<< Replied to message below >>>
Authored by: EMMA
Authored on: Feb 16, 2011 1:28 PM
Subject: Natural Motivation to Learn

All children are learn in different ways. If adult's had a better understanding of cultural background and diversity I think each child would be more willing to learn and get a better understanding of what is being taught. If adults have no clue of a child's culture it will lead to misinterpretation of children's language and cognitive competence as the book states. I think it is the adult's responsibility to understand the child's cultural background. Once the adult has a better understanding, the adult can guide the child in a way suitable for him/her. Simply by knowing how to pronounce a child' name will give them the confidence to want to continue to learn because they feel you are on their level and are interested in them.
If the adult has proper materials for appropriate development levels, this will allow the children to progress and learn at a level that is right for the child with the best choice of materials. There also needs to be enough space to allow the children enough room to play and explore. Outdoor area needs to have lots of room to allow the children to run and play. Outdoor equipment such as slides, swings push toys and riding toys is good for outdoor use.
When an adult uses praise and has an appropriate tone right for the children, the children will feel encouraged to learn in a positive manner. Getting down at the child's level and responding to the child's need shows them you care and are there for them. Showing praise gives the child confidence. Circle time is a great way to get the children involved in group discussion.

Child Development
MARTHA - Feb 20, 2011 8:04 AM

Teacher's attude about socio-cultural background/diversity- I belive that each teacher that works in the childcare arena should get to know each child as a individual not only the child but the parent to learn their custom of life style to be effective in the classroom.And when this happens there will be no mis-interpretation of the socio-coultural background/diversity.
Classroom enviroment/materials- To be effective in the classroom the teacher must have learning materials to set up the classroom to where it will motivate each child to learn and expore the learning enviornment.
Teacher Talk-I believe when a child does something wonderful he/she wants to be praise and rewarded for it. which is good but it must also be a learning experience(example) one of my stundents came to me after using the restroom and said: Mrs Mary I pottied in the toilet I said you pottied in the toilet that way your clothes will not get wet. I believe in praises and rewards but I also believe in learning experiences. also when talking to my children I get down on their level and I use a pleasant voice when talking with them instead of standing over them and talking it gives me and the child eye contact and good communication.

<<< Replied to message below >>>
Authored by: LINDA
Authored on: Feb 19, 2011 12:40 PM
(POST GIVEN ABOVE)

No Subject>
MELISSA - Feb 20, 2011 11:52 PM

I found the chapters this week to be not only informative but full of information relative to classrooms all over.

Teachers need to be open to other cultures. If a student enrolls and is from a different background then the teacher needs to do her homework and learn about that child and their culture/background. By doing this it will help make the child feel important and confident in themselves. One thing I had never really considered were the 'background' issues such as abuse or being homeless. Children also need to have the teacher set a good example regarding tolerance and acceptance. Everyone is the same regardless of color or where they live. Everyone deserves to be treated with love and respect.
The classroom environment is so important! It needs to be set up so the kids can easily get engaged in various activities. I often find myself moving things around in my classroom area. It amazes me how moving a certain toy to a different area suddenly makes it more interesting. By not thoughtfully preparing your classroom your students could be missing out on lots of experiences.
Teacher talk is so important. Going back to the whole 'background' issue... the reality of today is that many children do come from broken homes or difficult backgrounds. Often times the time spent at school is the only positive environment they are in. Teachers have the opportunity to make or break a child by simply choosing to be positive and encouraging rather than negative and demeaning. It is so important for teachers to focus on the good rather than the bad. Nobody is perfect and teachers will make mistakes, but when they do I think they need to own those mistakes and admit them to the children.

Natural Motivation to Learn
EMMA - Feb 16, 2011 1:28 PM
(POST GIVEN ABOVE)

Figure 5. Excerpts from the online classroom discussion forum.

The example in Figure 5 illustrates a common interchange that occurred within the online discussion forum, for more than half of all discussion weeks. Students used definitive statements ("All children learn in different ways") and statements representing their personal opinion ("I believe," "I think," etc.). Interestingly, although the questions were directly drawn from the reading assignment, the text was only rarely mentioned.

Using questioning to guide the thinking process is a favored method of mine when it comes to encouraging the flow of discussions, either live or in person. This method of guidance was found in both the asynchronous and synchronous class discussions in more than half of my responses, and was a method that I found to be unique to the online environment – not found in face-to-face data. Patterns were found among these questions that seemed to indicate that there were different types of questions coming from different motivating factors or goals of instruction. For example, many of these questions were meant to prompt the student or students to think more deeply about a particular topic, with no set definitive answer in mind:

I am curious about your response. Would you mind explaining it a bit for us?

What do you understand about attachment based on what you read?

What can you say about temperament?

What else in the environment plays a role?

What do these things look like in the form of everyday activities?

What can you say specifically about cognitive development?

(Instructor Responses, Online Discussion Forum, 2/11 – 4/11)

Certainly, many more questions were meant to elicit a specific response based on established knowledge. Here are some examples:

So what is attachment and how does it develop?

How do we know what they need before they can tell us? (babies)

before they are using real words...

What choices do we have when they communicate through these methods?

What is something specific you looked for regarding activities teachers could do to promote cognitive development?

(Instructor Responses, Online Discussion Forum, 2/11 – 4/11)

Facilitating Inquiry

Fosnot (1996) describes a method of facilitating student inquiry in which the instructor will "allow learners to raise their own questions, generate their own hypotheses and models as possibilities, and test them for viability" (p. 29). One particular piece of my planned curriculum was designed to fall in line with this recommendation. This was the proficiency project described in chapter three.

The "three questions" piece of the proficiency project was a concerted effort on

my part to prod students into conducting their own investigations based on their personal burning questions and interests. I was surprised by the difficulty most students had with this part of the assignment. When I explained that they were just questions they had about children that age, they continued to struggle, many of them stating in their interview that there just wasn't anything that they wondered about. This experience created an internal conflict for me, as I was attempting to follow the recommendation to practice "connected teaching," in which my "connected class transforms these private truths into 'objects,' (something that could be studied)" (Belenky, et al., 1997, p. 223). I wished to see them connect our studies with their own private knowledge and experience.

Most were able to come up with questions to add into their project, whether they used them for authentic investigations or not. When I did find interesting questions, I sometimes used feedback to encourage deeper thinking or for clarification. One student developed a question about infants that I was unsure about the meaning: "Does a baby really recognize their mother's voice if the baby was disconnected from the mother?" I underlined the phrase "if the baby was disconnected" and wrote the word "explain." Another student developed a theory about a child that had the potential for connection to one of the established theories that we were studying.

> Another thought I had was, maybe she does not like change, and acts out her inner feelings of frustration with outward feelings of aggression.

Beside this phrase I wrote, "Do any theorists talk about this?" as a way to encourage the student to do some personal investigation (Instructor Feedback, Proficiency Project).

As the assignment that carried the greatest weight in terms of the commitment of time and energy, great emphasis was placed on this project as a tool to facilitate student

inquiry. By withholding examples and providing limited direction regarding the actual child development topics to investigate, my intention was to urge students to conduct an investigation of their own questions. Included in the instructions was the requirement that students develop three questions for each age observed, based on their own questions about that age group. Some feedback was given on students' three questions, seemingly with the intention of pushing them to take the next step and formulate hypotheses and test them, such as

> What did you find? What are your thoughts about these questions after your observations?
>
> Great questions – what did you observe related to them?
>
> Good question – needs to be more specific
>
> (Instructor Feedback, Proficiency Project)

Generally speaking, the assignment was designed to facilitate a more student-centered process in which students had control over certain elements of the project related to the impetus for the inquiry. As students from both sections attempted to navigate their way through this assignment, my feedback was intentionally vague on some points and clearer on others. For example, if asked about page length or formatting questions, I generally gave more specific answers. When asked about what questions to use for inquiry, I redirected them back to their own experiences to discover questions of their own.

Direct instruction is a term I use to describe either the imparting of knowledge by the teacher, or specific instructions given to students by a teacher for the purpose of either imparting knowledge or encouraging particular activity within an educational activity or

process. As a piece of facilitating meaningful investigations, instruction can be used to redirect students toward the subject under inquiry in a more fruitful way. These examples of knowledge presentation, correction of or agreement with ideas, and guiding questions were all found to be elements of the facilitation of a meaningful investigation.

Examples of instruction to impart knowledge regarding specific concepts or field-specific knowledge were found throughout the face-to-face data, especially in instructor reflections on individual class sessions (Appendix M), in which references to specific concepts or topics were mentioned in fourteen of the sixteen reflections. The concepts that received the most attention were the ones that I personally felt most comfortable with. These included the debate about the existence of the typical child, the nature vs. nurture debate, infant reflexes, and the application of child development theory to early childhood practices. Presentation of the major theorists (Piaget, Montessori, Vygotsky, Dewey, Erikson) occurred most often in the context of discussions on the Proficiency Project assignment (Appendix B) as a way to provide foundational knowledge that could support the individual investigations.

The presentation of these concepts in light of the commonly accepted core knowledge base took several different forms. At times, I referred students to a particular quote or section in their text: "After this (small group discussion on 'who is the young child?'), I referred them as a large group to the definition in the textbook and discussed" (Appendix M, Instructor Reflection 8/23); once presented a two-slide power point (Appendix M, Instructor Reflection 8/23), occasionally showed video clips, and once spent a full class session demonstrating with classroom materials (Appendix M, Instructor Reflection 11/1).

A fairly rigid adherence to particular ideas and established theories of child development has created a sense of heightened awareness regarding certain faulty ideas that I tend to encounter frequently in my students. While I did not tend to overtly correct in the context of class sessions, correction and redirection of ideas was found peppered throughout individual feedback on assignments, comprising approximately one quarter of the feedback. I considered this a form of instruction since the redirection is related to specific understandings of certain topics.

One student from the face-to-face section described her recommended activity for three-year-olds by including the use of flash cards. The use of flash cards with pre-school age children is a practice that I have discouraged in my teaching for many years. I commented on the rubric, "flash cards not appropriate for 3's." Others within their summaries made some interesting comments as well, such as this one from Avery:

> "A.L. is definitely a natural leader, and who knows, maybe one day she will be president and take out all of the terrorists and save the world. She is one of the cutest little girls I have ever seen, and I hope that soon she will want to make good choices and listen to and obey her caregivers."

I was so overwhelmed by all of the problems with this paragraph that I bracketed it and stated, "replace this paragraph." Avery stated later in the same summary:

> "...that could be why she is acting out so violently. But, that still does not answer my question as to what will it take to really cause these actions to stop."

I commented beside this paragraph, (if you) "need to know <u>why</u> and <u>how to stop</u>, ask <u>when</u> and <u>what</u> 1st." Because one of the goals of the assignment was to direct the students' attention to how this type of inquiry (done well) can solve problems in everyday

practice, I consistently attempted to redirect them back to the method for inquiry. Therefore, asking *when* and *what* refers to the evidence that could be gathered through child observations.

Numerous times throughout my years of teaching in the online environment, I have felt a bit of uneasiness related to what I have perceived to be a lack of instruction about topics and issues that might require some specific direction in order to help students to organize their conceptual understandings and know how to complete assignments. In the absence of a format to deliver lectures personally, I rely heavily on their reading of the text, viewing of posted additional materials, etc. Therefore, I did not expect to find much evidence of instruction as a piece of facilitating inquiry within the online section of this course. However, there was substantial evidence found within the assignment feedback, asynchronous online discussions and synchronous online discussions.

Because of my intent to incorporate more instruction as a response to fruitful discussion, I created and posted a document following the discussion on the typical child that included direct instruction on concepts presented in the text. The response to this was minimal, with only a few reads and responses. As a result, I did not continue this practice throughout the semester.

So, alongside the planned curriculum meant to spur students on in their personal inquiry, much of the guidance related to student inquiry came in the form of redirection. Questions, directions, redirection to the students' own questions, and mini-lectures following both online and face-to-face class discussions all contributed to the way about which student inquiry was facilitated. Therefore, considering all data sources that held

the potential for this theme to arise, this was a prominent theme as it was found in the various forms listed above within more than three quarters of the data sources. In the conclusion to this study, my leaning toward directedness within this process is explored as it relates to the particular stage of epistemological development I perceived my students to be in.

Facilitating Meaningful Investigations

The facilitation of meaningful investigations is separate, though intimately related, to the facilitation of inquiry. For the purposes of this study, I focused on the data that revealed my attempts at directing and redirecting my students to their own questions as facilitating inquiry. Here, in my discussion of facilitating meaningful investigations, I will focus on the data that revealed the elements of my planned and enacted curriculum that facilitate the investigation as a whole. My initial results coming from the inductive analysis process did not seem to indicate much support for the facilitation of meaningful investigations. I found when mining the data for themes that the theme I called "process guidance" was prominent for both sections (see Figure 1). This was because the large majority of the feedback on all assignments for both the online and face-to-face sections was direct guidance for the process of conducting their investigations. My determination regarding this element of the enacted curriculum, therefore, was that my suggestions were focused on the process of completing the project rather than the conceptual thought processes that were or were not taking place for each student, removing it from the theme of facilitating meaningful investigations. However, upon further study, I determined that process guidance was more authentically considered as one piece of "offer(ing) challenging, open-ended investigations in realistic, meaningful contexts, allowing

learners to explore and generate many possibilities, both affirming and contradictory" (Fosnot, 1996, p. 29). Indeed, part of the facilitation of an investigation must be guidance regarding the procedures of such an investigation.

A piece that I originally believed to be evidence of instructor "respect for students'…developing understandings of and beliefs about elements of the domain" (Richardson, 2003, p. 1626) was in actuality more accurately described as respect for students' developing understandings of and attempts at processes. This particular theme was very prominent, found in almost all instructor feedback on the proficiency project, and especially evident in my detailed feedback for the group presentations. Evident from this feedback was a commitment on my part to affirm procedural efforts that I believed to be beneficial in their representation of what they know. Encouraging multiple ways of representing knowledge is considered a constructivist principle (e.g. Castle, 1997) as well as a method of moving students along the continuum of epistemic development toward being constructivist (Marra, 2002). Therefore, the freedom given to represent their information in the group presentations was constructivist education.

The Proficiency Project assignment (Appendix B) was the primary tool in the planned curriculum that was meant to facilitate meaningful investigations. There was an incredible amount of confusion and struggle in the face-to-face section related to the proficiency project assignment. During almost every class session from the time it was introduced, there were questions about the project. With each question that was asked, I answered it to the extent that I felt it would not compromise my original intent of facilitating student-centered inquiry, but that I hoped would provide the answers they needed to move forward with the project. I found myself answering the same questions

multiple times, as students who were struggling continued to struggle. This situation created a tension in the room that was palatable at times. Some students gave it a try and created a well-thought-out project. Others seemed paralyzed, as if no matter the explanation, they could not move forward. Some decided not to turn in anything at all. I resisted the urge to give an example of the project, knowing that an example might help some along.

Although questioning is a key component of constructivist education, the questioning should ultimately come from the students themselves. Therefore, when I found questions posed in the context of instructor feedback on assignments, I originally labeled them as simple examples of instruction. For example, when I encountered summaries that had not included any feedback on their own questions, I asked my own question, "what did you observe related to your questions?" or "what did you find out?" in order to encourage the student to go back and think through their observations related to the questions they had posed. Questions mentioned earlier, such as "anything specific?" or "can you explain?" were intended to contribute to the constructivist nature of the class, although they are forms of direct instruction meant to intentionally redirect students back to the purpose of the activity or assignment. Rather than being just simply direct instruction, these seem to actually be examples of guiding the process, or attempts at facilitating meaningful investigations.

The directives found in instructor feedback seemed to be more concentrated in the "3 questions" and the "activities" sections of the proficiency project drafts. Although many had quite a lot of additional work to do on the observation summary and analysis pieces, I tended to provide much less specific feedback. This could possibly be attributed

to my belief that there was not much to work with on those sections, and that imploring them to "add more" would provide something to comment on and therefore build on. However, I did find a few examples with more detail, such as the following: "Need to see much more for the observation summary – to include analysis of what you observed according to the theories we are studying and developmental information." And these from the same paper: "for analysis, include info that is from text – theories" and "Much more summary is needed – observation notes look very sparse – where are the rest of your notes?"

The activities section of the proficiency project was designed to encourage students to carry through their investigations to the end by exploring the possibilities with the children they observed. The vision in creating this assignment was to draw students into a personal investigation through questioning, observing and taking notes, summarizing the observation and then analysis, followed by the development of activities specifically designed for that child, generally falling in the middle or upper range of the zone of proximal development (Vygotsky, 1978). Thus, regarding a student's activities section in the proficiency project, the feedback generally read, "need to discuss how these relate to your observations – does this child need these activities in particular?" or "good – explain why these are good for that child,"

Similar to the feedback given to the face-to-face students, in the online classroom, acknowledgement of students' attempts at the processes seemed to be an important task. Statements such as "getting there!" "great references to Piaget and Vygotsky" "Great work in adding thoughts from the theorists!" and this one:

Great start on the infant observation. You will need much more on the summary

> of what you observed. I really liked how you are including Piaget and Erikson – that is great work!

There was no mention of what was actually said regarding the theorists, or comments related to their developing understandings of these concepts. Rather, these comments were focused on the procedures for the assignment. "You did provide more summary on the toddler observation – some very nice work here." Prodding for more, commendations for additions of more content, accolade for mentioning theorists, etc. were found throughout the online data, though not to the same extent as the face-to-face data.

In the absence of an opportunity to verbally explain the proficiency project to the online section, I used the News Page of the online classroom to provide the details I was willing to provide. It appears that I felt the greatest need to provide step-by-step, detailed instructions directly prior to the infant-toddler portion of the initial draft (see Appendix H). This additional, detailed explanation of an assignment that already had detailed instructions included was my textual version of the direct instruction I had provided in class on numerous occasions for the students in the face-to-face section. In addition to this post, I answered several emails from students who were requesting help in understanding the processes involved with this assignment. Several weeks later, I followed up with the following post, which seems to illustrate the anticipated student angst, likely based on past experiences in the face-to-face classroom:

> Because this is a large and somewhat difficult assignment, I anticipate that you will experience much difficulty if any questions you have do not get answered. I should be hearing from you either by phone or email with your specific questions about this project. **You cannot wait until the weekend** to work on this project

and count on getting these questions answered before the Monday due date.

(Appendix H, Online News Page)

As these initial proficiency project drafts were submitted, more specific feedback could be given to each student regarding her work on the project thus far. Although I found that instruction regarding concepts and developing understandings was not prominent in the feedback for this project, instruction was certainly used to guide the process. Instructions varied, and several were requests for more content to be added, but most were not focused as much on quantity, but quality of the summaries and analyses. Found more often for the online section were comments such as, "This is a great start – you are summarizing well and making good connections w/interpretations. I need to see theoretical info added here...," "These are good questions – I am wondering if you could re-word them so that they are questions you could answer with your observation?" "again, relate activities to the observations," etc.

There was some confusion and struggle related to the Proficiency Project assignment in the online section as well. Questions came from students in the form of email. Again, similar to the face-to-face section, I answered each question to the extent that I felt it would not compromise my original intent, but that I hoped would provide the answers they needed to move forward with the project. Also like the face-to-face section, I resisted the urge to give an example of the project, knowing that an example might help some along. The following email exchange represents what I believed to be a fruitful interaction regarding the project:

Emma: Ok, now that I have completed my infant and toddler observations, I want to make sure I am on the right track.

> I basically wrote down for 2 hours what the child did. I then will take that information and fill in my areas of development. Also, each fact like child rolled over or child sat up and picked up toy and put in mouth, i will interpret each of these. I also checked off on milestones worksheet for each child. I have my three questions answered and need to add to summary? so on this assignment I will have 2 seperate papers each with a summary, an anlysis and an activity section? For the infant, what would activity be? The 11mth old I observed mainly crawls around and likes to play with everything, but really doesn't get involved in dramatic play, or science or math. So probably library and blocks? So I should have 3 paragraphs for each age group? or 4? summary, three areas of development, analysis of observation, and activities section? Hope I am on the right track! Thanks (student email, online section)

In my response, I was willing to give a length requirement, but this came only after the student had worked out her ideas regarding the project on her own:

> Yes!! This is absolutely what you are supposed to do. For the infant activity, just think of something that is appropriate for the 11 month old (reading and soft baby blocks do qualify) and describe the material, the activity you would do with the material, and why you think that would be a good idea based on that child's current development. The only thing I would correct would be the number of paragraphs. I think it should take more than one for the summary of observations, and then at least two or three to cover the three areas of development, another to talk about your questions, and then you can format the activities like something you might find in a curriculum book. (instructor email response)

This example of process guidance represents a common thread in the interactions between the online students and me. As they navigated their way through, I made many offers to help, and attempted to take advantage of the questions as they arose.

Introducing Disequilibrium

Constructivist education practices many times include the introduction of disequilibrium (Castle, 1997) in some form. However it can be identified that conflict or potential conflict may exist, the educator can introduce the concept or procedure in a way that forces learners to be confronted with their conflict in order to produce what Piaget referred to as cognitive progress (Piaget, 1970). In the earlier stages of data analysis, I struggled to find evidence for this in my teaching and assignment feedback. However, once the areas of conflict had been identified through the investigation of constructivist processes to answer question two, it became clearer.

Throughout the time that I have taught Child Development and other classes, I have consistently found that many of my students feel confident in their perspective on an issue to the exclusion of all other insight. Therefore, it is a constant challenge to direct attention to outside opinions or "experts." When expert opinion is introduced, it creates a conflicting situation for the students. Seeking to move my students in both sections to a higher level of epistemic development (Marra, 2002), I consistently asked questions such as the following in my feedback in response to some statement that was slightly off the beaten path of commonly accepted early childhood theory:

So who does that remind us of? (theorist)

Have you found anything from the text that addresses this?

In the text it says that often the children who are the most aggressive are the most

prosocial. What do you think of that?

At one point in the online section, I identified that there was some significant confusion and even what I would consider some backlash related to two models of child development that were presented in the text. I drew their attention to these models and asked them to react to it inside the discussion forum. The models were designed by minority researchers to depict what they considered to be the realities faced by minority children related to factors that influence their growth and development. Minority and non-minority students alike were uncomfortable with the concepts presented in the model. They used common phrases such as "I do not see color," etc. I was very motivated to respond with my own direct instruction related to the purpose of these models, and thereby confront them with new ideas that would be uncomfortable for them. Here is an excerpt from a document that I posted inside the online discussion forum:

> I can see from our discussion on these models that there is much confusion about what they represent and how they can apply to us as teachers, caregivers, and directors. I have to say that as I look at the models themselves, I experience confusion myself! However, if we look carefully at what the authors are saying about what these models represent, we can get some help with this. First of all, I think we can all agree that children are children and should not be viewed as different or "less than" or "more than" based on what "race" they are a part of. **However,** what I believe the minority researchers were wanting to demonstrate with this model is the reality that even though racism is wrong, it has existed in our history and continues to exist. Therefore, this reality does have an effect on the world the victims of racism grow up in. So, even if you and I "don't see

> color," we shouldn't allow ourselves to be blinded to the consequences of other people's racist behaviors. I think the Coll authors are trying to get us to see that all of those surrounding factors can be things that minority children have to overcome – even if we can't see it ourselves. Hopefully that makes some sense. I am uploading a copy of the actual article they wrote so that you can read about it more if you would like to.

Here I began with a point of consensus (I experience confusion myself!), and then moved into thoughts that I knew would create some conflict for them. Interestingly, those that did respond to this post made comments that acknowledged the agreement but ignored the conflict (I'm glad to hear I wasn't the only one confused!).

Some of the feedback on proficiency project drafts (less than half) included attempts to draw attention to inconsistencies within student explanations, an additional strategy used to introduce disequilibrium (Castle, 1997, p. 65). For example, one student wrote the following to describe her theory about a child she observed named Megan.

> I believe Megan is on the physical stage because she tends to move around a lot, she could be considered advanced compared to others in her age group.

Regarding another child, she states something similar.

> I believe Tristian is on the cognitive stage…

My feedback included circling the phrases "physical stage" and "cognitive stage" and drawing an arrow away from them toward a question mark. I also underlined the phrase "she could be considered advanced" and added a question mark beside that phrase as well. This is an example of typical markings for these types of phrases. It is my way of communicating that I have a problem with the student's reasoning or word usage, but

is not explicit at all. Other examples were found regarding statements such as “he has a higher than average attention span and problem solving skills.” I found that I was consistently challenging statements made regarding comparison statements such as “advanced,” “behind,” etc. Other types of theories that caught my attention were those that seemed to be especially harsh in labeling children, such as “bully” or “mean.” Feedback related to the observation summary for one particular student read, “I need to see your actual observations to know how they match up to your summary.” This was another attempt to point out possible inconsistencies based on what was evident in the student’s summary.

Once points of conflict had been identified through the analysis of data related to question two, I was able to go back through the data related to question one and identify points in which I introduced conflicting ideas. Several examples were found. First of all, the simple introduction of the idea that there are theorists whose theories matter in our everyday work with children and families was an idea that found great resistance. Secondly, the idea that observations can be a helpful tool in understanding child development conflicted with many students’ currently held beliefs. Finally, with the online group primarily, the idea that young children learn best through play conflicted with previously held ideas about learning in early childhood. Because each of these concepts was heavily emphasized throughout the semester in both sections, much conflict occurred, creating significant disequilibrium.

Summary and Comparison of Online and Face-to-Face

Therefore, evidence was found within the planned and enacted curriculum of both sections of the course, online and face-to-face, of the specific constructivist education

recommendations the course was designed to employ: attending to the individual, respecting developing understandings, facilitating dialogue, facilitating inquiry, facilitating meaningful investigations, and introducing disequilibrium. Many similar patterns were found across both delivery methods, as my teaching style in the face-to-face classroom translated to the online classroom in the type of instruction that I gave, the feedback on projects and other assignments, and even the facilitation of class discussion to some extent.

However, there was some variance between the two modes of delivery regarding the degree to which evidence was found for each theme. Attending to the individual is a theme for which I found evidence in over half of the relevant data sources for both sections. However, the quality of this was very different for each. For example, in the face-to-face section, I was able to use body language, facial expression, physical presence, eye contact, tone of voice, etc., to place students at ease in the classroom. When students spoke up in class, I could use all of those tools to communicate my attention to them as individuals. However, the face-to-face classroom also provided a way for several students to remain disengaged in the back of the classroom, without the necessity of interacting with me personally very often. By contrast, the online classroom was void of all of the interpersonal forms of communication listed above. We communicated through text only, whether inside or outside the classroom. Interestingly, however, there was a greater need for me to interact with the online students one-on-one as they navigated their way through the course. As a result, those that successfully completed the course (including all research participants) had done so because we had engaged in multiple personal and individual interactions about the class. For several of

them, these interactions morphed into personal conversations about struggles they were having with their own children.

For both sections, I placed a significant amount of energy on facilitating the process of completing the proficiency project and other assignments. Although this resulted in my lack of focus on facilitating the actual theory building students were engaged in, it did serve the purpose of moving many of the students along toward a better ability to conduct an investigation of their own. However, I found that in the online section's feedback on assignments and not necessarily the feedback for the face-to-face students, my questions were sometimes used to guide the actual thinking processes of students rather than just to guide the process of completing the assignment.

In both sections, the instructor facilitated discussions were more authentically identified as closed ended discussions rather than true, open ended discussions facilitating "group dialogue that explores an element of the domain with the purpose of leading to the creation and shared understanding of the topic" (Richardson, 2003, p. 1626). However, I discovered that in the online discussion forums that I did not participate in, the students were left to explore the topics with one another, with a much more open ended result, revealing that there was stronger evidence in the online classroom for true creation and shared understanding of a topic or concept. This interaction that was separate from my intervention occurred during the small group discussion sessions during the face-to-face class meetings as well, but they were always followed up with my personal feedback and direction, moving the class to a certain point of knowledge. However, this type of careful interjection of direct instruction can and does fall in line with constructivist education principles, if students are participating in the social construction of the knowledge

(Kamii, 1979; DeVries, 1997).

The purpose of question one was to explore whether or not constructivist education principles could be found in my planned and enacted curriculum for a particular course, Child Development, as it was delivered in two very different ways. Results from this investigation showed that the constructivist education principles were present, with the majority of the relevant data for each theme demonstrating some aspect of that theme, and that there were many more similarities than differences between the online and face-to-face sections. In the areas that differences were found, the online section seemed to have some stronger evidence toward constructivist education principles than the face-to-face section.

CHAPTER V: FINDINGS

CONSTRUCTIVIST PROCESSES

> At the point of encounter there are neither utter ignoramuses or perfect sages; there are only people who are attempting together, to learn more than they now know.
>
> Freire, 1970

The results of the investigation related to the second research question that guided this study are presented in this chapter. Through the study of this question, I sought to deepen my understanding of the nature and significance of the experiences of two groups of students completing a course in Child Development in two very different learning environments, as these experiences relate to constructivist processes.

Following the completion of each of these course sections, face-to-face in the fall of 2010 and online in the spring of 2011, I collected data from participants that included qualitative interviews, course assignment products, discussion forum text, and instructor-student correspondence. For the process of analyzing over 1,000 pages of data, I engaged in van Manen's (1990) six research activities for human science research. Each is described here, with a summary of how this activity was carried out in the context of this study:

1. Turning to a phenomenon which seriously interests us and commits us to the world (van Manen, 1990, p. 30).

The presence or absence of constructivism in early childhood teacher education is a phenomenon that has captured my attention for nearly ten years before this study began. As an individual that seeks to follow constructivist principles in my teaching of all ages, I have been perplexed and compelled by this phenomenon, and for several years have carried the hope of conducting a comprehensive investigation by delving into the experiences of my students.

2. Investigating experience as we live it rather than as we conceptualize it (van Manen, 19990, p. 30).

According to van Manen (1990), this requires that the researcher "actively explores the category of lived experience in all its modalities and aspects" (p. 32). Using multiple sources of data for each participant, I triangulated data sources to provide the most comprehensive view of these participants' experiences in the course that included the processes and products of their work, their reflections on the processes and products of their work, their communications with other students and me as their instructor, and their reflections on themselves as individuals in the context of an ecological system. As a full participant in the context, I had a unique perspective into the essence of the experience.

3. Reflecting on the essential themes which characterize the phenomenon (van Manen, (1990, p. 30).

"…phenomenological research consists of reflectively bringing into nearness that which tends to be obscure, that which tends to evade the intelligibility of our natural attitude of everyday life" (van Manen, 1990, p. 32). Reflection on the part of both teacher-researcher and student-participant created a more in-depth view of the phenomenon under study (constructivist processes). Parts of the experience that are traditionally obscure

were brought to light through the inclusion of these reflections. The process of thematic analysis brought to light the essential themes related to the unit of analysis.

4. Describing the phenomenon through the art of writing and rewriting (van Manen, 1990, p. 30).

Falling in line with this approach to analysis through writing, following the thematic analysis approach to analyzing data, I engaged in many hours of writing and rewriting the data results. This process yielded much fruit, in that themes were reorganized and obscure elements came to light.

5. Maintaining a strong and oriented pedagogical relation to the phenomenon (van Manen, 1990, p. 31).

Throughout the data collection and analysis process, I maintained a commitment to focusing on the unit of analysis (constructivist processes) by keeping that phrase visible in a physical form. Because there are so many parts to the experiences of students navigating through a course in child development, there are many options for exploration. A focus on the unit of analysis under study helped to prevent wandering aimlessly as van Manen (1990) describes.

6. Balancing the research context by considering parts and whole (van Manen, 1990, p. 31).

In the process of maintaining focus on the unit of analysis for this research question (constructivist processes), I maintained a commitment to considering the experience as a whole related to that phenomenon. While many seen and unseen factors influence the experience of one navigating through a college course, there was a certain piece of the background to this study that had to be brought to the forefront in order to adequately

consider the "parts and whole" together (van Manen, 1990, p. 31). This was the placement of my participants on an epistemological development scale. Epistemological development has been conceptualized in many different ways, with a certain degree of agreement among many (Marra, 2002). One model in particular finds agreement with other commonly accepted models, but is based on women's experience uniquely. It is from *Women's Ways of Knowing* (Belenky, et al., 1997) and is described in Chapter II. This model of adult women's epistemological development was used to provide the backdrop for the results of the investigation of this research question, and serves to clarify the context of the experience of these women in becoming constructivist. Therefore, the emerging themes related to the *Women's Ways of Knowing* construct are presented first in this chapter. Following this, themes related specifically to constructivist processes are presented. Then a summary and comparison of the two course sections provides the conclusion.

Women's Ways of Knowing Themes

I began data analysis with an inductive approach to thematic analysis, following van Manen's (1990) pattern to begin with reviewing large chunks of data for overarching themes, moving then to a highlighting approach and down to a line-by-line approach. This process has also been described as constant comparative analysis (Patton, 2002). Through this process, additional themes emerged related to the context of these women's lives as related to the *Women's Ways of Knowing* framework as well as the unit of analysis of constructivist processes. The themes related to the *Women's Ways of Knowing* framework are presented in this section.

Childhood Struggles

Being an aware and active participant in the construction of knowledge is said to be the result of a certain level of epistemological development (Belenky et al., 1997; Marra, 2002;). Therefore, it is helpful when studying the presence of constructivist processes of particular individuals, to understand which stage of epistemological development these individuals operate in. As described in Chapter II, *Women's Ways of Knowing* (Belenky, et al., 1997) presents two stages of epistemological development that are common to both teachers and college students in their first few semesters. These stages are the received way of knowing and the subjective way of knowing. The results of the study presented here indicate that the participants in this study were operating at the beginning of the semester as either received knowers moving toward subjectivism, or subjectivist knowers moving toward a procedural way of knowing.

A person operating from the received knower perspective feels voiceless, and her self-concept is embedded in her relationships and roles, and in others' opinion of her. She believes that truth is absolute and that it originates from experts and authorities. A person operating from the subjective perspective is gaining her voice and sense of self. Truth is still considered absolute, but its origin has moved from outside authorities to the self. As a result, experts and authorities are disregarded to make way for experience, the primary teacher.

> The majority of the women we classified as subjective knowers did not come from supportive, stable, and achievement-oriented families…A large number of the women we classified as subjectivists or as moving into subjectivism grew up without the protection of a father due to early divorce, neglect, or abandonment.

> Many subjectivists had had parents or husbands who belittled them or squelched their curiosity or chastised them for questioning. Remembering back, their world had felt unpredictable and fragile, insecure and impermanent. (Belenky, et al., p. 56-57)

Here are two participants' accounts of a particular point in time during childhood from their Bronfenbrenner ecological systems summary paper. (Note: grammar and spelling were left as written):

> Carol: My mom was a single parent, whom along with a sister and only brother, shared the same house which more or less resembled a very large duplex. Within our community, there were two main streets and this is where the majority of African-Americans lived. Upon entering the home was the living room where my uncle slept; then came the first bedroom which belonged to my aunt and her youngest daughter; then came the second bedroom which was my mom's bedroom and it consisted of two full size beds. My brothers slept in one while my sister and I shared the other bed with our mom. The next room was the dining area with stacked bunk beds against the wall and this is where my cousins slept – boys on the top and girls on the bottom!!
>
> I felt as though I had the world's greatest kindergarten teacher. She made the children in her class feel safe and secure she showed a personal concern toward our learning skills. She would even invite us to visit her home on weekends. My mom said no in the beginning, but later she came around and I would get to spend some Saturdays with my teacher. I will never forget her as one of my early childhood educators.

Takyra: My mother was a nurse at the local hospital and my father was a cab driver. I had a very good childhood experience until about age 5. I remember my father was abusive to my mother and me not wanting to take sides so I would just hide behind the door until it was over. When my father left then I would go and comfort my mother. My mother was very much involved in our school she was on the P.T.A. She always volunteered for all school functions. Every night she set aside an hour for homework even if we said we didn't have any she would make something for us to study. My teacher was a very stricken teacher but I really like her she kind of reminded me of my mother. We had chores and we got allowance every week for our grades and performance at home. We were not allowed much television during school days. My parents encouraged lots of reading. My favorite book was "To Kill a Mocking Bird". I remember reading that book a thousand times.

Although each and every story written for this assignment was as unique as the individual it represented, the two excerpts above contain common themes found throughout both course sections. These themes included the strictness of the adults in authority, low socio-economic status, households with abusive or absent fathers, and a lack of positive parental involvement in education. These patterns fall in line with the descriptions of received and subjective knowers found in *Women's Ways of Knowing* as described above (Belenky, et al., 1997).

Balancing life and school

For many students, although their motivation in completing the course was strong, the challenges they faced were strong as well. Some challenges interfered with their

perceived ability to be successful in the class as they defined it, and others made it difficult just to complete it. The large majority of the students in this program must find a way to juggle their college course work with ongoing commitments to family and full time work. While this is typical of students completing two-year associate's degrees across all disciplines, these students are unique in that many of them are in the especially demanding position of directing a child care program.

For many of these students, the most significant challenge can simply be finding the time away from work to complete the observations required in each course. The Child Development course is uniquely challenging because of the requirement to observe at least 10 hours. Observations are especially difficult to manage for students that are family child care home providers, as it is very difficult for these students to have time away from their program. Also challenging for this group is just finding the time to complete coursework. As Kathy from the online section shared, "A challenge that I have overcome is allowing myself quiet time during the day in order to complete my reading and assignments for school." This sentiment was similar to Emma's statement that "going back to college at 29 with a family and a full time job is a challenge," and from Melissa, "Like most others in this class I have a family and work to do."

A student from the face-to-face section stated in her mid-term reflection what many had voiced in class, "My biggest challenge was learning how to juggle all my classes, and find time to do all my observations." Deanna expressed the following in response to the question regarding what challenges she had to overcome:

> Finding time between a full time job and trying to attend school has been a challenge for me. I don't usually take no more than 3 hours during the fall

because it is such a balancing act, with all of the paper work at my job yet alone at school that has to be done.

Pleasing the teacher: face-to-face

Woven throughout participants' reflections on the challenges they faced in completing the course were references to me, the instructor, as someone that needed to be pleased if they were to be successful. As Takyra expressed in her interview:

> I thought, "oh God, this is the head, the department head, Oh my God!" I was scared you know...but then after a while I was like "you know she's real nice, she's really cool and laid back and I don't have anything to worry about and she's just another teacher" you know instead of lookin at her as just the department head, just another instructor and she's here to teach us and she's you know genuine and so I'm like "I'm fine" So after I relaxed on that and found out how you wanted us to actually write our essays and write our papers...you need us to be thorough and you need us to write it out...

In reflecting on their work on the proficiency project, most students remarked about their efforts to figure out what I wanted them to do as their instructor. My attempts to guide them into becoming more comfortable in making some of the choices regarding format, style, etc. were unsuccessful as they continually sought to know what I wanted.

> ...the feedback it was helped me a lot you know to have everything done you know like she would want us to do it
>
> ...my struggle was in how to not write it but make it look like it should have looked
>
> I'm thinkin you wanted us to come up with questions that people had been askin

and basically answerin them ourselves in our head. That's what I thought you wanted.

...after I, I got to know you I knew that, cuz that was one of my problems that I had cuz I was like, "well I answered the question" but it wasn't thorough I guess enough for you

...it was interesting, cuz I didn't know which way I was goin, so I jus...I did it exactly how I thought you would have wanted it.

This commitment to pleasing the teacher represents a continued understanding of knowledge from a dualistic perspective (one right answer, one wrong answer). The source for the right answer is the teacher or other authority. These students were at times overcome by their desire to determine what the right answers were from my standpoint so that they could reproduce these same answers for me, thereby securing my approval. In this way, they operated from a very dependent standpoint, causing them to fall most closely in line with the received epistemological perspective, as described in *Women's Ways of Knowing* (Belenky, et al., 1997).

Pleasing self: online

Pleasing the teacher was not a theme found in the online data. Rather, these students seemed to be following an internal guide regarding the standard of quality based on previous experiences in school. They did not seem to experience nearly the same amount of frustration that the face-to-face students experienced related to instructor presence and instructor standards. Demonstrating this were self-descriptions such as this one from Emma, "I just like to do work on my own and know that it's done and know that it's done my way I guess…I'm very black and white, so I felt like I had to have the

right answer…" She made an interesting comment regarding the group project and her judgment about a fellow student who she didn't feel made enough of an effort on her piece, saying, "…it was just like so simple, I was just like, 'oh, huh, is it that simple? or…is she wanting more? or…" These questions represent her questioning my standards as the instructor. In describing her strengths, Emma shared, "I feel I have given 100% to all of my studies. I have discussed my thoughts thoroughly and given feedback to classmates. I think I have completed homework assignments to the best of my ability and spent a great amount of time on them."

This commitment to pleasing self indicates that these students operated with a measure of independence, indicating that they may be functioning as subjective knowers, or in transition to a subjective knower position. While they still have very black-and-white views of the knowledge, their understanding of the origin of that knowledge relates more to their own opinion rather than that of an authority. So, while the knowledge itself was still understood as dualistic (right/wrong), the voice and opinion of the individual was very much in play with regard to what makes an idea right or wrong.

Interestingly, as the semester moved forward and came to an end, these students shared through reflections on the class that they had discovered a new appreciation for learning from others. As described in the discussion of the theme "social interaction" that follows in this chapter, the discovery that they were learning through their interactions with others was unexpected. According to the *Women's Ways of Knowing* framework, this movement in perspective is related to movement on the epistemological development continuum. Therefore, it is possible that this finding demonstrates the ability of online class discussion forums to not only apply constructivist education

principles, but facilitate epistemological development as well.

Frustration: face-to-face

In seeking to please the teacher in order to do well in the class and fulfill their personal and educational goals, many students experienced a great deal of angst and frustration. The absence of an example with detailed explanations of format created a situation for many that proved very uncomfortable for them. Rather than embracing the opportunity to be creative in their approach to the project, they felt unsafe not knowing the outcome of their experimentation. The following excerpts are from the face-to-face Mid-Term Reflection responses (see Appendix C):

> Some of the work we are assigned is not very well explained. I feel that I would be able to do the work better if there was better instructions with the assignments. I feel that our class is an awesome class overall. There is not much I would change other than the assignment thing. The class is great!
>
> Give specific examples. Maybe it would be more specific, if there were actually models, or posters to help better understand child development.
>
> You should give examples of the work that you want the students to do, because for some people this is or may be their first experience with college or they may not be in the field of child development at all. I feel that this would have been a big help, for example the Proficiency Project that we are working on right now.
>
> The one thing that would make the class more effective for me, would be more detailed information as to what to expect and look for when entering a facility for observations. An official guideline to go by to effectively write an analysis.
>
> ...I want to make sure that I do everything cuz you know my English is not that

> good so I wanna make sure if I understand what the teacher wants us to do. In my opinion I think that the only changes in this class I would make is to demonstrate more examples on what kind of activities you want with the assignments because I am a visual learner so I feel it's difficult to understand some of those assignments.

These comments ring true with the descriptions found for both received and subjective knowers In the *Women's Ways of Knowing* model (Belenky, et al., 1997). Educational experiences can be very difficult for these women for whom words are central, and they feel that they learn best by listening to someone talk. These learners are more comfortable when their whole educational experience is clear-cut and given to them. They easily accept the banker-teacher method (Freire, 1970), and find free-form academic environments to be very irritating (Belenky, et al., 1997). Because of the burdens outside her academic pursuits, she doesn't want to add the burden of "mapping out her own structure" (Belenky, et al., 1997, p. 204).

This finding holds significant implications for teaching from a constructivist perspective. If free-form academic environments are not received as they are intended, the resulting experience for the students may have a detrimental effect on the learning experience. If students do not feel safe in their learning environment, opportunities to explore their own voice and ability to investigate a subject are not taken advantage of. If students become paralyzed by the fear of failure as a result of a lack of well-defined structure, then the intent of the exercise is lost. The incorporation of this finding into a philosophy of teaching is explored in Chapter VI.

Self-preservation: online

Even though they made similar attempts at completing the proficiency project as the face-to-face students, and received the same type of feedback and low initial grades, the online students did not verbalize frustration with the process. These students were much more inclined to describe the process as a challenge to figure out. For example, here is Linda's description of receiving the feedback on her initial draft, shared during her interview:

> …when I first saw the grade I didn't like it. But other than that I like the way you categorize everything, cuz it tells you exactly where you did wrong and where you need improvement cuz uh that's the first thing that caught my eye…and then your feedback here (pointing to my feedback on her paper) because I said "why did I get that?" and could let it go and say "alright well that's a grade she gave me" but using this form (rubric), I can go back and more or less learn from where I didn't give all the information out.

When asked about her process for completing the Proficiency Project, and how she felt about the clarity of instruction, Emma said, "I feel like every assignment was thoroughly explained and if I had questions they were always answered…after we turned it in and then…I would pull up my computer and I saw your notes, and we were to go back and fix, and make our paper correct or better…" Most participants from the online section verbalized similar reactions to the process during the interview.

However, it wasn't as if each of these students necessarily followed all of the instructions given in the feedback. For example, I continually pressed them to analyze their observations based on theoretical information, exactly the same as I had for the

face-to-face section. Rather than becoming frustrated with their inability to understand how to do this (as Melissa and others admitted), several of them just calculated the cost of simply leaving it out and chose to do so. This way of handling the uncomfortable situation of being prompted to include the views of others was a survival skill that was better developed in these students that were not as susceptible to being teacher pleasers. Kathy was the exception, in that her omission of the theoretical information was a way of giving up on the class. She decided early on, I believe right after the initial feedback was given, that she was not going to pass this class. She repeatedly stated during the interview that she was very surprised to find that she had passed the class.

Constructivist Process Themes

Identifying constructivist processes within an experience is a difficult endeavor at best, and one that can be conceptualized in an infinite number of ways. Based on my estimation of their appropriateness to the particular context of this study, as well as the high level of agreement among scholars about their relevance to higher education contexts in general (e.g. Castle, 1997), I chose the following themes to sift the data following the initial inductive process: interest, questioning, thinking about thinking, social interaction, cognitive disequilibrium, sense making, and theory building. Evidence for these themes was found throughout the data, though not necessarily in places and in ways that I would have predicted. Findings from the face-to-face section and the online section are presented together, as their themes both overlap with each other and diverge from one another. Following the presentation of themes is a cross case analysis summary.

Interest

According to DeVries and Zan (1994), "Adults are often capable of constructive effort even when interest is at a low level...however, the absence of interest can prevent effective effort. When our interest is thoroughly engaged, our efforts are most productive" (p. 63). Therefore, interest plays an integral part in not only facilitating productive effort but as an indicator of constructivist principles at work in an educational environment (Castle, 1997). Although the strategies intended to promote awareness and utilization of personal interest did not have the desired effect, interests stemming from real life experiences played a role in the learning process for these students.

A primary strategy that I used to encourage identification and utilization of personal interest as a guide for learning was to let them decide which theorist they would like to study more in depth for the group project. They were given five theorists to choose from and were grouped according to which theorist they chose. Kathy from the online group said it best when I asked her how she made that decision: "I just grabbed that little yellow book and the first person in the book I think." This sentiment was shared in one way or another by a number of other participants as well.

However, evidence of interest as a guide for learning was found in over half of the relevant data containing the participants' reflections on their life experiences, for both face-to-face and live sections. The opportunity to conduct more open ended personal reflection revealed these strong influences for learning that were related to life circumstances, including current and past experiences. Generally, these experiences had caused or were currently causing some measure of angst that needed resolution. During her interview, Takyra shared the impetus for her return to school:

> ...I felt like I didn't know enough to run my center I just felt…illiterate…I felt like the same thing I had done in the home for ten years was gonna be similar…but it's like a lot different. The more people you have to come in contact with- more licensing, the health department – all of that played a role…I felt like I was always on edge, to make sure I am doing it right, I don't wanna get in trouble, you know so I felt like I needed to go back to school you know to get more education on how to run the center properly, so...and I just didn't feel right being open to the community and not knowing, you know having enough education and enough knowledge to where when they came to me for help I can't even I don't even know where to direct them.

An area of interest that was revealed several times during discussions held inside and outside of class was that of parenting. Although most of the students took the class as part of the requirements for their current or future work with young children, their interest in understanding the child development concepts seemed to frequently stem from their experiences with their own children or grandchildren. As Carol from the face-to-face section shared,

> I have a daughter with two sons, and sometimes parents look at kids at why this one isn't doing that and then that one did, and I was able to – from my class – I was able to tell my daughter that you have to wait because he's not ready because she always wonders "why is he not talking?" you know, "why is he not talking?"

Therefore, although areas of interest related to child growth and development could be gleaned from much of the data, they were not the result of any educational intervention on my part. This has important implications for practice, as it brings to light

the elusive nature of the element of interest as a motivation for learning. Interest is not delivered by an instructor; it is brought to bear by the learner. How this interest is accessed in the context of a learning environment is a problem that warrants attention by those seeking to follow constructivist principles in curriculum development.

Questioning

When students raise their own questions, they are engaging in the learning process in a way that reflects constructivist principles at work. Inquiry is a key element of constructivist processes. However, it must be student inquiry and not teacher inquiry that provides the impetus for construction of knowledge by the learner. When presented with instructional strategies designed to encourage articulation of questions about a subject related to child growth and development, participants were, on the whole, unable to easily access particular questions. When asked directly during the interviews, several reported that they were just not able to think of anything they currently wondered about. When prompted on the mid-term reflection, many students were able to articulate some personal questions they had as they were going through the course. The following are various samples of statements made by students in the face-to-face section on their Mid Term Reflections (see Appendix C):

> I wondered how I can help the children to become independent, successful students. How can I make a lasting impression on the children and also how can I work with the families to build the relationship from home to school?
>
> Do children really need adults to grow, and develop?
>
> Will the study of child development tell us everything to expect or will we still have mysteries about how children think, why they do the things they do, can they

> do more than we think?
>
> My own personal questions would be how do children grow? Why do some children learn faster or slower than other children?

These questions were generally very broad, with some of them being more specific and conducive to a study on that topic during this type of class than others. Although several of these questions are compelling and could be viewed as revealing a certain level of student inquiry, in context with the rest of the data, these questions did not hold up as guiding the path of inquiry for these students. For example, the majority of students struggled greatly when coming up with specific questions that could guide their observations. When asked about this struggle, many simply stated that there just wasn't anything they wondered about.

Questions posed by the online group were somewhat specific and seemed to be coming from a more personal place of interest than what was found in the face-to-face data. For example, Martha, an online student, had just one goal in mind at the time she completed her Mid Term Reflection (see Appendix C):

> To get educated on the behavior of children. More aware of behavior of children and how to handle situations when dealing with behavior. My question on how to handle children: behavior through using positive consequences.

And Emma, also an online student, shared on her Mid Term Reflection:

> I feel I could use more knowledge in cognitive development. What is my role in language development? I know each child develops differently at different stages but why do some children speak clearly at a very young age and why do others take longer to speak clearly? What can I do to help each child pronunciate

and speak more clearly?

These questions, taken alone, indicate a strong personal motivation for very specific learning outcomes. However, although these students were given the opportunity to use personal questions to guide observation and analysis of young children using theory and developmental information as a guide, they did not incorporate these questions into that process. Seemingly, then, these questions were not used to guide their course of study.

Carol, a face-to-face student and long-time teacher of young toddlers, shared her frustration with her class of toddlers this year during her interview:

> ...I would get puzzled when I had days of feeling like my mind was a big question mark concerning this year's students in my class I would even ask other people working with children how are their kids this year, because I couldn't understand why the children were saying no when told to do something or how they would just stand and look at me as I would say something toward one of them not making a good choice for example while playing or sitting beside another child just to rare their hand back and either slap a face or a hard hit in the back and the look on their faces in my opinion is like what are you going to do...

Here she is expressing the frustration that many of these participants experienced on a daily basis in their work with young children. Throughout the semester, in both online and live class discussions, these frustrations and questions surfaced during discussions of a particular topic.

Solving parenting issues as a motivating factor for learning was a much stronger

theme within the online data. Several of the participating students from the online group spend their days at home with their children. Two of the students are family child care home providers whose own children are a part of their groups, one is a full time stay at home mother, and one is a mother with grown children and grandchildren that she is very involved in raising. Therefore, some of the more compelling questions, the burning questions, came from the experiences of a mother trying to do her best to be successful in raising her children well (as she defines it). Here is Emma, an online student, in her interview:

> I think it's interesting because…being a mom of two smaller ones there's a lot of things that I'm frustrated with or that I don't know, you know, should I do this, is this normal, what's the best way to handle this…

Melissa, another online student, was experiencing some significant challenges as a parent during this semester, and these challenges became her motivation for learning about and understanding some of the content that was covered. At one point, her frustration was great enough that she emailed me to ask some personal questions regarding her situation:

> It is SO frustrating. The pediatrician recommended placing him in a pack n play time out and to love on the victim in front of him. That does nothing. He pushes, hits, as he says 'BAMS' everyone. Often for no apparent reason. A child walked past him with a cup and he kicked the cup...just being a total jerk. If I get on to him he smiles. :-/ part of me says 'well, he's just a baby and doesn't know any better' but I know he knows what he is doing. Just all the things that you say 'my kid will NEVER do that' he does :(part of me says he'll grow out of it but then again what if he doesn't?! Ahhhhh!! I don't want to find any dead animals in my

backyard one day.

She and I commenced a conversation in which I attempted to answer her questions and lead her to consider some of the child development principles we were studying in the class along the way. In a subsequent reflection assignment, she stated, "I am currently working on overcoming my son's bullying…boy that is a challenge. Thankfully I have an awesome professor who gave me some great ideas to try and help deal with this situation." Regarding her daughter, she stated that, "I have worried that she may not be learning what she needs to learn. I wanted to find out about what she should be doing and learning." Interestingly, when asked about coming up with questions for the observation, she said, "it was difficult for me to come up with questions…I don't really wonder."

This phenomenon brings many new questions regarding the role of a teacher in bringing latent knowledge and personal questions to bear within the planned an enacted curriculum of a course. It is clear that this student in fact has many questions about child growth and development that are motivated from a very personal place. However, even with clear opportunity and multiple prompts from the instructor, she was not able to connect her personal questions regarding child growth and development to the actual study of child growth and development.

Thinking about Thinking

By the time students take the Child Development course, they have already taken several courses that have required self-reflection. From the very beginning of the program, they are asked to reflect on themselves as practitioners, as future practitioners, and as learners in the classroom. In reflecting on their experiences in this course, several

felt comfortable describing themselves as learners, and comparing past experiences with the current one. The following quote from an interview represents many comments made by students, especially those from the face-to-face section:

> I'm a visual person. I'm like, I see you, I have to see first. That way…if you put an example…you know I'm a visual person...pictures and words and books and all...

A number of students shared this view that their learning comes by having information deposited into them by a traditional instructional method, as evidenced by the many comments regarding a need for a model for the Proficiency Project. Avery, a face-to-face student shared this about how she learns best during her interview, "...listening, hands on, I don't think I could ever pass a class if it was online." When prompted about who she learns from listening to, she said, "my instructor, the other people around me, the information that was given out."

Students were somewhat split in their descriptions of learning by reading the text, but most referred to the texts as a way that they learn new information. Referring to how she had learned something in particular, Carol stated in her interview, "Not the reading part...to me every time I get ready to read, I'll probably fall asleep...it was not the reading part." Interestingly, however, Carol later went on to state that after the class had ended, she was inclined to read more on the theories we had studied by borrowing the book from a classmate who had not sold it back. "...like I said with the reading of the textbooks…I didn't have time…but when I got a chance, I did read on those theories, I really did."

Others had a more straightforward approach in their reference to the text, generally just mentioning it in a listing of all of the things that had contributed to their

learning throughout. However, as Emma recalled, "The most significant learning so far has to be learning about the theories and theorists. During a paper, I was able to use this book and discuss what and how important play is to the child during the day."

References to the text from the online section were similar to those from the face-to-face students. Kathy recalled that she read the text for the first few weeks and then phased out toward the end, saying, "I guess that's kinda what everybody kinda does." Melissa shared that because of family circumstances, she really didn't read her text too much during class, but keeps it as a reference. She admitted that she read the book to answer the discussion questions, but didn't really get into it until after the class was over:

Completion of the Proficiency Project required 10 hours of observations in a child care facility or family child care home. Several references were made by participants to the learning that occurred as a result of these observations, such as this statement, "Through the observations and learning about the stages, it has helped me to understand why the children do the things they do." Some students found that the concepts taught in class could be observed and reflected upon in the context of the observations, as this student from the face-to-face section recalled during her interview:

> The most meaningful would be to watch the children during the observations to learn to play with others. I learned how important "tummy time" was to the infant development. I also learned how separations have an effect on children during the child's stages of growth. These insights helped me realize how important the stages of growth help their cognitive and social-emotional and physical development.

Carol revealed that in her own thinking about thinking, she had decided at some

point in her life that she could not learn from someone younger or less experienced than she. This is a common sentiment that I have encountered over the years, and one that is shared with me frequently by my older, non-traditional students. In recalling her initial reaction to me, her instructor, she shared her honest feelings about the inner turmoil she experienced regarding whether or not she thought she could learn anything from me:

> I'm like, "why is she telling me this, why is she telling me this, I already know all that" and then a part of me was like, "well why don't you just listen and try it."...I was at the state of mind where "hmph, ok, how's she gonna tell me, I already know this"

In the process of thinking through this dilemma, she reflected on her own knowledge construction. She had to challenge her own beliefs in order to allow herself to consider her ability to learn something new in this context. She had to think about how her own knowledge was or could be constructed, and the role of her attitude in helping or hindering that process.

Most students struggled to articulate their learning as a process. When asked to describe their most meaningful learning so far, students made statements such as, "The most meaningful (learning) was to have an instructor who explained the course material properly and had patience," and "sitting in the class and listening to the lectures from the teacher, the discussions of how things go on with us in our centers and our lives...I have enjoyed learning more." Neither of these students, though prompted, could describe anything specifically they had learned or what the process of learning was for them, seeming to indicate that they were not accustomed to thinking about their own thinking in that way. These types of responses represent the most common responses found in the

data.

Students who choose to take classes online are generally the students that are more comfortable with technology, and/or who have determined that their lives can only accommodate the kind of schedule an online learning environment provides. I have seen a number of students attempt to take their classes online only to realize that it is not a good learning environment for them. This happened to be the case for Avery, the face-to-face participant who was in the class for the second time, because she did not do well in the online section. When discussing her past and present experiences taking online classes, she shared that she feels disconnected from the instructor and the students in an online class. "I need to be able to take notes and um, very visual, so online is not for me." Maria, also a face-to-face participant, described an online class she was currently taking, "I'm a visual person and they only provide you …what they want you to do…it's crazy for me…I have to email the teacher to see what she really wants…"

However, for the most part, the students in this online section are those that prefer online learning over face-to-face. For most of them, the online environment fits nicely with their preference for independent learning. Melissa illustrated her independent learning style by sharing a common scenario:

> …like if I'm trying to find somewhere and my husband will try and give me these directions and I'm like 'what? write it down, let me look at it' and I'll, you know, I'm just not an auditory listener, I just don't really, I like to see it and kind of read through it myself and then if I have any questions, kinda ask.

She went on to say that she is more likely to attend class sessions online since it is so much trouble to get out and attend class. Saying that she prefers the flexibility, she states

that “at least with the online deal, I can do it at my own pace.” Referring to her struggle in contemplating the requirement of a group project, she admitted “…that just might be my controlling personality but I don’t like having to rely on others to do things, I like to just take care of it and do it myself.”

Kathy, on the other hand, had a vastly different experience in this class. This was the class that determined for her that she will not take any other classes online in the future. She repeatedly stated during her interview that she thought that Child Development should not even be offered online, that she knows a center director that was shocked that she took it online. She took a class on campus for the first time during the same semester and realized, “hey, I’m getting a better grade inseat than I am online, wonder why that is?...I learned that I work better hands on than on a computer.”

On the whole, students from both the online section and the face-to-face section described their own process of learning new information as an event in which they are given new information from a source outside of themselves. The source could be the instructor, the textbook, a model, an observation, or another student. The primary difference between the online and face-to-face sections was the preference for independent learning found in the online reflections. However, there was much evidence that pointed to their recognition of the learning that took place in the context of social interaction as well, specifically during class discussion.

Social Interaction

A key component of constructivist processes is the social interaction among learners. In the college classroom, this is generally facilitated through large and small group discussion, group work on projects, etc. Many times, social interaction occurs

outside of class between students as they study and prepare for class. Social interaction outside of class was not described by the face-to-face students in their reflections or by the participants in the interviews. In fact, when asked specifically about this, Carol revealed, "no, I probably should have (worked with others outside of class)...not even me and my sister in law" (a classmate). However, social interaction during class time was a very prominent theme for the face-to-face participants, as many students recalled how they learned throughout the course. Here are comments from various students

> ..the discussions were really great because I felt like I was always learning even if I didn't get a chance to really read the text…It is very meaningful to me that our instructor and fellow students respect everyone else's level of education and takes into consideration as we learn together.
>
> I enjoyed the class discussions! Actually it helped me because during that time I was transitioned back from the center to my home and a lot of the things that I didn't pay attention to at the center, it opened my eyes to maybe I need to start paying attention and maybe it would have helped me in my center, so yeah, they helped me a lot.
>
> I am open-minded and I try to be respectful of the thoughts and opinions of my fellow classmates.

Reflecting on the experience of participating in regular class discussion brought to light a variety of different personal insights. Some were quite comfortable with participating in class discussion, such as these students:

> I am a naturally outgoing person, so I feel comfortable participating in the group discussions and asking questions when I am confused about something. I do not

> know if this is an academic strength, though. At least my professors do not have to worry if they are presenting the materials effectively or not.
>
> I have shown that I am very outspoken and love to learn about children. I feel that our class discussions have helped me to look at children and their development in a whole new light.

However, for many students, the class discussion time presented personal challenges as well. These students were very sensitive to the environment, recounting struggling with the people in the back of the room who were occasionally disruptive. Still others were sensitive to the fact that they themselves were too quiet: "I think I have demonstrated good discussion skills, while having group discussions, but at the same time I need to work on being a little better when it comes to speaking out." Regarding what areas needed improvement, one student upon reflection determined that her areas for improvement included "Getting involved in the class discussions and offering input. Working in group assignments in class. Good communication skills." And from another, a similar challenge was expressed, that of "...being able to speak in a group and interact comfortably with new people on a weekly basis."

> I continue to grow professionally, most especially the challenge of speaking up in public. I believe that attending class and being surrounded by people in the same profession allows me to relax and speak out comfortably. If only I could do this around other type of professionals.

Interestingly, some were sensitive to the fact that they spoke up too frequently, that the class heard from them too often. Statements such as, "I feel I could improve in my patience when it comes to discussions, I want to say so much and feel I don't give

others opportunity to participate" were evidence of this.

It was evident in many of these types of responses that references to the discussion time included comments and mini lectures from the instructor as well, as these were woven throughout the discussion times and not conducted as separate portions of the class time.

One student in particular seemed to show a keen awareness about her construction of knowledge through interaction with others when she stated, "I have learned so much in a short amount of time...I really value our class time. I enjoy when you put us in groups and we work together. This helps me learn from others and allows me to see how others think."

Listening to others in the context of class discussion presented challenges for some students who did not begin the class with an expectation of learning from others. Evidence of accommodation through the resolution of conflicting ideas came from some of the reflections on these discussions. As one face-to-face student reflected on her experience in class discussions,

> ...when we are talking about a topic that I have a strong belief in, it was hard to stop and listen to the reason why they believed the way they do. The challenge that I have had to overcome was just that. I had to stop, listen and learn to value what others had to say. And respect their opinions.

This student's insight into her own process of moving past her initial distrust of the opinions of her peers represents an important step toward constructivist thinking. In this statement, she describes very clearly the epistemic progress she made while taking the class as a direct result of allowing herself to embrace the purpose of class discussions.

For subjective knowers (Belenky, et al., 1997), it can be quite challenging to truly listen to the ideas of others when they are so different from your own. With such a diverse group of students, with various background experiences, some students found this challenge to be quite significant. There were, however, instances in which students came to appreciate another's point of view and allowed themselves to accommodate the experiences of the other into their own viewpoint: "I have learned to be a lot more open minded to the ideas of others that are new to me. It is all so exciting, but overwhelming at the same time." This tended to happen specifically in relation to cultural differences:

> As we have discussions in class I've learned that sometimes people see things differently and of course sometimes we can take what people say wrong especially when we talk about how we do things with children and different cultures we all may be helping each other with ideals of ways in doing things with our children, their families our co-workers and ourselves.

The following reflection reveals what several in the class experienced after one of the students shared her policies regarding sensory tables. I believe this one small piece of information was so meaningful because for many of us it came on the heels of years of incorporating dry beans and rice into the sensory table, art, and other classroom activities.

> I have learned a lot about different cultures. There is a lady in our class who is from a different culture who has her own center. They are not able to put any food in their sensory table because some of the parents only eat beans. So it is really offensive to them when they have food in the sensory table or used for art. I think it is really interesting to learn things like that.

The social interaction component was just as strong with the online class as it was

in the face-to-face section. Students in the online class, who on their mid-term reflections self-reported their independent style of learning, made mention in their interviews following the conclusion of the course about their dependence on others in learning. Although it was not a high priority when enrolling in the course, they found that the learning that occurred through social interaction was actually significant for them in the end. Emma shared this,

> I was nervous about online…but the online discussions I feel brought a better learning environment for me…it was just I guess it brought me to look a little deeper, cuz I'm not a real big "read every word" type of person, and so that helped me to read more into the book and also I'm not good with like working with other people, and so that also helped me to open up more…needed to comment on other students' posts and so that was good for me too…it helped me to be more comfortable with working with others in that aspect….I think you learn more with all the interaction.

A similar reflection from Linda revealed her personal theory regarding the benefit of discussion in learning to take into consideration other points of view:

> …you can be narrow minded when it comes to your work. You're thinking your right way is the only way and nobody else opinion really matters is what you say, but when they start talkin about theirs you start seein a different light on the subject, because it's like sometimes you can have tunnel vision, and…there's other views…

Linda described in great detail the interaction that took place outside of class. Her initial statement as the interview began was to say, "Well there was a lot of networking

going on. It was very good. What I liked about it was um, I think it was the way we all communicated and how you responded back." When I asked her about the specifics of the networking, she mentioned email, texting and social networks. From her description, it sounded as if by her initiation, several of the class members were helping each other answer questions and navigate through the course in electronic contexts away from the online classroom.

Although Linda mentioned several class members as networking participants, she did not mention Kathy's name. In going back over Kathy's reflections on the class, I noticed that she never seemed to make any connection with a student outside of the online classroom. She did not seem to make any connections within the classroom either, confessing that "I definitely need to improve in participating in the online discussions. This is a huge weakness with me when taking an online class." In essence, because she did not engage in the social dynamics, she mentally checked out of the class, essentially giving up.

Cognitive Disequlibrium

Disequilibrium is also referred to as cognitive confusion. "Disequilibrium occurs when students puzzle over inconsistencies, conflicting views, exceptions to the rules, or events that do not appear to make sense" (Fosnot, 1989 as cited in Castle, 1997). Disequilibrium is considered a part of the process toward a deeper understanding because of its ability to compel students toward attempts at sense making. Piaget proposed that "(the) gradually emerging equilibrium between assimilation and accommodation is the result of successive decentrations, which make it possible for the subject to take points of view of other subjects or objects themselves" (Piaget, 1970, p. 710).

In order to identify disequilibrium, both the presence and the source of cognitive conflict must be identified. While my original intent in designing the class was to demonstrate the conflict between different theorists and their theories, other expected conflicts occurred. Data analysis revealed several sources of conflict for the students in both sections. These conflicts revolved around the theorists and their theories, including learning through play, and child observation.

For the face-to-face students, the conflict between the students and the theorists themselves was strong. Just the introduction of the idea that there were authorities on a subject that they felt they already knew a great deal about was a source of internal conflict for many of these students. They wondered why it mattered what anyone else had to say about child development, certainly a man who lived so long ago. This is represented by Carol's thoughts:

> When we would discuss the theorist all I could think to myself was these theorist wrote their theories back in the sixty and we are in different times children are not like they were back then so how can they have thought their theories would work for this generation of children.

The process of reconciling themselves with new ideas regarding observing and assessing children and the incorporation of theories into their thinking about these observations caused students to accommodate the new idea. They had to revisit their original thoughts that rejected theorists outright, and find a way to incorporate an acceptance of their presence into their own thinking and work with children:

> Even though the theorists have made predictions many years ago about child development, I have come to the realization that they still do apply right now in

the 20th century.

Conflict with theory: online

For the online students, the conflict students found between themselves and the theories/theorists was just as strong. Although they had encountered many situations with their own young children and other children in their care that were problematic for them, they seemed to have established in their minds that the answers to these problems would be found from somewhere else, rather than from a theory presented in a textbook. As Emma shared on her mid-term reflection,

> Theorist discussions are new to me and I am not big on doing how theorists do just because they think it's the right or best way. I feel every child is unique and feel that not one theorist is completely right...the biggest challenge I have overcome is learning about the theorists. I am not real big on theory and have never felt it is anything I will use in my daily life.

Linda was the only student from the online group that spoke positively about any specific theorist, stating in her interview, "Erikson and Piaget, I like them!" and "...I like Lev Zokowski?" referring to Vygotsky. However, she struggled to come up with anything specific about these theorists. Although Freud was not a theorist focused on in the class, Linda expressed her distaste for him, calling him "the Fraud guy." Drawing from experiences in Psychology classes, she stated, "I just don't like the words he uses, they just don't make sense to me..."

For most students, in both the face-to-face and online sections, their rejection of the theorists was demonstrated by their strong resistance to incorporating the theories into their own thoughts and analyses. Much of my prodding to "add more" to their analyses

(described in the previous chapter) was my attempt to engage them with theory on any level whatsoever. Lisa made a suggestion to me in her mid-term reflection that brought to light her mistrust of the theorists. In her response to a question regarding what improvements could be made in the class, she stated, "By challenging us to use theorist in every chapter to see how they help or hurt or N/A in that particular chapter in the book." Reading this statement the first time simply indicated to me this student's misunderstanding of the role of theory in general. However, after closer examination, it seemed that this student was thinking that theorists had the power to either "help or hurt" or have no effect at all on a given age group (chapters are organized by age group). She was asking for more proof about what their role actually was.

Within the *Women's Ways of Knowing* epistemological framework, women who are comfortable with their own voices, yet uncomfortable with the voices of outside authority, are considered subjective knowers. According to the authors, women that are in the subjective stage have the most difficulty educationally. They have come to trust their own intuition exclusively above all else. If there is a new truth to discover, it will just hit them (Belenky, et al., 1986). Therefore, from a constructivist standpoint, any introduction of expert opinion is likely to be received as a personal confrontation. Depending on how close the student is to moving toward a procedural way of knowing, she will either attempt to reconcile the conflict or dismiss it outright. Accordingly, students in this section seemed to choose one or the other of these options.

Conflict with observation method: face-to-face

Another point of conflict occurred related to the method of conducting observations that I required. Having conducted observations in the past for either school

or work purposes, many resisted any ideas regarding alternate ways of conducting observations. For several, the struggle related to the addition of the analysis piece. As one student stated, "(I) have had experience in observing and recording children's behavior, but never had really had an opportunity to analyze it in writing. This was something new for me and also was a challenge."

Initially surprised by the resistance to this method of observing and analyzing, I soon became aware that students had settled in their minds the standard process for conducting observations, and were now experiencing conflict over this new method. When asked for feedback regarding new concepts learned, I received the response, "The analyzing of observations and recordings of children's behavior was new to me." This was an unexpected response, since I was actually looking for the student to recall an actual piece of the content covered in the course. I came to understand that methods for conducting observations is an important part of the child development knowledge base, and conflicting new information regarding observations must be either assimilated or accommodated by these students who found themselves conflicted.

In presenting my instructions regarding how to conduct these observations, I continually reminded them to write exactly what they see the child doing throughout their observation session. Then they were to summarize the observation in paragraph form, weaving in information from theory and developmental information to analyze what was observed. In listening to the students as they verbalized their struggle, I was surprised at how many struggled with recording behaviors. It seemed many of them were in the habit of making judgments during the observation. Lisa, who had worked for Head Start for over 20 years, had been accustomed to conducting observations very differently:

> ...they get a thirty day observation before anything is written on them…but this is the first time I ever learned, this is what you do with a observation, you write down everything exactly as you see it. And that was kind of a struggle cuz I- maybe I was writing something wrong, or I wasn't phrasing it right or something, but, the thing that helped out a whole lot…when she said "write exactly what you see"

Takyra expressed a similar struggle with that piece of the observation:

> Like, for example, if a child- an infant crawled across the floor, it just didn't sound right to me to put "crawled across the floor" you know what I'm sayin? It seemed like it should have been like "whatever child crawled across the floor while doin this or because he wanted this" but after I understood why you had us write it down like that to where we can go back and give our opinion on it, it made me understand…at first you just said, "write exactly what you see,"…it just didn't feel right, but after you explained to us why, then it made sense.

It is evident in her recollection that she had to come to a point of reconciliation with this "new" way of conducting observations. This process was evident in many of the face-to-face students who had learned to conduct observations other ways. One of the points of resistance was being asked to remove themselves and their own judgments from the initial observation, to just "write exactly what you see."

Conflict with observations: online

Students from the online group seemed to have conflict with the observations themselves, rather than with the method or type of observation. None of the participants from the online group had ever worked in an early childhood program that required any

type of observation. They seemed uncomfortable and unfamiliar with the idea, and struggled with how to find the ten hours in their semester to complete them. This was especially discouraging for Kathy, a full time mother, who expressed:

> I struggled with it (the class) most of the time, I didn't care much for the observations, but I don't care much for any of them really...only because of, it was hard to find a babysitter that fit my schedule in order to do it...I stay home with my kids, that's my job...I think the classes I took before maybe were a little easier, didn't have as much work and didn't require as many observation hours.

Beyond the logistical struggle of finding time to be away from their program or their own children, several expressed their struggle with the idea that observation was a helpful tool in the study of child development. This idea was not a part of their personal philosophy about how to most effectively care for and educate young children.

Because several of the online students were not degree-seeking students, they were allowed to observe in their own facility since the purpose of the observations was to study individual children and not teacher practices or environments. This helped to ease the struggle and may have served to encourage them to conduct further observation on the children in their care. However, they struggled still, since they were not accustomed to the idea of conducting observations altogether.

Conflict with learning through play: online

Students from the online group had an additional point of conflict that was not observed to a significant extent in the face-to-face group. Likely because they were newer to the field, these students struggled to reconcile with the idea that children learn through play. Since this was a key point of instruction for me, they were confronted with

it often throughout the course. Both Melissa and Emma, college graduates in the fields of business and accounting, held strong opposition to the idea that play could have educational benefits for children. In fact, when asked about the final reflection in which a scenario called them to answer a parent who questioned them about the benefits of play, Melissa recalled this:

> ...it's something that I have noticed in all the classes and everything (the idea that children learn through play), and I was the parent that would ask, "why do they play so much?" That's actually me, I um, it really bothered me because I felt that there was one place that she was at that um she was really, she was bored there but I know that one thing that bothered me was that they were always just playing with toys they were never doing anything else, and it did, it really bothered me.

Expressing similar resistance, Emma made reference in her reflections and in her interview to her desire to maintain structure in her environment:

> I've always had a big issue with that (learning through play)…I have structure, you know I don't just let the kids come in and just do nothing, um, sit there and watch TV…the only time they get TV is when I'm cooking lunch and they're that's a little quiet time, so…I've always had a big thing with how much play is too much, how much free play…I mean they do get like morning time and afternoon time is really the only free play they get, and I've always asked like some of my friends that do the same thing that I do (family child care) I'm like "how much do your kids play?" because I'm like, I don't want my parents thinking that I just let em run wild...

While some natural progression was seen in the face-to-face participants

regarding their resolution of these conflicts, the online students did not show similar growth. For example, as seen above, a number of the face-to-face students moved through their conflict to a point of accommodation of the new ideas. This type of resolution and cognitive progress was not observed with the online group. Rather, with some exceptions, they tended to hang on to their original ideas and disregard the new information for the most part. Sense making and theory building are discussed in the following two sections.

Sense making

Making sense of new information is a key component in the construction of knowledge. Reconciling conflicting ideas leads to sense making when the learner allows for the incorporation of the new ideas into the original schema. For the students in Child Development, their completion of the proficiency project required them to figure out how observed behaviors were addressed by commonly accepted child development theories as well as how the observed behaviors compared to developmental information.

In order to facilitate the process of sense making, I provided forms to organize thinking about the observations (Appendices I, J). One provides space to record the facts (exactly what you see) on the left side of the page, and interpretation on the right side of the page. The second form is divided into three sections: physical, social-emotional, and cognitive. Several students provided for me their notes on these forms that facilitated the process.

The sense making process for these students, then, involved a process of several steps. After observing the behaviors, they then had to articulate exactly what was observed without personal interpretation, summarize what was observed, and then search

for elements from theory that would support or explain what they observed. It is clear from several of these analyses that the students had engaged in problem solving in order to complete those steps.

The following are excerpts from the summary and analysis piece of the proficiency project for several different students that reveal their sense making process:

> Avery: English is her second language, so that could definitely be a huge factor for limited English language skills. Another thought I had was, maybe she does not like change, and acts out her inner feelings of frustration with outward feelings of aggression. Vygotsky believed that development is interactive, so perhaps A.L. is interacting in an aggressive manner at home.

Here, face-to-face student Avery is speculating as to the cause of this child's aggressive behavior. Seeming to draw from her own experience or previously held opinions, rather than attempting to apply theoretical ideas, she mentions Vygotsky, but not in a well thought through analytical way. It seems she has maintained her original viewpoint. Here is an analysis from face-to-face student Carol:

> I noticed upon entering the classroom infant child used his social and emotional skills regarding the theorist Erikson of stranger awareness because he noticed a strange face in his presence so he would seem to want to cry he did this reaction about three times in which this would cause him to cling to a particular teacher.

Carol has noticed that this child cries in reaction to her presence. Drawing from developmental information regarding stranger awareness, she makes a conclusion about that behavior. In her efforts to include a theorist, she mentions Erikson because of her familiarity with the trust vs. mistrust concept. While it certainly does apply, her wording

is slightly removed from the actual stage of development as described by Erikson. Here is Carol's description of the preschool child she observed, with a reference to a theorist included:

> I believe preschool child is capable of learning through play and interactions from teachers and peers to use his social and emotional developmental skills. I agree with Vygotsky on his belief that a child on the edge of learning a new concept can benefit from the interaction with teacher or a classmate. Also that language presents the shared experience necessary for building cognitive development. And that talking is necessary to clarify important points but also that talking with others helps us to learn more about communication.

In describing the preschool child observed, Carol begins with a broad general statement about preschool children, followed by a statement of agreement with Vygotsky. At this point, she summarizes her understanding of his theory in a nice way. It is unclear as to how she has synthesized this information with her actual observations of the child. Here is Deanna's sense making, regarding the child she observed named Irene:

> Identification of words in the environment appears to be the first step in learning to read" (Charlesworth, 440). Irene can recall part of a story, she can speak sentences of more than five words; Irene can write her first and last and recognize it. She can also recognize letters.

Deanna makes good use of her developmental checklists and the developmental information found in the text to provide a reference for the behaviors she observed and her interpretation of them. This way of incorporating developmental information into her analysis represents a very common approach among students from both sections. Rather

than engaging with any actual theorists, she checked off behaviors observed and summarized them in her analysis.

The following reflection on personal thinking reveals Carol's resolution of conflict with both the idea of incorporating theory into thinking, and the new way of conducting observation and analysis:

> When we would discuss the theorists all I could think to myself was these theorists wrote their theories back in the sixty and we are in different times children are not like they were back then so how can they have thought their theories would work for this generation of children. But I have a better understanding as I read more especially on the theorist Vygotsky and the discussions in class. Plus I know one of the goals of my career are to write a book on theories of this generation of preschool age children. But I do know no matter what a child is like in my care through this class I have a better insight on observing and listening with my eyes and ears.

Carol revealed even more about her thinking process in coming to allow herself to incorporate the ideas of the theorists into her schema. She attributed this transformation in thinking to her experience working on the group project, in which each person from her group worked fairly independently. Because she was responsible for a certain portion of the presentation, she had to research the theorist, spending additional time attending to his ideas, with the following result, shared about in her interview:

> ...the instructors talked about the theorists, I thought...this generation of children is different than it was back then when they wrote all these theories...and then I thought like you know, "you need to be quiet because you can't sit and write, you

> know, a book about this generation of children, so why don't you just, you know learn a little bit and do it." But, with the (group) project, it helped me to learn...I was able to listen more and learn about more of the theories cuz stuff is true. I mean and with each group that did theirs, it taught me more, so much to where I have all my stuff. And I'm kinda using some of it now...

Here is an excerpt from Emma's final Proficiency Project draft that demonstrates her commitment to viewing a child a certain way regardless of what she has been exposed to in the course or my personal intervention. In earlier drafts, I asked her to revise her statement that this toddler is being defiant. I attempted to redirect her to the theories we studied to see if they had anything to say about the behavior she had observed in this child. She did comment during the interview that she hadn't really taken the time to revise her project for the final. Here is how that section on her final read:

> The toddler is most interested in moving about and exploring everything. While every toddler is different, most will have mastered most of the important milestones for the toddler ages of 1 year to 3 years. I have decided to observe a 2 year old toddler that you will find has defiant behavior. Does this child show defiant behavior? I agree she shows defiant behavior most of the time. I have 2 small children of my own and care for 7 others and of them all she is the most defiant. This is a type of emotional development for a toddler. She also demonstrates a huge amount of independence. She knows what she wants and wants it on her time and will do whatever it takes to get what she wants. I have only been caring for this toddler for 2 weeks. I noticed a huge amount of defiant behavior on day one, at the end of week 2, I have noticed tremendous

> improvement. I still see the defiant behavior from time to time and mostly around parents.

It seems from this excerpt that Emma believes that she has personally made a positive impact on this child as a result of something she has implemented as the caregiver, as the defiant behavior now exists only in relation to the parents' presence. Emma does not describe what she has done to remedy the defiant behavior, but the next excerpt does provide clues:

> Does this child follow simple instructions? I think she does for the most part. This is a type of language development. There are still times when I will ask her to do something like please bring me your paper so I can put it in your bag and she does not follow my command. I think this is her blocking out what I have asked her to do or *ignoring because she is busy playing*. She is a very smart toddler and speaks wonderful for her age. I think maybe at home she gets away with ignoring or blocking out mom and dad and will test me to see if I follow through with what I am asking of her. (emphasis added)

Again, in this description, it is evident that Emma has determined how to help this toddler's behavior to improve and is acting on that belief, although it is not explicitly stated here. There is no evidence of the incorporation of theory as a way to study the child's behavior and formulate the most appropriate response. Her way of navigating through this assignment rings true with previous research on teachers, as described in chapter two. Teachers have been described as "highly intuitive and unanalytical", relying on their own personal experience and that of their peers (McAninch, 1993, p.7). Their practice is "craft embedded," meaning that it revolves around ideas, techniques, and

products rather than theoretical strategies and the like (McAninch, 1993, p. 8).

Kathy made clear in her interview that very early on in the semester she had determined that she should just give up on this class and try to make it to the end, hoping to pass. Therefore, while creating her project, she was admittedly not engaged in the process and was irritated about the task of observing. The sense making evident in her project demonstrates that she did work to categorize the behaviors she was observing, such as in this description of a child's physical development:

> Keevin's Physical Development was he was able to crawl while holding an object in his hand; he could pull up on things he was able to get into sitting position. He could pick up small objects easily and his eye hand coordination was growing. Keevin was where he should be in his physical development based on the environmental chart.

In the paragraph on social and emotional development, there is great opportunity to incorporate theory. In her summary of these areas of development, she maintained her strategy of simply comparing his development to the chart:

> Keevin's Social Emotional development was he is clearly attached to a primary caregiver he seemed to of clung on to Ms. B rather than Ms. C. Ms B. was able to soothe him in every situation that made him upset. He also rejected things that he didn't want. Keevin was very interested in the moods of the other children around him. I would say that Keevin is where he should be based on the "environmental chart" (possibly intending to say, developmental chart).

The particular format that Linda chose to present her summary and analysis was slightly problematic for her. Because she did not include a summary with analysis in

narrative form, it was difficult to determine how she had incorporated everything together. The excerpt from her project comes from the activity section, where she placed her reference to a theorist directly after the activity description. In her interview, she recalled the process of adding in the theory in a way that sounded like it was not so much a synthesizing of theory with observation summary, but more of an addition to the project. She used the forms provided for the observation as her summary portion, then listed and answered her three questions in a simplified way:

> Can she tell the difference between fantasy and reality? Her ability to tell fantasy from reality is well understandable because she knows the difference. She plays in reality were she is bossy and slips into fantasy by saying she is just pretending

Following this procedure, she outlined an activity and followed with a statement regarding the theory she was incorporating:

> I believe Erikson would say that Peyton's caregiver gives her independence so she can make choices. Peyton is very active and with encouragement by her caregiver she will grow in a positive and confident way. Erikson's says teachers can encourage children to be independent and set expectations that are in line with children's' individuals abilities.

This is a good representation of typical sense making in the context of the proficiency project for the online group. It is an attempt to incorporate theory using some of the information provided in the course. Therefore, the process of sense making that is evident in these student products demonstrates both the beginning efforts of those not accustomed to this type of assignment as well as those not accustomed to accommodating the views of others in their understanding about child growth and development.

Theory building

The final reflection (Appendix D) was designed to facilitate theory building, a key piece of the constructivist process. My goal in creating the two questions that comprised this reflection was to determine how the students had dealt with my two primary goals for them in this semester: 1) Understand the importance of commonly accepted child development theory and how to incorporate theory into practice, and 2) Understand the importance of play in children's development and the role of play in learning. Here are excerpts from the questions:

1) This semester, we studied five theorists: John Dewey, Maria Montessori, Erik Erikson, Jean Piaget, and Lev Vygotsky. Each one had things to say about young children's development and learning. We also discussed how *behaviorism* can influence a teacher's philosophy about classroom practices. Using both your theory textbook and your child development textbook, compare these theories with one another and come up with your own theory using pieces of several of them.
2) You are the director of a child development center. A parent comes to you and says, "Why do the children spend so much time playing? They can play at home. Why should I have to pay money for my child to play?" How would you respond?

Several themes were found within the students' responses to these questions that represented theory building. Most compelling in light of constructivist education principles was that when describing the theories/theorists as a whole, most students commented on their similarities rather than their differences:

My theory on the entire theorist is that they all coincide with each other. All the theorist believed that children should learn through experience, and play.

After comparing the child development book and the theorist book, I found that some of the authors had a lot in common in their beliefs or theories when talking about child development.

Our text tells that Dewey, Montessori, Vygotsky, and Piaget all shared the belief that education should be centered on the child, be active, interactive, and include socialization of the child and community.

When reading about the theorist I noticed they had in common the theory about children must be the centered of education and they need to be active and interactive, they also agreed the children need to be observe to identify their needs or observe their behavior.

Those that did mention differences mentioned differences between things such as number of stages they proposed or whether or not they left out or included a certain concept. Therefore, my intention in highlighting conflict between theorists to resolve was not fulfilled. This way of dealing with various ideas was referred to in the *Women's Ways of Knowing* framework in which women are described as preferring to construct truth not through conflict, as traditional interpretations of constructivism would suggest, but through consensus (Belenky, et al., 1997).

Other themes found in the responses to these questions were that Erikson's views on trust vs. mistrust were highly regarded, along with Montessori's views on incorporating child sized furniture and materials. This was a very difficult assignment, and many of the students, though they struggled with it, found ways to work through it

that were impressive given their prior experience engaging with material in this way. Interestingly, the students from the online section struggled to discuss theorists more than the face-to-face students. While both groups had encountered great difficulty throughout the semester in reconciling their own views with that of the theorists, the face-to-face students seemed to make more significant progress through the course of the semester. Here Maria shows her developing understandings:

> When reading about the theorist I noticed they had in common the theory about children must be the centered of education and they need to be active and interactive, they also agreed the children need to be observe to identify their needs or observe their behavior. In my experience being an early childhood educator we must provide good learning experiences as Montessori says all children are capable to learn and concentrate if we provide interested materials and give them freedom (Montessori, pg. 32). In my classroom the children are provided with domains to be able to explore and challenge their social emotional and cognitive development. Naturalistic observation is used to find out what children do during their normal daily activities (child development pg. 33). I agree with Vygotsky's belief that in order to scaffold well for children teacher need to be observers, as well as dewey's belief that teachers must use ther greater knowledge of the world to help make sense for children. Vygotsky showed that children cognitive development is affected not only by their physical development but also by their social surroundings. In this I would agree with dewey's in saying experience can be called educational because children are able to develop new skills.

After rejecting prompts to include theorists in her thinking about particular children,

Emma, an online student, was able to create a synthesis of the various theories in order to complete her final. Using her text (and an interesting reference to my own words in the live chat), she formulates a response to satisfy the requirement. I was impressed by her ability to bring together the information, while maintaining her own viewpoint along the way. I felt that by the time she had come to this point in the semester, she had allowed herself to consider other points of view regarding how young children learn. Her reference to the live chat discussion was an indication of this, as it revealed lingering thoughts about that conversation. It is clear that she heard the concepts I was trying to convey, and had allowed herself to engage with those ideas enough to articulate them:

> My theory: I think children learn best with interactions between his/her peers or of course the teacher. Lev Vygotsky- believed that a child on the edge of learning a new concept can benefit from the interaction with a teacher or classmate. We must also create a learning environment that is set up to prepare children to use their curiosity and explore while they cooperate with many life like materials. Montessori believed that children learn language and other significant life skills, without conscious effort, from the environments where they spend their time Jean Piaget-thought that neither the intrinsic or extrinsic position explains learning by itself, but that the child's interactions with his environment are what create learning. We as teachers must be available and alert with children in our care, but by providing a perfect environment is key. Give children real- problem solving challenges, and create an environment that allows the child to be curious and make them wonder. When we allow for children to explore and be curious and do things on their own, they actually learn. As teachers, we must direct the

> children as we make materials available to them to engage in. Children do not learn by us teachers teaching them, children understand better when they are able to do things on their own; they get a better understanding of the concept.

This is a very interesting piece, since Emma stated her personal opposition to child-centered learning theory in general, even following the end of the course. In the following excerpt she states her agreement with the behaviorist view, an honest statement that reflects the personal biases she had shared throughout the course and in her interview following the end of the course:

> I like the behaviorist view, which focuses on external environmental factors as they affect learning and development. I also believe that children learn a lot from their peers, positive or negative behavior. We must all act as positive models. Skinner believed that by providing positive reinforcement, observable behaviors could be strengthened or shaped. Whether it is a prize, a hug, or a treat, or a compliment, these increase the chances that a behavior will be repeated.

Emma's movement toward engagement of others' ideas that she previously would not engage with indicates a movement toward a more procedural way of knowing (Belenky, et al., 1997). In that epistemological position, the knower has allowed herself to attend to ideas that differ from her own enough to complete a task, generally a college assignment. Remaining in that position long enough enables the person to move to a point of actually including the other points of view in a revised schema regarding a subject. It does not appear that Emma moved to that point in her epistemological development, but was in the beginning stages as the semester ended. This has implications for the ability of constructivist assignments and course structure to facilitate epistemological development

and constructivist processes.

Summary and Comparison of Online and Face-to-Face

Therefore, evidence was found within the experienced curriculum of both sections of the course, online and face-to-face, of the following specific constructivist process themes: interest, questioning, thinking about thinking, social interaction, cognitive disequilibrium, sense making, and theory building. While there were more similarities than differences overall, some important differences were found that have specific implications. For example, regarding student interest, although both groups worked directly with young children in their full time job, the face-to-face students generally found more motivation for solving problems with the children in their classrooms than the online group, who seemed much more concerned with their own children's growth and development. This could be attributed to simple demographics, in that the online students were younger women with small children while the face-to-face students were older women whose children were grown. Carol, the student from the face-to-face class that had custody of her young grandchildren, framed most of her questions in the context of her grandchildren rather than the children in her classroom. My interpretation of this difference would be that the well-being and development of one's own children is a stronger motivating factor than that of children in one's classroom setting.

An important implication related to the theme of interest is that there was a disconnect for both online and face-to-face students between their own latent knowledge and interests related to child growth and development and the use of these interests to guide the study of child development. This was evidenced by the many questions and comments made regarding personal problems with parenting and teaching that were not

employed in the study of the young children they observed. Even with my prompting to access their own questions as the impetus for their study, they struggled to think of things they wondered about.

Themes related to the *Women's Ways of Knowing* framework included that the face-to-face students were much more focused on pleasing the teacher while the online students were focused on pleasing themselves. Self-reported independent learners, the online students had internal mechanisms for performance that seemed absent in many of the face-to-face students, who had a strong desire to please me as their instructor. Interpreted in light of the *Women's Ways of Knowing* framework, this difference could indicate that the face-to-face students fell more in line with the received way of knowing while the online students would be considered subjective knowers (Belenky et al., 1997).

While both groups of students struggled to articulate their personal process for completing the proficiency project, the face-to-face students expressed great frustration over the open-ended process. The online students, on the other hand, were much more likely just to gather the information needed to find their way through and move on. Therefore, the reactions to this process were quite different between the two groups. Again, this could be interpreted in light of their different positions along the epistemological development continuum.

Both groups heavily emphasized their reliance on others when learning, but only in reflections following the course. When reflecting on their own learning throughout the course, most student reflections indicated a shift in thinking about the value of the contributions of others to their learning. This was significant in their minds, as the online group generally approached the class thinking of themselves as independent learners and

the online class thinking of themselves as dependent on outside authority for answers. The need for social interaction was strong, with the online group adding in social interaction outside of class as a method of supporting their own navigation through the course.

The constructivist processes present for both groups were facilitated through the cognitive disequilibrium introduced by the planned and enacted curriculum. However, each group faced slightly different sources of conflict. While my intention in designing the curriculum was to introduce conflict through presenting conflicting theoretical ideas, the conflict that I found was actually a conflict between the students and the initial idea that theory can play a role in their thinking and practice at all. This was evident for both groups, although the face-to-face group seemed to be more conflicted with the actual theorists than the online group, who seemed focused on the idea of theory informing practice.

Regarding the observations, the face-to-face students who on the whole were more accustomed to doing observations another way, struggled with the method for conducting observations that I presented. The online students were primarily conflicted with the idea of doing observations at all. In addition, the online students struggled to accept the idea of learning through play. Although several of the face-to-face students mentioned that learning through play was a new concept for them, they did not express personal conflict with the idea in the way that I found the online students did. Both groups were found to do the most sense making within their proficiency project summary and analysis, and they demonstrated their theory building in the context of the final reflection.

CHAPTER VI

CONCLUSION

Constructivism is a theory about the relationship between the knower and the known. It proposes that knowledge is constructed through experiences with materials and people (Piaget, 1970). Thoughtful educators seek to improve their teaching through a deeper understanding of how people learn what they learn and what teaching practices can influence the learning process. Some argue convincingly that teaching practices cannot be considered in light of constructivist theory, since it is not a teaching philosophy or even a learning theory. Others argue just as convincingly that teaching practices do matter in light of constructivist theory, since they have the potential to draw the learner's attention to their own construction of knowledge (e.g. Castle, 1997; DeVries, 2002; Fosnot, 1989; Rand, 1999; Richardson, 2003). When this occurs, the learner can more actively participate using a reflexive approach, thereby thinking and acting in ways that are more complex and contextual as a result (Marra, 2002). Early childhood teacher educators see an added benefit of this awareness, as teachers who understand the constructed nature of their own knowledge can in turn plan and enact curriculum that facilitates constructivist processes in young children. This belief in the benefits of this awareness provided the foundation for this study.

Facilitating the movement of individuals toward greater awareness of the

constructed nature of knowledge through educational experiences is as complex an endeavor as it is worthy of pursuit. For early childhood teacher educators, results of such an endeavor hold unique implications, as we hope that those who leave our classrooms will not only engage in critical thinking and contextual problem solving, but will also allow an awareness of their own construction of knowledge to influence their understanding of how young children construct knowledge in early childhood classrooms.

The purpose of this study was to add to the understanding of what elements of student experiences can be considered constructivist within the context of both epistemological development and teaching practices designed to follow constructivist education principles. This was pursued through an investigation of what constructivist education elements were present in the teaching practices of each section, and what constructivist processes were found in participant experiences of the course. Because mode of delivery was believed to have a direct impact on the quality of teaching methods related to constructivist education principles, two sections of the same course with the same instructor, one online and one face-to-face, were studied as a way to compare and contrast the two.

Two research questions guided this study. Together they created the context for an interpretation of the interplay between constructivist education and constructivist processes using a particular model of adult women epistemological development as an added lens. The first research question asked what elements of constructivist education could be found in the planned and enacted curriculum (Marsh & Willis, 2007) for each section (online and face-to-face) of Child Development, a course that introduces the most

prominent theories of child behavior and development along with generally accepted developmental norms. The second research question asked what kinds of processes were evident in the experiences of the participants during their navigation through the course. In this chapter, I discuss the results of the analyses of data related to constructivist education and constructivist processes by reviewing the conclusions I drew about each unit of analysis. This is followed by a discussion of the results of filtering through the lens of the *Women's Ways of Knowing* framework (Belenky, et al., 1997) on the data as a whole, combining results from both investigations. Out of this process, I will formulate a philosophy of teaching from the constructivist education tradition that more effectively considers the role of student epistemological development.

Constructivist Education

Analysis revealed more similarities than differences between the two course sections regarding the educational interventions designed to be constructivist. However, the differences are important for informing practice and future research possibilities and are presented within each theme discussion. Themes identified for both sections were attending to the individual, respecting developing understandings, facilitating dialogue, facilitating inquiry, facilitating meaningful investigations, and introducing disequilibrium.

The struggle to create an atmosphere of warmth, acceptance and attention to the individual is considered to be especially strong in the online learning environment. The absence of body language, smiles, eye contact, movement around the room, tone of voice, etc. creates a vacuum that is difficult to overcome for those of us who seek to follow constructivist education principles online. Indeed, results from data analysis showed that

the progress made toward creating a safe, warm environment in the face-to-face section was primarily due to interactions during class discussions, and personal interactions before and after class. However, it was generally easier to overlook individual students in the face-to-face classroom than it was in the online classroom. In the face-to-face classroom, students could sit in the back and talk among themselves, remaining relatively disengaged throughout the semester. While students in the online section could remain disengaged as well (such as in the instance of Kathy), this was not the general pattern. Most of the online students that disengaged ended up dropping the class. Those that completed the course were those that by necessity had to engage in one-on-one interactions with me, their instructor. Therefore, while a general atmosphere of warmth and community was stronger within the face-to-face classroom, attention to the individual was actually more prominent within the online classroom.

Throughout my years of teaching at the college level, my demonstration of respect for students' developing understandings has followed a typical pattern. Statements of agreement, encouraging words of "great work" and "nice job" coupled with a big smile have permeated my feedback on attempts at understanding some concept. Listening to students during class discussions before gently correcting their faulty views has generally been my claim to connected teaching practice. Reorienting to constructivist education practices through long days of intense study of Piagetian theory and its interpretations regarding application in the college classroom, and subsequently placing my slightly altered attempts under study, brought to light some interesting revelations.

I have become more keenly aware of the level of authenticity of my attention to

the actual individuals that bring their personal insight and latent knowledge to bear inside the planned and enacted curriculum of my classrooms. My initial analyses of data related to this theme revealed many similarities between the two modes of delivery. However, further investigation uncovered an interesting difference between the two. During the face-to-face class sessions, my responses to students' developing understandings were communicated with more attention to the individuals themselves than my responses to the online students. Because I could monitor the conversation in the live classroom in real time, I interacted personally with each student that shared from her personal knowledge base during class discussion. In the online discussion forum, my tendency was to focus on the information that I found in the student responses, rather than on the actual person behind the text. The result was a more impersonal interaction, which likely perpetuated the students' view of their isolated state within the online classroom.

There was great opportunity within the design of the assignments to support and encourage students' developing understandings. However, what I found in my responses and interactions regarding these assignments within both course sections was that this was only rarely taking place meaningfully. It was difficult to pinpoint what was responsible for this, other than the simple reality of time constraints.

In both sections, the instructor facilitated discussions were better identified as closed ended discussions rather than open ended discussions facilitating "group dialogue that explores an element of the domain with the purpose of leading to the creation and shared understanding of the topic" (Richardson, 2003, p. 1626). However, through the investigation of constructivist processes of these students, these discussions were found to have a great impact on the thinking about thinking that occurred following the end of

each semester. For both the online and the face-to-face students, the discussions were integral in altering their beliefs about how their own knowledge is constructed. In addition, I discovered that in the online discussion forums that I did not participate in, the students were left to explore the topics with one another, with a much more open ended result. This freedom to participate freely in discussion without instructor intervention occurred during the small group discussion sessions during the face-to-face class meetings as well, but they were always followed up with my personal feedback and direction, moving the class to a certain point of knowledge. This may have been a factor in the advanced ability of the face-to-face section to articulate and find agreement with commonly accepted child development knowledge and theory.

Although I found in earlier thematic schemes what I believed to be a lack of instructor facilitation of theory building processes within the assignment designed to encourage it, upon additional analysis, I found that my instructions and redirections regarding the process of completing the project were in fact elements of the facilitation of student inquiry. For both the online and face-to-face sections, I spent a significant amount of energy on facilitating the process of completing the proficiency project and other assignments. In addition, in the online section's feedback on assignments, questions were sometimes used to guide the actual thinking processes of students rather than just to guide the process of completing the assignment.

The proficiency project was the assignment created to intentionally facilitate meaningful investigations. As I guided the students through verbal and written instructions before and during their investigative processes, with interactive feedback along the way, it was evident that my suggestions were focused on the process of

completing the project rather than the conceptual thought processes that were or were not taking place for each student. While this perplexed and in fact disturbed me during initial analysis, upon further study, and following the process of both peer debriefing and the external audit, I determined that process guidance could actually be more authentically considered a piece of the facilitation of meaningful investigations rather than as separate from it. The investigation as a whole was conducted within the students' own contexts, using their own questions, and they were encouraged to generate their own solutions while integrating prominent child development theory. Once the assignment for such an investigation is given and explained, the next piece of the facilitation of an investigation must be guidance regarding the procedures of such an investigation.

My original intention in designing this course to follow constructivist education principles was to introduce conflict in the form of the differing ideas among theorists. For both groups of participants (online and face-to-face), this was not the conflict that they experienced. Rather, they experienced some form of struggle related to these five ideas that I introduced: the idea that theory can inform practice (online), the idea that theorists have something important to say about practice (face-to-face), the idea that child observation can inform our practice (online), the idea that there are various ways of conducting child observation (face-to-face), and that children learn through play (online). Interestingly, it is within this theme that the differences between the online and face-to-face participant groups were most prominent. However, the differences did not seem to be at all related to the mode of delivery, but the characteristics and life experiences of the students. The online students were less familiar on the whole with the idea of theory and had a greater opposition to that idea as the class began. The face-to-face students were

more familiar with the use of theory to inform practice because of previous education and experience. However, they were not as familiar with the naming of actual theorists and discussions of them as people. This idea was met with resistance and created internal conflict for many of them. Again because of differences in previous experiences, the online students found conflict with the idea of conducting child observations while the face-to-face students seemed to clash against the new method that was different from what they were used to. In particular, they did not want to remove their own judgment from the running record notes. The online students had many conflicts with the idea that children learn through play. As veteran early childhood professionals, the face-to-face students did not verbally or otherwise express conflict with this idea as it was an expected piece of the curriculum for them.

Therefore, while the nature of this study does not provide what is needed for a direct comparison of the two modes of delivery (online and face-to-face), it does reveal some differences that can have important implications for practice in both delivery formats. Following the discussion of the constructivist process themes found in the experienced curriculum, and a look at the interplay between the two in light of epistemological development, these implications will be presented in the context of a philosophy of teaching from a constructivist perspective.

Constructivist Processes

As with the constructivist education themes, analysis of data to investigate research question two revealed more similarities than differences between the two course sections with regard to constructivist processes. However, the differences are important for informing practice and future research possibilities and are presented within each

theme discussion. Themes identified for both sections were interest, questioning, thinking about thinking, social interaction, cognitive disequilibrium, sense making, and theory building.

Although the participants from both sections worked directly with young children in their full time job, the face-to-face students generally found more motivation for solving problems with the children in their classrooms than the online group, who seemed much more concerned with their own children's growth and development. This could be attributable to simple demographics, as the online group was generally comprised of younger women with small children while the face-to-face participants were generally older women with grown children. Carrying a greater weight of implication was the finding that although many questions and concerns were raised outside the context of course assignments, there was a significant struggle regarding the use of those questions in student inquiry. Though prompted to use their own questions from everyday life as the starting point for their Proficiency Project (Appendix B), they were generally not able to see how the former could be integrated into the latter. The implications stemming from this are significant and difficult to pinpoint, demonstrating the need for further study on the subject.

Participants from both the online and face-to-face sections reflected on their own thinking and learning process in terms of how information had been given to them, most often referring to the instructor or the text. However, after the semester came to a close, each group was more likely to comment on the learning that occurred within the context of class discussion. This is not only evidence of constructivist processes, but is also considered growth on the epistemological continuum and is discussed in a following

section.

The constructivist processes present for both groups were facilitated through the cognitive disequilibrium introduced by the planned and enacted curriculum. However, each group faced slightly different sources of conflict. While my intention in designing the curriculum was to introduce conflict through presenting conflicting theoretical ideas, the conflict that I actually found was between the students and the foundational idea that theory can play a role in their thinking and practice at all. This was evident for both groups, although the face-to-face group seemed to be more opposed to the actual theorists themselves than the online group, who seemed more focused on their disagreement with the idea of theory informing practice at all.

Additional sources of conflict came through the observation component of the Proficiency Project (Appendix B). The face-to-face students were generally more accustomed to doing observations another way, and therefore seemed to have conflict with the method for conducting observations that I presented. Interestingly, their struggle seemed to be focused on the requirement to create an initial running record without personal interpretation. The online students did not struggle as much with the method as they did with the idea of doing observations at all. In addition, the online students were very opposed to the idea of learning through play. On the other hand, although several of the face-to-face students mentioned that learning through play was a new concept for them, they did not express personal conflict with the idea in the way that the online students did. Both groups were found to engage in the most visible sense making within their Proficiency Project summary and analysis. They were also both found to demonstrate their theory building in the context of the final reflection.

Epistemological Development and Constructivist Education

Interpreting the results of this study in light of theories of epistemological positioning revealed important implications. While the primary framework that was used for this interpretation was the *Women's Ways of Knowing* framework developed by Belenky, et al. (1997), it mimics many others that have been developed previously (Perry, 1970; Marra, 2002) to describe adult epistemological development. The culmination of each of these frameworks, including in the *Women's Ways of Knowing* framework, is the constructivist epistemological position. Because the purpose of this study was to deepen the understanding about the ways in which these students navigated through a course using constructivist processes or acting as constructivists, it was important to impose this framework onto the results as a way of creating a teaching philosophy that encompasses the insights from the investigation of both questions and provides a more authentic framework for future practice and research. As Marra (2002) proposes:

> The characteristics of individuals with higher levels of epistemic beliefs (constructivist) are the characteristics we would like to see in our graduates and in the workforce. Such individuals are more likely to be able to think through a complex, ill-structured problem, in context, and make a reasonable argument for the best of many solutions – a skill that embodies what is needed in many workforce positions today. (Marra, 2002, p. 19)

It became clear through the course of each semester that I leaned more heavily toward direct instruction as time went on and following my initial assessments of student placement in the epistemological framework. My interpretation of this practice was that in light of my internalization of the *Women's Ways of Knowing* framework (Belenky, et

al., 1997), this was my way of accommodating their current learning preferences in an effort to provide a greater sense of security within the process. For example, falling in line with the recommendations of the authors of *Women's Ways of Knowing*, I altered the balance between freedom and structure of the class when I sensed that students were becoming paralyzed with too many options in navigating through the course.

Based on the viewpoint that the underlying goal of education is to move progressively through the epistemological stages toward constructivism, any educational intervention should involve not only the current method by which information must be delivered to a person in a particular stage, but also the method that will facilitate movement out of that stage and into the next (Belenky, et al., 1997; Marra 2002). Following this line of thinking, my leaning toward increased directedness with regard to the proficiency project procedures with both sections of students was a result of my informal assessment of what current stage of epistemological development my students were operating in. As received and/or subjective knowers (according to the *Women's Ways of Knowing* framework), these students had the potential of being paralyzed by too much freedom in their projects. As I became more and more aware of this struggle, I increased my directedness to provide greater safety for them. However, because of my commitment to move them forward along the continuum at the same time, I continued to provide freedom in ways that I felt they could work with. This balance between freedom and structure is a recommendation that is meant to underlie all teaching opportunities with women (Belenky, et al., 1997), but it is very difficult to appropriately assess and provide. Indeed, some of my students in fact were paralyzed by the weight of making their own decisions, while others grew and moved forward as they gradually became

successful and came to enjoy the process. The feedback and direction I gave for both groups was very similar, although much more conversational and repetitive with the face-to-face group. Differences between students seemed to be more in line with their placement on the epistemological continuum rather than whether they took the course online or face-to-face.

The lens of this framework has effectively troubled my view of the responsibility I have in how my students view their own learning processes. In my attempt to isolate characteristics within my students that cause them to view education a certain way, I have been blind to my own culpability in facilitating the maintenance of their status as received or subjective knowers. Quoting Nel Noddings, the *Women's Ways of Knowing* authors reframe the phenomenon of the "teacher pleaser" in this way:

> In traditional separate education, the student tries to look at the material through the teacher's eyes. In contrast, the caring teacher 'receives and accepts the student's feeling toward the subject matter; she looks at it and listens to it through his eyes and ears' (Belenky, et al., 1997, p. 224)

This realization has affected my view of how this study should impact my own teaching, and has informed my philosophy of teaching.

Toward a New Teaching Philosophy

The most important implication that I gleaned from this study for my own teaching practices revolves around the idea that in addition to following constructivist education principles for curriculum planning and enacting, I must also find ways to understand more clearly my students' current epistemological position if I am to facilitate students' development toward a constructivist perspective. Based on the results of this

study, the participants most likely operated from a received or subjective epistemological position. In this position, it is very irritating to be confronted with conflicting ideas, as well as to be expected to make personal choices regarding the learning process. Therefore, it may be advantageous to assess the level of epistemological development of learners while enacting curriculum that follows constructivist principles. Because the ultimate goal is to highlight the constructivist nature of the known so that the knowers can become aware of how their own knowledge is constructed, the path toward this realization must be better understood and facilitated by the instructor.

The notion of "troubling" or "disturbing" an existing construct for the purpose of facilitating new construction of ideas related to that construct is an idea commonly found within curriculum theorizing (Cary, 2007). While it seems to come from similar motivations, it carries with it a different tone than does the introduction of conflict as presented in this study. As I contemplate how I might alter my teaching practices in light of the results of this study, my mind is drawn to this notion of troubling as an alternative to introducing conflict. Although the introduction of conflicting ideas about theory, theorists, child observation, and learning through play caused certain reactions in my students that could be labeled as assimilation or accommodation, I wonder if a different approach might have facilitated a healthier, more progressive development on the epistemological framework toward more authentic constructivist thinking. What if my attempts at connected teaching were not so connected as I originally thought? Although it is true that my teaching style is a far cry from the traditional, polished lecture that "appears as if by magic" before the students' eyes (Belenky, et al., 1997, p. 215), if I look closely enough, I can see that my biases and commitments to core knowledge are evident

enough, even in the context of dialogue during which I attempt to conceal them. Having studied the concept of connected teaching for some time, I believe that much of the progress I do see in my students can be attributed to some attempts at the application of this philosophy. Takyra's words demonstrate the remaining struggle between my connected and separate (traditional) teaching very clearly:

> I thought, "oh God, this is the head, the department head, Oh my God!" I was scared you know...but then after a while I was like "you know she's real nice, she's really cool and laid back and I don't have anything to worry about and she's just another teacher" you know instead of lookin at her as just the department head, just another instructor and she's here to teach us and she's you know genuine and so I'm like "I'm fine" So after I relaxed on that and found out how you wanted us to actually write our essays and write our papers...you need us to be thorough and you need us to write it out...

Within this explanation, she reveals how my demeanor put her at ease, while my expectations (my "needs") remained on the forefront. Rather than progressing toward an understanding about the purpose of the assignments in relation to her own growth and learning, she used her feeling of safety within my classroom to position her to better understand how to please me. My reaction to this is to allow it to impact my future teaching by compelling me to more consistently connect with the internal beliefs the students bring into my classroom, rather than just simply connecting with them personally to put them at ease about my expectations.

Interestingly, the opportunity for this type of connected teaching may be even greater in the online environment. With a requirement that each individual participate in

an online discussion forum, each student must reveal her perspective on the concept being explored. As an online instructor, I can choose to focus on each individual learner, draw out the knowledge from within each one, affirm that knowledge and bridge the gap toward new learning. Indeed, this type of interaction, though rarely found in the online forum data, seemed to serve this purpose for several of the online students who began the semester with strong biases against certain ideas. This type of interaction in the online forum has the potential to move students closer down the continuum toward constructivism even more than allowing them to interact among themselves without my intervention.

In light of the fruitfulness of class discussion in both the online and face-to-face contexts for moving students toward a more constructivist view of their own ways of knowing, it appears that efforts toward this end should continue to be included as part of the overall educational intervention for students at all levels of epistemological development. Efforts can also be made to provide opportunities for "thinking about thinking" through reflection on the learning process, in order to move them toward a constructivist position, following the recommendation of Castle (1997) and others, as this was found to have a positive impact as well. Following the pattern of creating a balance between freedom and structure in educational interventions for women recommended by Belenky et al., 1997 seemed to have a positive effect on moving students further toward a constructivist way of thinking about their own thinking. Educators must be mindful of the position of their students and their personal reactions to certain free form academic environments. Students must feel safe before they can venture into new territory regarding their learning experience.

Future Research Possibilities

Because of the sheer volume of data that was collected for this study, there are multiple possibilities for future research endeavors stemming from this data. The online discussion forum text could be compared to the live chat text to investigate the differences between asynchronous discussion and synchronous discussion. Interview transcripts could be studied to investigate additional elements related to epistemological development. The same participants could be interviewed at the conclusion of their degree program, to determine movement on the epistemological development continuum, mimicking the process used to create the *Women's Ways of Knowing* framework (Belenky, et al., 1997).

Future studies should focus on how to evaluate current epistemological positions, and what particular strategies encourage movement down the continuum in both online and face-to-face environments. "The most meaningful forms of learning outcomes and the ones that prior research has shown to impact epistemic development positively include modeling, designing, and decision making in a supportive environment related to problem solving (Marra 2002, p. 20). Several of the recommendations from this list were present in my teaching of Child Development presented here in this study, while others were found less frequently (e.g. modeling).

Future research could include a larger participant pool. A study could be done that is more comprehensive, including both quantitative and qualitative methods, and multiple courses and instructors. A study of this nature could provide additional evidence to support the ongoing development of constructivist education practices in both face-to-face and online courses, so that students navigating their way through can construct

knowledge that will truly benefit them in their work with and for young children.

Limitations of the Study

Examining constructivist education as a unit of analysis required an approach to research that is most authentically labeled teacher or practitioner research. Practitioner research continues to be debated in terms of its usefulness and ability to "count" as real research in university settings. However, its "constructive disruption" of university culture has benefits that are difficult to dispute:

> …when university faculty members intentionally work the dialectic of inquiry and practice, a hybrid genre of research emerges that braids the strands of empirical and conceptual scholarship and blurs the demarcation between research and teaching as well as teaching and service. (Cochran-Smith & Lytle, 2009, p. 100-101)

An additional issue traditionally deemed as a limitation of practitioner research is that of coercion of student-participants. The assumption that provides the basis for this is the idea that there is never truly any way that an individual could conduct a study of his or her own teaching without the presence of conflict of interest. While this is an arguable point and one that should be brought to the forefront in light of the study presented here, it should also be noted that it is based on the assumption that there are other approaches to research whose purposes are truly neutral. To follow that line of reasoning, one would have to adhere to an idea of "the good researcher that is studiously agnostic about the questions or outcomes of research" (Cochran-Smith & Lytle, 2009). As Cochran-Smith and Lytle (2009) are quick to point out, practitioner research does not purport to make this assumption about the researcher or the purpose of the research.

Conducting data collection in the subsequent semester following the completion of the course was expected to reduce the effect of student perceptions regarding the intended use of data as well as the perceived level of power that the researcher who had been their instructor had over the student-participants. As the data collected involved participant feedback on the course and the instructor's role in the course, it was expected that there was some effect on the participant responses because of the dual role of instructor and researcher, since participants may have viewed the researcher as the primary audience. This dynamic was identified by Anderson, Barksdale, and Hite (2005) as a limitation of research that is conducted with current students of the researcher as participants.

As is common with qualitative studies, generalization is not an expected benefit, as the number of participants was not large or diverse. Additionally, although the study is presented as a comparison between online and face-to-face higher learning environments, a direct comparison has not been made. As evidenced by the results of the study indicating the influence of epistemological development, the characteristics of the students that made up each course section were not homogenous enough to make such a comparison. However, the instructor and school setting were the same, and though the face-to-face participants came to the course with more early childhood education and experience outside the college classroom, participants' level of experience with early childhood college course work was quite similar between the two course sections.

Significance of the Study

At the outset of this study, I outlined a problem statement that described a dilemma we face as early childhood teacher educators. This dilemma is the proliferation

of the online mode of course delivery in a field that is generally committed to hands-on, interactive teaching styles meant to fall in line with constructivist ideas. Because the online environment is text-driven and absent the physical presence of its participants, it can and has been considered absent of constructivist education principles as well. This study demonstrates that not only can the online environment employ constructivist education principles in similar ways as the face-to-face environment, but it can also serve as a constructivist environment in ways the face-to-face classroom cannot. This was found primarily in the student-centered way in which students navigated their way through the online course, the higher level of attention given to the use of individual questioning to promote thinking about a subject, the potential to introduce ideas that can trouble the individual learner's current position on a subject, and the attention to individuals that is necessary in the online environment.

In addition, the revelation of the prominent role of epistemological development in all students' (face-to-face and online) ability to engage with constructivist education practices corroborates with existing research on the subject (Belenky, et al., 1997; Marra, 2002, Perry, 1970). Implications from this phenomenon can be used to inform future pursuits toward employing constructivist education principles in higher learning classrooms. Individuals must be met with strategies that engage them where they are and move them forward toward a constructivist "way of knowing" (Belenky, et al., 1997).

Conclusion

At the conclusion of this study, I am even more convinced that following a constructivist framework to inform my teaching practices is a worthwhile endeavor, regardless of the characteristics of my students. However, I must not take the

constructivist education principles or recommendations as applicable to all students equally, without taking into consideration the current epistemological position of students when they arrive in my classroom, whether it is a face-to-face or online format. Most importantly, I will seek to become more cognizant of what elements of the curriculum are being experienced by my students as facilitators of constructivist processes, whether or not they were planned as such by me. For example, I must realize that conflict with ideas or concepts is many times based on the latent knowledge each student arrives with. How fruitfully they reconcile these conflicts depends at least in part on my approach to presenting ideas that may be new. I can choose to trouble their notions just enough that they might seek to deepen their understanding rather than present new concepts from the perspective of an all-knowing, authoritative voice who has challenged the knowledge they have constructed up to this point. In this way, there is a chance to provide the education that Candace experienced:

> She was intensely, genuinely interested in everybody's feelings about things. She asked a question and wanted to know what your response was. She wasn't using us as a sounding board for her own feelings about things. She really wanted to know.
>
> (Belenky, et al., 1997, p. 225)

REFERENCES

Allen, I.E. & Seaman, J. (2010). *Class differences: Online education in the United States.* Babson Survey Research Group.

Anderson, N. A., Barksdale, M. A., & Hite, C. (2005). Preservice teachers' observations of cooperating teachers and peers while participating in an early-field experience. *Teacher Education Quarterly,* 32(4).

Belenky, M. F., Clinchy, B. M., Goldberger, N. R. & Tarule, J. M. (1997). *Women's ways of knowing: The development of self, voice, and mind.* New York: Basic Books.

Billman, J. (1997). Wrestling with Piaget: A personal perspective. *Journal of Early Childhood Teacher Education,* 18(2), 14-15.

Branscombe, A., Castle, K., Dorsey, A., Surbeck, E., & Taylor, J. (2003). *Early Childhood Curriculum: a constructivist perspective.* Houghton Mifflin Company. New York, Boston, p. 79- 81.

Bredekamp, S & Copple, C. (Ed.), (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8.* Washington, D.C.: National Association for the Education of Young Children.

Brown, P.U., Castle, K., Rogers, K.M., Feuerhelm, C., and Chimblo, S. (2007). The nature of primary teaching: Body, time, space and relationships. *Journal of Early Childhood Teacher Education,* 28(1), 3-16.

Bruner, J. (1984). *In search of mind: Essays in autobiography.* New York: Harpercollins.

Campano, G. (2009). Teacher research as a collective struggle for humanization. In Cochran-Smith, M. & Lytle, S. (Eds.), *Inquiry as stance: Practitioner research for the next generation.* (pp. 326-341) New York: Teachers College Press.

Carlson, H. L. (1999). From practice to theory: A social constructivist approach to teacher education. *Teachers and Teaching,* 5(2), 203-218.

Cary, L. J. (2007). *Curriculum spaces: Discourse, postmodern theory and educational research.* New York: Peter Lang Publishing.

Cassidy, D. J., Buell, M. J., Pugh-Hoese, S., & Russell, S. (1995). The effect of education on child care teachers' beliefs and classroom quality: Year one evaluation of the TEACH early childhood associate degree scholarship program. *Early Childhood Research Quarterly, 10*(2), 171-183.

Castle, K. (1997). Constructing knowledge of constructivism. *Journal of Early Childhood Teacher Education,* 18(1), 55-67.

Castle, K. (2004). The meaning of autonomy in early childhood teacher education. *Journal of Early Childhood Teacher Education,* 25, 3-10.

Castle, K. (2006). Autonomy through pedagogical research. *Teaching and teacher education,* 22, 1094-1103.

Chaille, C., & Britain, L. (1997). *The young child as scientist: A constructivist approach to early childhood science education.* Second edition. New York: Longman.

Chaille, C. (2008). *Constructivism across the curriculum in early childhood classrooms: Big ideas as inspiration.* Boston: Pearson Education, Inc.

Cochran-Smith, M. & Lytle, S.L. (1990). Research on teaching and teacher research: The issues that divide. *Educational Researcher,* 19(2), 2-11.

Cochran-Smith, M. & Lytle, S.L. (1999). The teacher research movement: A decade later. *Educational Researcher,* 28(7), 15-25.

Cochran-Smith, M. & Lytle, S.L. (2009). *Inquiry as stance: Practitioner research for the next generation.* New York: Teachers College Press.

Colliver, J.A. (2002). Constructivism: The view of knowledge that ended philosophy or a theory of learning and instruction? *Teaching and Learning in Medicine,* 14, 49-51.

DeJong, L. & Groomes, F. (1996). A constructivist teacher education program that incorporates community service to prepare students to work with children living in poverty. *Action in Teacher Education,* 18(2), 86-95.

DeVries, R. & Zan, B. (1992). *Social processes in development: A constructivist view of Piaget, Vygotsky, and education.* Paper presented at the annual meeting of The Jean Piaget Society, Montreal, Quebec, May, 1992.

DeVries, R. (1997). Piaget's social theory. *Educational Researcher,* 26(2), 4-18.

DeVries, R., Edmiaston, R., Zan, B. & Hildebrandt, C. (2002). *Developing constructivist early childhood curriculum*. New York: Teachers College Press.

DeVries, R. (2002). *What is constructivist about constructivist education?* Paper presented at the Association for Constructivist Teaching, Houston, October, 2002.

Doll, W. (1993). *A post-modern perspective on curriculum*. New York: Teachers College Press.

Fengfeng K. (2010). Examining online teaching, cognitive, and social presence for adult students. *Computers and Education*, 55(2), 808-820.

Forman, G.E. & Kuschner, D.S. (1983). *The child's construction of knowledge: Piaget for teaching children.* Washington D.C.: The National Association for the Education of Young Children.

Fosnot, C.T. (1989). *Enquiring teachers, enquiring learners: A constructivist approach to teaching.* New York: Teachers College Press.

Fosnot, C.T. (Ed.). (1996). *Constructivism: Theory, perspectives, and practice.* New York: Teachers College Press.

Fox, S. & Donahue, C. (2006). Trends and promising practices in early childhood teacher education online: The view from New Zealand. *HeKupu*, 29-34.

Freire, P. (1970). *Pedagogy of the oppressed.* New York: Continuum.

Garza Mitchell, R.L. (2009). Online education and organizational change. *Community College Review*, 37(1), 81-101.

Gergen, K.J. (1995). Social Construction and the Educational Process. In L.P. Steffe & J. Gale (Eds.), *Constructivism in Education* (pp. 17-40). Hillsdale, NJ: Lawrence Erlbaum.

Gijbels, D., van de Watering, G., Dochy, F., & van den Bossche, P. (2006). New learning environments and constructivism: The students' perspective. *Instructional Science*, 34, 213-226.

Gijbels, D. & Loyens, S.M.M. (2009). Constructivist learning (environments) and how to avoid another tower of Babel: reply to Renkl. *Instructional Science*, 37, 499-502.

Heirdsfield, A., Davis, J., Lennox, S., Walker, S., & Zhang, W. (2007). Online learning environments: What early childhood teacher education students say. *Journal of Early Childhood Teacher Education*, 28, p. 115-126.

Hmelo-Silver, C.E. (2004). Problem-based learning: What and how do students learn? *Educational Psychology Review*, 16, 235-266.

Humphries, J. & Pruitt, R. (2010). When intent and reality collide: How to support teachers' educational opportunities within the early childhood classroom. *Child Care Information Exchange*, Nov/Dec 2010.

Izumi-Taylor, Sluss, D., & Turner, S. (2007). Three views of learning experiences using technology-enhanced teaching: How online video conferencing sessionscan promote students' construction of knowledge, He Kupe eLearnig, 1(2), 6-48.

Jackson, P.W. (1990). The daily grind. In D.J. Flinders & S.J. Thornton (Eds.), *The curriculum studies reader* (2nd ed., pp. 93-102). New York: Routledge Falmer. (Reprinted from *Life in Classrooms.* New York: Teachers College Press, pp. 3-11, 33-37

Jensen, J. (2000). *Application of constructivism to teacher education*. Paper presented at the Annual Meeting of the American Educational Research, New Orleans, LA, April 24-28, 2000.

Jones, I. (2011). Can you see me now? Defining teacher presence in the online classroom through building a learning community. *Journal of Legal Studies Education*, 28(1), 67-116.

Kamii, C. (1979). Piaget's theory, behaviorism, and other theories in education. *Journal of Education,* 161(1), 13-33.

Kamii, C. (1982). *Number in preschool and kindergarten.* Washington DC: National Association for the Education of Young Children.

Kamii, C. (1984). Autonomy: The aim of education. *Phi Delta Kappan,* 65(6), 410-415.

Kamii, C. (1991). Toward autonomy: The importance of critical thinking and choice making. *School Psychology Review,* 20(3), 382-388.

Kamii, C., Clark, F.B., & Dominick, A. (1994). The six national goals: A road to disappointment. *Phi Delta Kappan,*75(9), 672-677.

Kaufman, D. (1996). Constructivist-based experiential learning in teacher education. *Action in Teacher Education,* 18(2), 40-49.

Klein, M. (2001). Constructivist practice, pre-service teacher education and change: the limitations of appealing to hearts and minds. *Teachers and Teaching,* 7(3), 257-269.

Ko, S. & Rossen, S. (2004). *Teaching online: A practical guide.* New York: Routledge.

Kroll, L. (2004). Constructing constructivism: how student-teachers construct ideas of development, knowledge, learning and teaching. *Teachers and Teaching,* 10(2), 199-221.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Loyens, S.M.M., Rikers, M.J.P., & Schmidt, H.G. (2008). Relationships between students' conceptions of constructivist learning and their regulation and processing strategies. *Instructional Science,* 36, 445-462.

Loyens, S.M.M. & Gijbels, D. (2008). Understanding the effects of constructivist learning environments: Introducing a multi-directional approach. *Instructional Science,* 36, 351-357.

MacKinnon, A. & Scarff-Seatter, C. (1997). Constructivism: Contradictions and confusion in teacher education. In Richardson, V. (Ed.). *Constructivist teacher education: Building new understandings.* (pp. 38-55). Washington DC: Falmer Press.

Maloney, J. & Bullard, J. (1997). Practicing what we teach: Developing appropriate practices for early childhood preservice teachers. *Journal of Early Childhood Teacher Education,* 18(1), 46-54.

Marra, R. M. (2002). The ideal online learning environment for supporting epistemic development: putting the puzzle together. *Quarterly Review of Distance Education,* 3(1), 15-31.

Marsh, C.J. & Willis, G. (2007). *Curriculum: Alternative approaches, ongoing issues.* New Jersey: Pearson.

McAninch, A.R. (1993). *Teacher thinking and the case method: Theory and future directions.* New York: Teachers College Press.

McMullen, M. B. (1997). The effects of early childhood academic and professional experience on self perceptions and beliefs about developmentally appropriate practices. *Journal of Early Childhood Teacher Education,* 18(3), pp. 55-68.

McMullen, M. B., Alat, K. (2002). Education matters in the nurturing of the beliefs of preschool caregivers and teachers. *Early Childhood Research and Practice,* 4(2), http://ecrp.uiuc.edu/v4n2/index.html

McMullen, M. B., Elicker, J., Goetze, G., Huang, H. H., Lee, S. M., Mathers, C., Wen, X., and Yang, H. (2006). Using collaborative assessment to examine the relationships between self-reported beliefs and the documentable practices of preschool teachers. *Early Childhood Education Journal, 18(*3), 55-68.

Morales, R.S. (1997). Constructing meaning together: Developing teachers' competencies in working with culturally and linguistically diverse children and their families. *Journal of Early Childhood Teacher Education,* 18(3), 86-94.

Natriello, G. (2005). Modest changes, revolutionary possibilities: Distance learning and the future of education. *Teachers College Record,* 107(8), 1885-1904.

Noddings, N. (1984). *Caring.* Berkely, CA: University of California Press.

Noel, K. (2000). 'Experiencing the Theory': Constructivism in a pre-service teacher preparation program. *Teachers and Teaching,* 6(2), 183-196.

Norris, D.J., Eckert, L., & Gardiner, I. (2004). *The Utilization of Interest Centers in Preschool Classrooms.* Presented at the National Association for the Education of Young Children Conference: Chicago, Illinois.

O'Connel Rust, F. (1997). Creating a context for constructivist pedagogy in teacher education. *Journal of Early Childhood Teacher Education,* 18(2), 27-33.

Oldfather, P., Bonds, S., & Bray, T. (1994). Drawing the circle: Collaborative mind mapping as a process for developing a constructivist teacher education program. *Teacher Education Quarterly,* 21(3), 5-13.

Orland-Barak, L. & Tillema, H. (2006). The 'dark side of the moon': A critical look at teacher knowledge construction in collaborative settings. *Teachers and Teaching: Theory and Practice,* 12(1), 1-12.

Owen, P. M. (2007). Integrating Katz and Chard's project approach with multicultural education in the university classroom. *Journal of Early Childhood Teacher Education*, 28(1), 219-232.

Patton, M. Q. (2002). *Qualitative research and evaluation methods, 3rd ed.* Thousand Oaks, CA: Sage.

Perry, W. (1970). *Forms of Intellectual and Ethical Development in the College Years: A Scheme.* Holt, Rinehart & Winston. New York.

Piaget, J. (1970). Piaget's theory. In Mussen, P. H. (Ed.) *Carmichael's manual of child psychology* (3rd ed, pp. 703-732). New York: Wiley.

Piaget, J. (1970). *Structuralism.* New York: Basic Books.

Pruitt, R. (2011). Stay true or start new: Dichotomy in first year kindergarten teacher experiences. *Curriculum and Teaching Dialogue,* 13(2), 83-98.

Rand, M. (1999). Supporting constructivism through alternative assessment in early childhood teacher education. *Journal of Early Childhood Teacher Education,* 20(2), 125-135.

Richards, J. (1995). Construct[ion/iv]ism: Pick one of the above. In L.P. Steffe & J. Gale (Eds.), *Constructivism in Education* (pp. 57-64). Hillsdale, NJ: Lawrence Erlbaum.

Richardson, V. (2003). Constructivist pedagogy. *Teachers College Record,* 105(9), 1623-1640.

Saunders, W.L. (1992). The constructivist perspective: Implications and teaching strategies for science. *School Science and Mathematics,* 92, 136-141.

Schattgen, S.F. (1997). Constructivist early childhood teachers through project construct. *Journal of Early Childhood Teacher Education,* 18(2), 34-42.

Slagter van Tyron, P. J. & Bishop, M. J. (2009). Theoretical foundations for enhancing social disconnectedness online. *Distance Education,* 30(3), 291-315.

Taylor, S., & Hsueh, Y. (2005). Implementing a constructivist approach in higher education through technology. *Journal of Early Childhood Teacher Education, 26*, 127-132.

van Manen, M. (1990). *Researching lived experiences: Human science for an action sensitive pedagogy.* Albany: Suny Press.

Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Wood, T. (1995). From alternative epistemologies to practice in education: Rethinking what it means to teach and learn. In L.P. Steffe & J. Gale (Eds.), *Constructivism in Education* (pp. 331-339). Hillsdale, NJ: Lawrence Erlbaum.

Zellermayer, M. & Tabak, E. (2006). Knowledge construction in a teachers' community of enquiry: a possible road map. *Teachers and Teaching*, 12(1), 33-49.

APPENDICES

APPENDIX A: Child Development Online Course Syllabus

Early Care Education Department
COURSE SYLLABUS – Spring 2011

ECEA 2113 Child Development

INSTRUCTOR:	**Rebecca Pruitt, Department Head**
Phone:	
E-MAIL ADDRESS:	
OFFICE HOURS:	**M: 8am-12pm, W: 9am-1pm, Th-F: 8am-5pm**
CLASS MEETINGS:	online
CLASS MEETINGS:	Online Delivery with Weekly Assignments – No Campus Mtg.
TEXT BOOK(S):	*Understanding Child Development, 7th Edition,* Rosalind Charlesworth, Thomson/Delmar Pub. 2008 *Theories of Childhood* Carol Garhart Mooney, Redleaf Press/Pearson 2000

NOTICE TO STUDENTS REGARDING TRANSFERABILITY OF COURSES:
The Associate of Applied Science Degree in Early Care Education with Administration Emphasis and/or Master Teacher Emphasis is designed as a career preparation degree, **NOT SPECIFICALLY AS A TRANSFER DEGREE TO A FOUR (4) YEAR DEGREE PROGRAM**. While many of the courses will count towards graduation of a Baccalaureate Degree, not all will; therefore, it is **HIGHLY RECOMMENDED THAT STUDENTS VISIT WITH THE RECEIVING TWO-YEAR OR FOUR-YEAR INSTITUTION REGARDING TRANSFERABILITY OF COURSES.**

Notice To Students

Students graduating with the certificate of Mastery in Early Care Education Administration with emphasis in Child Care Center of Family Child Care or the Associate of Applied Science in Early care Education with Emphasis in Administration or Master Teacher ***must earn a minimum final course grade of "C" or higher in all Early Care Education degree specific Technical Occupation Required courses in order to satisfy degree and certificate of mastery graduation requirements.***

NOTICE, A.D.A POLICY:

If any member of the class feels that he/she has a disability and needs special accommodations of any nature whatsoever, the instructor will work with you as well as the Office of Services to Students with Disabilities to provide reasonable accommodations to ensure that you have a fair opportunity to perform in this class. Please advise the instructor of such disability and the desired accommodation at some point before, during or immediately after the first scheduled class period. The contact person within the Office of Services to Students with Disabilities is Shelly Bell. You may reach her at . Please keep in mind that your request for special accommodations can not be retro-active; please contact your instructor and/or Shelly Bell, ASAP at the conclusion of your **first scheduled class session.**

ACCESSING FINAL GRADES

Semester **Final Grades** will no longer be mailed to students. Semester **Final Grades** for all courses will be posted on the Internet and can be accessed by logging onto the website. Once you have accessed the website, click onto the Student Information System link which appears on the left side of the home page. You will need a personal identification number (PIN) to access your grades. If you have already obtained your PIN from for online enrollment, etc., you will use this same PIN to access your grades. Refer to the attached handout about *SIS Web for Students – Beginners* for additional information. ***Once you have received your PIN, you will use this same PIN throughout the duration of your academic career at OSU-OKC.***

COURSE DESCRIPTION:

This online course will offer the student an introduction to the most common theories of child development. The child's physical, cognitive, communication, social and emotional development will be explored. Additionally, students interested in obtaining the National Child Developmental Associate Credential will receive specific information relating to the statements of competencies and specific items for your CDA professional resource file that fall within this realm of study.

STUDENT LEARNING OBJECTIVES:

The purpose of this course is to expose students to common child development theories and basic development of children. Upon completion of this course, students will be able to:

- Discuss Urie Bronfenbrenner's ecological systems theory.
- Recognize the various theories within child development.
- Understand the overall development process during the prenatal phase.
- Define and discuss Attachment Theory.
- Understand infant development including physical, perceptual, cognitive, language, social and emotional.
- Understand the overall development during early childhood including physical, cognitive, language, information processing, intelligence, social, emotional, and the sense of self.
- Understand various behavior issues and their origins.
- Explore genetic disorders and birth defects among children ages birth through 8 years of age.
- Apply child development principles and theories to curriculum planning.

GENERAL COURSE REQUIREMENTS:

Instruction Methods:

This course will consist of the student reading books and supplements as assigned. These include informal observations/activities, various course assignments, a midterm and final reflection. Students will be expected to stay current on their assignments within provided guidelines as described further in the syllabus and to complete regular course discussions through online Discussion Board responses.

Attendance Policy:

Based on the rubric for discussion, students will be required to participate in class discussion on a regular basis and by deadlines that are pre-determined. Please read further for information regarding discussion board requirements and other class requirements. **Self-motivation and regular access and participation in the online class will be mandatory to be successful.**

Midterm and Final Reflections:

There will be two formal reflection points throughout the semester. This will be at the mid-term and at the end of the semester. These dates are noted on the Course Calendar. Points for these two assignments are listed further in the syllabus.

It is the instructor's prerogative to request student(s) to complete their quiz and/or exam/reflection at the testing center, or the equivalent at an academic institution within student's area should falsification of submitted documents be suspected.

Make-Up Policy

All coursework is due on the assigned due dates. Late work will only be accepted if prior arrangements have been made with the instructor – Prior being defined as BEFORE THE ASSIGNMENT IS ACTUALLY DUE.

Proficiency Project:

Proficiency Projects are a crucial part of the student assessment process. All students working toward their Certificate of Mastery and/or Associate's Degree in a certificate/degree program should keep their graded Proficiency Project upon completion of this class. You will need this Proficiency Project for the Final Assessment Process required for graduation.

Required paperwork and instructions relating to this assignment can be found under the Content section of the Desire 2 Learn course platform. A document explaining grading procedures as well as other information is included. Any questions you have concerning this assignment should be directed to the instructor via email for clarification.

GRADING SCALE:

All grades will be given numerical form. At the end of the semester all points will be added together and a letter grade will be awarded based on the percentage breakdown provided below:

100 – 90%	=	A
89 – 80%	=	B
79 – 70%	=	C
69 – 60%	=	D
59 – 0%	=	F

It is recommended that you keep track of your grades and keep all assignments returned to you. In this way, any differences that may exist between the instructor's records and yours can be corrected. If you do not retain your graded assignments, the instructor's recorded grade will take precedence for final grade calculation.

BREAKDOWN OF TOTAL POSSIBLE POINTS:

Regular Assignments:	
Midterm Reflection	50 points
Final Reflection	50 points
Additional Assignments	75 points
Summary Paper	100 points
Proficiency Project	200 points
Group Project	100 points
Weekly Online Discussions	75 points
	650 points

HONORS:

Anyone interested in completing an ***Honors Contract*** for this course may do so by contacting the Honors' Committee Chairperson, for information. Please keep in mind that honors projects require approximately twenty plus (20+) clock hours of time outside the normal course load for this class and must include a research component. Research and documentation of work *must be of honors caliber and meet all criteria stated in the Honor's Contract in order to be recognized as a honors project and receive academic recognition as such.*

Students who complete an *Honors Contract* must also receive a "B" or better in the course to earn an Honors designation on the transcript. Your instructor will require intermittent progress checks to verify that work is corresponding with criteria outlined in your Honors Contract and is meeting overall honors requirements. Honors work is outside the normal requirement for this course. Therefore, if the student does not complete their contract, it will not affect their grade in the class. Projects will be determined by course instructor with input from the student.

I encourage all students to consider doing an *HONORS PROJECT* in this class. Being an ***Honors Student*** can be very rewarding personally and academically.

SERVICE LEARNING

Anyone who completes a Service Learning Contract will receive EXTRA CREDIT within this course. Specifics on Service Learning can be found online by accessing:

Select ACADEMICS at the top of the page
Select SERVICE LEARNING on the right side of the page
Click "Student Download" for student packet

Criteria and guidelines must be accurately followed in order to receive Extra Credit points.

ECEA 2113-N02 Spring 2011 TENTATIVE SCHEDULE

Faculty has the right to change or modify the course syllabus materials and/or schedule during the academic year. Any changes will be shared with students.

Week	Reading Assignment	Activity/Assignment Due
#1) Jan 18 – Jan 23, 2011	*COURSE SYLLABUS* *COURSE SCHEDULE* *Proficiency Project instructions*	**DUE JAN 24TH @ 8am:** *Online Discussion *****Sign and return syllabus agreement by mail
#2) Jan 24 – Jan 30, 2011	*Understanding Child Development* Chapters 1-3	**DUE JAN 31st @ 8am:** *Online Discussion
#3) Jan 31 – Feb 6, 2011	*Theories of Childhood* Chapter 1	**DUE FEB 7TH @ 8am:** *Online Discussion
#4) Feb 7 – Feb 13, 2011	*Understanding Child Development* Chapters 4-5	**DUE FEB 14TH @ 8am:** *Online Discussion *Howard Gardner activity
#5) Feb 14 – Feb 20, 2011	*Understanding Child Development* Chapters 6-7 *Theories of Childhood* Chapter 3	**DUE FEB 21st @ 8am:** *Online Discussion
#6) Feb 21 – Feb 27, 2011	*Understanding Child Development* Chapters 8-9	**DUE FEB 28th @ 8am:** *Online Discussion *Proficiency Project: Part I Observations
#7) Feb 28 – Mar 6, 2011	*Understanding Child Development* Chapters 10-11	**DUE MAR 7th @ 8am:** *Online Discussion
#8) Mar 7 – Mar 13, 2011	*Understanding Child Development* Chapters 12-14	**DUE MAR 14th @ 8am:** *Online Discussion *Mid-Term Reflection

#9) Mar 14 – Mar 20, 2011	**Spring Break**	**Spring Break**
#10) Mar 21 – Mar 27, 2011	*Understanding Child Development* Chapters 15-17	**DUE MAR 28th @ 8am:** *Online Discussion *Proficiency Project – Part II Observations
#11) Mar 28 – Apr 3, 2011	*Understanding Child Development* Chapters 19-22	**DUE APR 4th @ 8am:** *Online Discussion
#12) Apr 4 – Apr 10, 2011	*Understanding Child Development* Chapters 23-25	**DUE APR 11th @ 8am:** *Online Discussion *Summary Paper
#13) Apr 11 – Apr 17, 2011	*Understanding Child Development* Chapters 26-29	**DUE APR 18th @ 8am:** *Online Discussion *Proficiency Project final
#14) Apr 18 – Apr 24, 2011	*Theories of Childhood* Chapters 4 - 5	**DUE APR 25th @ 8am:** *Online Discussion * Group Project
#15) Apr 25 – May 1, 2011	*Understanding Child Development* Chapters 30-31	**DUE MAY 2nd @ 8am:** *Online Discussion *Theory Worksheet
#16) May 2 – May 8, 2011	*Theories of Childhood* Chapter 2	**DUE MAY 9th @ 8am:** *Online Discussion
FINALS WEEK		DUE MAY 17TH @ 11:59pm in dropbox: FINAL REFLECTION

APPENDIX B: Proficiency Project

ECEA 2113 – Child Development

Proficiency Project – 200 points

Part 1 Observations: Infant & Toddler
Due: October 4, 2010

Part 2 Observations: Preschool & School Age
Due: November 1, 2010

Final Project Due in ECEA office: December 13, 2010 @ 5pm

NAEYC Accreditation Key Assessment 5
NAEYC Standards 1, 3, 4, 5
NAEYC Support Skills 2, 3, 4 & 5

OSU-OKC Progam Learning Outcomes 1, 3 & 4

Outcome: To understand the physical, cognitive, social, and emotional development of young children in order to plan appropriate activities that stimulate learning.

Evidence: Well written insightful analysis of observation notes made after observing young children at four different age levels and thoughtful activities chosen to promote growth and development.

Observations:

NAEYC Standards 1a, 3b

You will observe children from four age groups (infant, toddler, preschool, and primary-age).

- You will observe one age group at a time for at least 2 hours. You can make several observations, but the time spent must equal at least 2 hours.
- The toddler, preschool and primary-age observations must be done in a setting with their peers (a child care program, school, church, etc.). These observations can be done at your own facility if needed. The infant observation can be done in a home or in a setting with other infants.
- You will observe the children's physical, cognitive, social, and emotional development.
- You will fill out the observation record sheet stating where, when, and how long you made the observation. The record sheet must be signed by the parent, teacher or program director.
- Use the checklists provided in the content section online or in the textbook to note behaviors observed. All written observations and checklists must be maintained, and turned in with your final project binder.
- In addition to the checklists, you will **write three questions** that remain in your mind after reading your texts and participating in class discussions about growth and development of children that age. These questions will guide your observations.

Analysis:

NAEYC Standards 1a, 1b, 4a, 5d

Pick one child from each age group to analyze.

- Use your observation notes to analyze the child's behaviors.
- Notice if the behaviors are typical for that age and consider why the child might exhibit those behaviors based on his/her developmental stage.
  (Ex: *You noticed a toddler saying things like "more milk" and "car go". This language is typical for toddlers because at that age they begin to move from using one word utterances to using telegraphic speech, two to three word sentences.*)
- Your analysis should include the physical, cognitive, social, and emotional development of the child. Your analysis should also include your thoughts regarding the **three questions** that you developed for the observation.
- Based on your observations and analysis, choose 2 activities that would stimulate the child's learning and development. You need to choose activities that are developmentally appropriate according to the child's stage of development. You do not have to do those activities with the child. However, you must explain why you chose those activities.
  - State the specific interest center of the 7 interest centers (blocks, creative art, library, manipulatives, science, dramatic play, math) in which your activity could be located within an early childhood classroom room (excluding infant activities)
  - For the Activity / Strategy selected for the preschool age child, you must reference the ***Oklahoma Early Learning Guidelines for Children Ages 3 – 5,*** citing the ***Standard*** and ***Indicator*** you are supporting with your activity

For each age group observation/analysis you must include:

1. Observation record sheet
2. Observation checklists with notes
3. Analysis of observations, typed
4. Description of 2 activities with rationale, typed

Place all assignments in order in a 3 ring binder with a cover page in the front and 4 tabs (one for each age group).

All papers should be typed using a 12 font size text and double-spaced.

APPENDIX C: Mid Term Reflection

Mid-term Reflection
ECEA 2113 Child Development
Fall 2010

Complete this mid-term reflection by responding to each numbered section in paragraph form, answering all questions for that number (just type in your responses underneath each question). Take your time and answer each question thoughtfully and thoroughly, using information you have learned in the course when appropriate. Re-save the form using your own name and then print it out to bring to class on October 18th.

1. What were your goals for this class? What did you want to learn more about? If your goals evolved over the course, what did they become? What personal questions did you use to guide/direct your own learning and exploration of the course material?

2. Briefly summarize your most significant learning(s) so far during this class. What new insights, understandings, or realizations did you gain? What was most meaningful for you?

3. What challenges did you overcome?

4. What academic and personal strengths have you demonstrated in this class on group discussions, assignments, and theorist discussions? What areas do you need to improve?

5. What concepts have you learned about that were new to your knowledge base as a child care professional, parent, or student?

6. What questions or concerns are you left with?

7. How can changes be made to make this class experience more effective? Give specific examples.

APPENDIX D: Final Reflection

ECEA 2113 Child Development

Final Reflection

1. This semester, we studied five theorists: John Dewey, Maria Montessori, Erik Erikson, Jean Piaget, and Lev Vygotsky. Each one had things to say about young children's development and learning. We also discussed how *behaviorism* can influence a teacher's philosophy about classroom practices. Using both your theory textbook and your child development textbook, compare these theories with one another and come up with your own theory using pieces of several of them. Use what makes sense to you and goes together well. Explain your theory well, so that someone else can understand it and use it to inform their own teaching practices. Try to avoid using too many quotes. This needs to be in your own words, and must be at least 200 words (use word count tool). Be sure to tell the author's name and page number when discussing what someone else wrote, even if it's in your own words. (Ex: Mooney, p. 49).

2. Respond to the following scenario, using information you learned during this course. Use your own words and tell what your sources for information are (see example above). You must use at least 200 words (use word count tool), and your answer must be backed up with information about child development from your textbook (Understanding Child Development) that explicitly explains your position about play and its specific benefits to young children. You may want to describe particular types of play and the benefits of that type as examples.
You are the director of a child development center. A parent comes to you and says, "Why do the children spend so much time playing? They can play at home. Why should I have to pay money for my child to play?" How would you respond?

APPENDIX E: Group Presentation

ECEA 2113 Child Development

Group Presentation
Theories of Childhood

NAEYC Standards 1a, 1b, 1c; Sub-standard 4a; 4a, 5c
NAEYC Support Skills 3, 4

Your group will collaborate on creating a presentation to the class. Your objective is to inform the class on how your theorist was important to understanding child development.

- Give background information on theorist.
- Give detailed information on their theory of child development. Be careful not to be too vague.
- Give real-life examples on how their theory is related to the classroom.
- Be creative! Make sure to include visuals (power point, pictures, videos, etc.)
- Create a hand-out with pertinent information about your theorist.

Good content	50 points
Creativity	20 points
Hand-out	30 points
TOTAL	100 POINTS

APPENDIX F: Bronfenbrenner Ecological Systems Theory Summary Paper

Summary Paper
(3-5 double-spaced typed pages)
"A Personal Reflection of Bronfenbrenner's Ecological Systems Theory"

Think of yourself at a particular time in your childhood. You may use any age that works for you and your memory. The prompters below are based on an example age of 10 years old. If you choose a different age, one that would fall into any phase of childhood other than middle childhood, you would need to base your information on relevant prompters. You may wish to illustrate this entry with appropriate photos (optional) from this time period in your life, or cartoons that depict any of the information you provide. Using the model from Urie Bronfenbrenner posted in the Content section of the class, reflect in your entry about the following:

Microsystem

Describe

- ✓ your family.
- ✓ your school and teacher.
- ✓ your peer group.
- ✓ the Media – favorite TV shows, books, movies.
- ✓ your surrounding community.

Mesosystem

Describe

- ✓ how your parents interacted with your peers.
- ✓ how your parents interacted with your school.
- ✓ whether your parents helped with school work.
- ✓ how your community supported your school or activities (e.g., sports).

Exosystem

Describe

- ✓ your parents' work.
- ✓ places your family visited.
- ✓ your family relationships.

Macrosystem

Describe

- ✓ your ethnic heritage.
- ✓ your religious affiliations.
- ✓ your community setting: urban (city) or rural (country).
- ✓ your neighborhood.
- ✓ what was going on in the world at the time (e.g., Vietnam War).

APPENDIX G: Interview Guide

1. Please give me your overall impressions of the class.

2. Describe your personal feelings about class discussions. What do you believe you received as a personal benefit from participating in class discussions? What do you believe was a negative result of class discussions?

3. Describe what you feel you learned from doing the Bronfenbrenner summary paper.

4. Describe your experience with the Proficiency Project. What were your biggest struggles? What was your biggest learning experience?

5. Describe what you feel you learned from participating in the group project. How was this learning experience different from the individual assignments you completed?

6. How do you feel you learn best?

7. Describe your feelings about learning in an online classroom. How does that experience compare to learning in a traditional classroom?

APPENDIX H: News Page Posts – Online Classroom

FINAL

I really enjoyed our chats!
Your final is now open for you in Content under Unit 3.
Enjoy!

final chat

I am looking forward to our final live chat! It worked well to provide two options last time, so I am setting it up that way again. Please choose one of the times listed below to join in a the final live chat you see listed under the chat link. Remember, there is some prep involved in this one, so read carefully before joining. **The final will open up tomorrow evening, so you will have the weekend to complete it.**

Thursday (**tonight**) 8:00-9:00
Friday (**tomorrow**) 1:00-2:00

See you there!!

Theory Worksheet Live Chat and Group Projects

I have decided to go ahead and have two choices for the theory worksheet live chat. I will enter the conversation at both of times below. You may choose whichever one of them you prefer. **You *do not* have to participate in both.** Let me know if you have questions!

Monday, May 2nd, 2:00-2:30pm **OR** Tuesday, May 3rd, 8:30-9:00pm

I am looking forward to seeing your **group projects**. Remember they are to be submitted inside the discussion question set up for them. I have set up a **drop box** for you to complete your **group project/presentation reflection form** and submit it there. Inside that drop box is where you will find your feedback and rubric from the group projects as well.

Week 15

Hopefully, you are breathing a bit more easily now that the proficiency project is completed! Watch for feedback coming soon...

I have now set up two new live chats for us to complete our class discussion for the semester. The first is on the Theory Worksheet that is due May 9th. Participation in the

chat will get you full points on that assignment. The second is on Affective Development and will be a place for us to discuss social and emotional development of young children based on your text. You must read carefully the instructions for the chat in order to adequately prepare.

Some of you are needing some **additional points** to complete your semester in order to get the grade you would prefer. **I will allow these chats to be an opportunity for that.** The Theory Worksheet chat will be 30 minutes long, and the Affective Development chat will be one hour. Full participation in these chats could get you some additional participation points. Please let me know what questions you have about your progress and I will be happy to discuss it with you.

Here are the options for the first chat time (Theory Worksheet):

Friday, April 29th, (sometime between) 1-3pm
Monday, May 2nd, (sometime between) 1-3pm
Tuesday, May 3rd, 8:30pm

Let me know!

FYI: I added in points for the Babies movie participants as well this week.

LIVE CHAT

The first live chat is now posted. There is a new link at the top of your page that will allow you to enter this chat. You are able to go in at any time, but of course it will not be a live chat unless all go in together. Therefore, I am setting aside **tomorrow evening (Thursday) at 8:30pm for this first session**. Please make every effort to participate in this session for about 30 minutes. It is a chance to ask questions and get feedback regarding all of the final assignments that are due.

Week 14

Hopefully, you are well on your way with your **group projects**. As always, I am happy to help with whatever you need. Remember, group members are all responsible for making sure the project gets done and submitted. Do not wait for someone to contact you. Take the lead!! You will have the opportunity to describe how the group worked together on your reflection form that you will submit to me after the project is submitted.

Regarding our **live chat**, I did not get much in the way of feedback as to when are good times for you. Therefore, I will just set up one or two times this week for you to participate. Participation in at least one of these times will be required, and will count for your **discussion grade for both last week and this week**. I will keep you posted.

Stay tuned!!

Week 13

This semester is moving right along!

Please see the group project instructions below and let me know what questions you

have. I have decided to push everything back and allow you an extra week to complete each project. New due dates are as follows:

Proficiency project final: April 25th
Group project: May 2nd
Theory worksheet: May 9th
Final: May 9th

Also, our discussion for this week will be held via a **live chat.** The time for this chat is yet to be determined. Please weigh in on your preference for the time and I will consider everyone's needs if possible. Many of you requested this on your mid-term and I am excited about doing it. I will send an email to your school account when it gets set up. Don't miss it! It does count for your grade for this week's discussion.

As always, let me know your questions.

Group Projects

Thanks so much to all who responded regarding the theorist you are currently most interested in. I have used this information to divide you into the following groups for your presentation:

Jean Piaget: ____, ____, ____
Lev Vygotsky: ____, ____, ____
Erik Erikson: ____, ____, ____
John Dewey: ____, ____, ____

The instructions for your group projects are posted under Content - Documents for Course Assignments. You will need to contact one another to work on this project together. The instructions are pretty straightforward, but please know that I am always available if you need my help. The way you will present this project is to post it to the discussion board as multiple attachments during the week that it is due so that I and the other class members can view your presentation. You should have enough material so that it would take about 15-20 minutes to present if you were to present it live.

Reminder

The instructions for your **summary paper** that is due this coming Monday are under Content. Also, don't forget to send me your email telling me which theorist most interests you. We need to get moving forward on our presentations!

Group Project

The group project involves the presentation of more in-depth information on one of the five theorists we are studying in our Theories of Childhood text. I need an individual email from each person in the class stating which theorist is your current favorite or the one you are most interested in learning more about. You can use either email. Please do

this as soon as you see this message!

Week 12

We are closing in on the home stretch and there are several things going on. Your Bronfenbrenner summary paper is due this coming Monday the 11th. It is fairly striaghtforward, but if you have questions please let me know. Also, the group project is approaching quickly. For this project, I will be putting you into your groups and giving more detailed instructions. I will place this in a separate post here on the news page.

As always, join in the discussion for this week and watch for my questions and comments. (If you were paying close attention, you noticed that we did not have a discussion over Chapters 15-17. These chapters just got missed, so don't worry about it.) This week's questions involve Chapters 23-25, so be sure to read thoroughly and respond in a way that helps others' learning. Because there are two major topics involved in this week's readings, there are two different questions to answer. Please answer **both** questions thoroughly.

Week 11

Welcome to week 11!

Our next major assignment is the summary paper due April 11th. Please let me know if you have questions about this assignment and I will be happy to help. There is a discussion open for you on chapters 19-22. Please read carefully and join in fruitfully!

Week 10

Welcome back!

You may have seen that all work up to this point is graded and posted for you. Look for attached documents to get extra feedback from me on those. Part II is due Monday, March 28th, so it is coming quickly! Use my feedback to help and ask your questions. The proficiency project is always a work in progress up until the final turn in, so please contact me if we need to talk it through together. I have enjoyed reading your mid term reflections, including the discussions. You will see me jump in more often in the coming weeks, so I am hopeful that we will have even more fruitful conversations the last half of the semester. There is a discussion open for this week's reading, so take some time and get involved.

Week 8: Mid Term Week!

Welcome to the halfway point!

The mid-term reflection is set to open up for you tomorrow morning at 8am. You will find this document under Content. You will find the instructions for completing this

inside the document. You will upload it to the drop box provided by 8am on Monday.

There are no readings this week, but there is a discussion question posted. Please feel free to take all through next week for this if you would like. There are no assignments next week during Spring Break. Watch for your feedback from the Proficiency Project Part I. You will use this feedback as you plan Part II.

Let me know your questions!

Week 7

During week 7, we are learning about infants up to two weeks of age, and theory, environment and culture related to infant care. Please read carefully these two chapters and join in on the discussion.

Check in with previous discussions from time to time to see my comments as they are added to each. I would love to hear your thoughts on any of these as we work our way through these chapters and really dig in to the development of young children.

I am hoping to have your feedback on the proficiency project part 1 soon. You will need to click on any attached documents to see my specific feedback.

As we approach mid-term, please let me know if you have questions. Enjoy the nice weather!

Week 6 - IMPORTANT ANNOUNCEMENT!

Week 6 is here and all should be finishing up their initial observations of an infant and a toddler. Remember, these observations are for at least two hours each age group, and you should remember to bring along all of the materials needed for observation and complete all of the observation tasks (as previously discussed * see below *). I have been working to try and get a live video feed, but we have been unsuccessful so far. I will keep you posted if it does get figured out.

Because this is a large and somewhat difficult assignment, I anticipate that you will experience much difficulty if any questions you have do not get answered. I should be hearing from you either by phone or email with your specific questions about this project. **You cannot wait until the weekend** to work on this project and count on getting these questions answered before the Monday due date.

Also, don't forget this week's discussion question over chapters 8-9 (topic is teen pregnancy).

Week 5

This week we are moving on to chapters 6-7 in Understanding Child Development. For each week's discussion, I will be posting a summary of the discussion and some additional comments on the topic in an additional forum opened up under each question. You can see that I have done this for our discussion on chapters 1-3. I am

taking time to do this so that we can wrap up the discussion and so that you can hear from me about each topic. Please take time to read through these summaries when they come up (they will be an attached document to the discussion forum) and let me know your response!

Happy learning this week!

Week 4

Remember this week that your Howard Gardner paper is due Monday morning (the 14th) at 8am in the drop box. Please let me know if you have questions about that.

Also, there is a new discussion to participate in. Please make sure you are participating **fully** in each week's discussion. It is a **very important** part of this class and your overall grade.

You should be scheduling and completing your infant and toddler observations. You can find the forms you need under the Content section. Please, please let me know if you need clarification. It is very important to understand the whole process before going out on your observation.

You need several things to be successful:

1) observation record sheet (to get the signatures you need)
2) your **three questions** about children that age that will guide your thinking

You will do this before going out. Just think about the things you wonder about regarding that age child. For example, one of your questions might be "does a 3 month old child recognize the voice of his caregiver?" Take your three questions with you on your observation to see what you can observe about it. Add what you find out (or don't find out) about those questions to your summary of the observation.
your facts/interpretation form (several copies in order to record all that you are observing during the time that you are there)

On the "facts" column of this form, you just write exactly what you see, all the way down the form. For example, "Jane rolled over and reached out for the toy". On the "interpretation" column of the form, you would write your interpretation of this behavior based on developmental information. So, in the case of Jane in the sentence above, you would talk about how rolling over fits in with her age of 3 months old and you would also talk about reaching for a toy at that age. Later, during the analysis part, you will add in thoughts from specific theorists (like Erikson and Piaget) about babies that age.

3) developmental checklist (appropriate for the age you are

observing)

While you are observing, keep your checklist for that age child in front of you. As you see a behavior, check it off on the list. Use this list in your summary of the child.

For the assignment that is **due on February 28th**, you will take the notes you made during the observation using the forms described above and then:

type them out according to the three areas of development for the child you observed
type out your analysis of those observations (your interpretation of what you observed based on what you read in your text about that age and what the theorists say)
type out the activities section for each age group

All of the above is turned in for the first two age groups - infants & toddlers - and turned in on February 28th. You will **not** need to turn in your checklists, observation record forms, or original written observation notes at this time. You will turn them in at the end.

Please ask your questions! I am a phone call, email or a visit away.

Have a great week.

Week 3

Hello all! Hope everyone is able to stay inside and warm!

We are well under way in this crazy, blizzard week :) Campus classes are closed, but look at us ~ we are here!! The online classes do go on as planned... Please make sure you are jumping in on the discussion question this week. The reading is short and easy, but packed with great stuff.

Everyone should be making progress on identifying their observation site, making sure we have your OSBI on file, etc. We still have a little while before the first part of Proficiency Projects are due, but it's time to start making progress on the observation preparations. Let me know if you have questions!

Stay safe!

Week 2

Welcome to week 2!

We are starting our readings this week with chapters 1-3 from Understanding Child Development. Please take time to read carefully, and participate fully in the online discussion (due by Jan 31st at 8am). There are two questions to answer. Please take a look at the discussion rubric (under Content) for an idea about how you will be graded on

your discussions. I hope to have great discussions in this class, as if we were all meeting together face to face.

Also, make sure you have sent in your syllabus confirmation forms and your OSBI background checks. If you are not an ECEA major, please feel free to check in with me about what we can do for you on the background checks. You may fax your documents in to me @ _____.

As always, let me know if you have questions!

Rebecca

WELCOME!

Welcome to ECEA 2113 - Child Development!! My name is Rebecca Pruitt and I am your instructor for this class. I am the Department Head of Early Care Education. Please feel free to contact me at any time throughout the semester with any questions or needs you may have. My office hours and contact info are on the front page of the syllabus. In the Content section of the class you will find the course syllabus, the class schedule, and instructions for the Proficiency Project. Your assignments this week include reading the syllabus, schedule, and Proficiency Project instructions. If you have questions after reading through these documents, now is the time to ask so that you can be sure to get started on the right foot.

You will also need to print out the syllabus agreement form, sign it and mail it in to the address provided at the bottom of this post. If you prefer, you can scan it and send it by email instead. That works great. If you mail it, you can put my name on the envelope to make sure it gets to me. Finally, you need to post your comments on our discussion board question called Introduce Yourself. You will find this question under the Discussions tab.

I am very excited to have you in class and I am looking forward to a great semester!!

APPENDIX I: Observation Record Form

Observation Record for Areas of Development

Date_____

Child_____

Physical
Social-Emotional
Cognitive (language, math, problem-solving)

APPENDIX J: Observation Facts and Interpretation Form

Facts/Interpretation Form

Date_____

Child_____

Facts	Interpretation

APPENDIX K: Theories Worksheet

Match the Theories

Match the theorist or theoretical perspective to the statement that best respresents each viewpoint. Explain your choice.

Lev Vygotsky	Information Processing Theory
Social Learning Theory	Behaviorist Theory
Jean Piaget	Erik Erikson

1. Much learning takes place when children play. Children on the verge of learning a new concept can benefit from the interaction from a peer or teacher.

2. Humans are limited in how much information they can process at any given time.

3. Cognitive thought develops in four qualitatively different stages, ranging from exploring through the senses and motor abilities to abstract and logical thinking.

4. Psychology is the science of behavior and as such deals only with observable acts that can be objectively described in terms such as stimulus and response.

5. People learn from observing other people.

6. Development is lifelong and involves a number of psychosocial tasks.

APPENDIX L: Visual Representation of Findings

Constructivist Education

	Face-to-Face	Online
Attending to the individual	**Warm, personal** **Could stay disengaged**	**Individual** **Could not stay disengaged**
Respecting developing understandings	**More attention to the individual as intimate part of known**	**Many more guiding questions in feedback and in discussions**
Facilitating dialogue	Socially constructed knowledge within closed ended dialogue **More instructor interaction**	Socially constructed knowledge within closed ended dialogue **Several open ended**
Facilitating inquiry	Focus on facilitating the process	Focus on facilitating the process **Some guidance for thinking**
Facilitating meaningful investigations	Proficiency project instructions and process guidance	Proficiency project instructions and process guidance
Introducing disequilibrium	**Theorists** can inform practice **Different observation method**	**Theory** can inform practice **Observation can inform practice** **Children learn through play**

Epistemological Positioning (Women's Ways of Knowing) underlying Constructivist Processes

	Face-to-Face	Online
Balancing Life & School	Time: full time jobs, families	Time: full time jobs, families
Dealing with free form	**Frustration**	**Self-preservation**
The Knowledge	Absolute – one right answer	Absolute – one right answer
Way of Knowing	**Received** Listening to experts, models, visuals, books **Hearing, clear cut**	**Transitioning from Received to Subjective or Subjective** Listening to **self,** experts, models, visuals, books **Intuition**
The Knower	**Dependent (received)** **Pleasing teacher**	**Independent (subjective)** **Pleasing Self**

Constructivist Processes

	Face-to-Face	Online
Interest	Project did not access interest **Problems of practice**	Project did not access interest **Problems of parenting**
Questioning	Struggled to identify questions Questions did not guide study	Struggled to identify questions Questions did not guide study
Thinking about Thinking	One right answer from listening to experts, models, visuals, books **Dependent learners** Learning from discussions (moved to)	One right answer from listening to experts, models, visuals, books **Independent learners** Learning from discussions (moved to)
Social Interaction	**Mostly in class** Enjoyed, learned from discussions	**Mostly outside of class** Enjoyed, learned from discussions
Cognitive Disequilibrium	**Theorists** can inform practice **Other observation methods**	**Theory** can inform practice **Observation can inform practice** **Children learn through play**
Sense Making	Within proficiency project Used developmental checklists more often than theory Committed to original view	Within proficiency project Used developmental checklists more often than theory Committed to original view
Theory Building	Within final reflection Consensus rather than conflict Some integration between latent knowledge and new information	Within final reflection Consensus rather than conflict Some integration between latent knowledge and new information

Toward a New Teaching Philosophy

GOAL: To utilize constructivist education principles with epistemological development in mind.

- Informally assess the epistemological position of students as they enter the semester.
- Make adjustments in the balance of freedom and structure based on this assessment.
- Replace confrontation with "troubling".
- Highlight/facilitate discovery of the areas of consensus as a springboard for learning.
- Rather than trying to get students to look at the material through my eyes, try to look at the material through the students' eyes.
- Increase awareness of and attention to the actual person.

Epistemological Development and Constructivist Education

	Face-to-Face	**Online**
Balance between freedom and structure	Adjust based on epistemological position	Adjust based on epistemological position
Consensus in place of conflict	**Highlight areas of consensus**	**Alter questions to facilitate consensus**
Troubling in place of confronting	**Increase use of questions for the purpose of troubling**	**Scrutinize and alter attempts at introducing conflict**
Connected teaching	**Increase attention to individuals** **Increase use of questions to support developing understandings**	**Increase attention to relationship between knower and known (the person)** **Increase participation in online environment**
Midwife teaching	Confirm rather than challenge current knowledge as springboard for new	Confirm rather than challenge current knowledge as springboard for new

APPENDIX M: Face-to-Face Instructor Reflection

FACE-TO-FACE INSTRUCTOR REFLECTION

8/23 – first class

During the first class session, I asked that all would introduce themselves by telling whatever they wanted to and mentioning something about what they currently do in child care or what they plan to do. Whenever I introduced myself, I touched a bit on my years of experience and education. As it usually happens, I sensed a bit of disconnect whenever I mentioned my education (masters, working on my doctorate), but much more of a connection with the students when I talked about my experience in the classroom – particularly as a 2 yr old teacher and the large number of children I was responsible for. We discussed several housekeeping issues and then I led them to work in groups to discuss the question, "who is the young child?" After this, I referred them as a large group to the definition in the textbook and discussed. I then presented a two-slide power point highlighting the idea that we must know children in order to teach children. Drawing from the discussion, I made the point that because all children are unique individuals, we must use observation to know them. From there, I went on to describe the proficiency project – an observation project – in an effort to guide them to see up front why we did the project – to know children. I then directed them back to their small groups to discuss a quote.

For most all of the remaining 2 ½ hour class sessions, my general teaching practice was to break students into small groups with reading assignments, have them discuss the reading (sometimes based on a particular question), report to the class what they had discovered, and to make comments on their comments in order to assist them in coming to some conclusions regarding the subject. The remainder of the class sessions involved the explanation of the proficiency project and the group project.

8/30 – Child Development, ch. 1-3:

Chapter 1 includes descriptions of individual children for the purpose of examining the idea of the "typical child" and what special needs might be evident in each. We discussed in a large group the students' ideas related to these concepts. This led into a discussion about nature vs. nurture. This discussion progressed as is normally expected, with some leaning more toward nature and others leaning more toward nurture, but all seeming to come to agreement that both are in play regarding overall child development. During this discussion, students talked about what they had noticed from children in their care (especially siblings that showed differences between one another) as well as their own children and grandchildren. I felt that it was a good opportunity for them to verbalize their views and for me to affirm their personal caregiving experiences and resulting opinions about child growth and development. I then presented some of the material on the different areas of, following the text layout.

Chapter 2 contains a model created by Coll, et. al (1996) to be used in the study of minority children. The conversation surrounding this model was influenced I believe by several factors. For example, 75% of the class (14 of 21) were considered minorities, while I was not. Also, most of the individuals in the class had not been exposed to models for studying groups such as this one, so they were simply not familiar with it. I

made my best attempt at getting a good discussion going related to the model, with limited success. I attempted to convey my belief that it was important to recognize the continued existence and influence of racism in the lives of minority children as a way to more effectively meet their particular needs. My impression of the response to this conversation was some hesitant agreement (nodding heads), some verbal agreement, and some uncertainty (evidenced by confused looks). My intention was to communicate that I was in the process of attempting to understand more about their experience as minorities and desired to respect them and effect change, specifically related to the care and education of young children.

9/13 – Child Development, ch. 4-5

To discuss chapter 4, I divided them into four groups to discuss the following questions (1 each):

- What is the nature vs. nurture debate all about?
- What are the benefits of sensory involvement? How do teachers create environments that promote sensory involvement?
- What is active learning? Why is it important? What can teachers do to promote active learning?
- What is the teacher's role in a child's desire to learn?

They discussed as a small group and then I asked each group to report what they discussed. I interjected my summary statements, questions and comments throughout the reports. To discuss Chapter 5 (learning through play), I conducted a whole group discussion about how children learn through play, in which I asked questions that I hoped would spawn thinking, acknowledged responses, and attempted to clarify certain points. Learning through play is one of my primary points to emphasize with all of my classes, and so I spent a significant amount of time and effort in bringing the conversation around to this conclusion when possible.

9/20 – Child Development, ch. 6-7

I listed topics for talking points, discussion for these chapters that included the following: multicultural education (here I emphasized an authentic, whole classroom approach vs. the "tourist" approach), constructivist vs. behaviorist (emphasizing my personal bias toward constructivism), praise, natural motivation to learn, play environment, and computer use (emphasizing that while in general, sitting in front of screens is not recommended, there are certain new literacies that include computer use that some children may not have access to at home and therefore need exposure to in child care/preschool settings. Again, class was divided into small groups and followed the same pattern of discussion/presentation as before.

9/27 – Theories, ch. 1 & 3

With Part I of the Proficiency Project due the following week, the bulk of this class session was spent explaining and discussing the observations after a brief discussion of the theorists featured in the chapters. In an attempt to demonstrate what to watch for during the observations, I showed video clips of children working with materials and led a large group discussion of what was observed. One video featured children working with blocks and another showed children lining up small sticks in different ways. We

discussed the theory building that it appeared the children were involved in during the process of working with the materials. Several students responded with terms that indicated a sense of personal discovery or realization, while others watched intently and of course others (the students in the back) remained relatively disengaged.

10/4 – Child Development, ch. 8-9
Chapters 8&9 cover heredity, environment and development, and the stages of conception and prenatal development. Following the lead of the students during the discussion of heredity, we camped on issues related to twins. Several of the students had twins in their programs, and wanted to conjecture about the differences and similarities they had observed between the individuals in each set of twins. This led to a conversation about sibling similarities and differences they had observed as well. I led the students to the related discussion topic of the influence of environment vs. heredity, drawing attention once again to the idea of "nature through nurture" as Roz Charlesworth describes it in the text. Thinking that I did not want to spend time in a conversation about genetic disorders, genetic counseling, etc., I moved over that portion of the text. With the text moving on into details regarding conception and prenatal development, the class moved into a discussion of teen pregnancy. As students recounted stories and shared personal theories related to the textbook information, ideas about health care and responsibility came out, with some sharing slightly negative views toward the teenage mothers themselves because of the difficult life they had chosen for their children. At this point, one student in particular spoke up for the first time ever. She shared with the class that she had been a teen mother, and described how grateful she was to have that child in her life in spite of the difficulties. While she was sharing, I thought that she had possibly been hurt by some of the comments that had been shared. I responded to her story with agreement and affirmation, but failed to take the conversation to any further productive point. On subsequent occasions, this student (pseudonym Lisa) seemed to remain positive about the class.

10/11 – Child Development, ch. 10-11
The bulk of this class session was used to discuss infant development, based on the week's reading. I chose to show some videos of infant reflexes produced by T. Berry Brazelton to add to the discussion on this subject.

10/18 – Child Development, ch. 12-14
These chapters covered several areas of infant development. Class followed the normal pattern, with small group discussion and then large group discussion surrounding infants' development of voluntary motor control, attachment, and the role of play in cognitive development as primary areas of focus. Mid-term reflections were due on this day as well.

10/25 – Child Development, ch. 15-17
During this class session, I took the opportunity to offer assistance for enrollment and advisement issues, directing them to their appropriate advisor within our department for additional help. I returned their mid-term reflections and discussed briefly. We spent some time this class session discussing the preschool and school age observations (Part II

of the Proficiency Project). We also discussed the Bronfenbrenner summary paper due on November 15th. At this point, I wrote each of the five theorist names across the board and asked them to come and write their name under the one that they would like to learn more about. Some came immediately, while others were more tentative. I noticed that a couple of them seemed to be collaborating together before moving to the board. I suspected that they were wanting to respond in a way that would allow them to be in the same group for the project. For the most part, students came on their own and chose a name. After some minor adjustments, including adding the names of those not present, I divided them into these groups and told them that these were their groups for the group project. After some preliminary discussion within their groups, I asked them to stay in those groups for the class discussion over the readings.

11/1 – Child Development, ch. 19-22
Proficiency Project Part II was due this class session. As students turned in their work, there was some discussion of the project. I sensed that several of the students remained unsure about the project and about whether or not they did well enough. Moving into the 3-6 year old range in development, where I tend to feel more confident as an instructor, we focused heavily on the teacher's role in the classroom regarding the cognitive system and concept development. Using the model classroom as a visual, hands-on learning tool, I asked students to walk around the room looking for evidence in the room arrangement and materials for what encourages development in what cognitive skills. Many had difficulty with this assignment and seemed to wander about for the most part. After the exercise, I spent a significant period of time demonstrating with materials and discussing certain elements of cognitive development for this age group, referring to Piaget and Vygotsky when appropriate.

11/8 – Child Development, ch. 23-25
In one of the case studies in the text, parents were worried about the amount of time children were spending in play. My attempt this class session was to involve the class as a whole in a discussion regarding the importance of play in child development. My intent was to move them toward a more holistic view of play that includes the many benefits of cognitive development, and not just social-emotional development. Many interesting comments were made by students, and some showed signs of progress toward that view.

11/15 – Child Development, ch. 26-29
This class session was reserved for groups to work together on their presentations.

11/22 – Theories of Childhood, ch. 4-5
This class session was conducted workshop style. I brought in a variety of materials for students to explore related to preschool and infant/toddler development. We moved to a classroom with large tables (rather than desks), and I had different kinds of materials set up in stations. At each station, students were asked to explore the materials and think specifically about cognitive tasks and cognitive development. After each group reported, I gave mini lectures on each grouping of materials that I had set up for them to explore. I allowed them to make some things to take with them and use in their classrooms.

11/29 – Child Development, ch. 30-31 – Group Presentations
During this class session, each group presented the material they had developed on their chosen theorist. Presentations included power point, monologues, skits, posters, brochures, handouts, etc.

12/6 – Theories of Childhood, ch.2
Lots of housekeeping took place during this class session. We discussed the proficiency project final turn in, the final reflection, the group presentation (grade sheets were handed out), and we completed the theory worksheet as a group together. In order to do this, I opened each question up for discussion and allowed them to discuss together until the correct answer was agreed on, and then we moved on to the next one. Also during the first half of class, I passed out the group project reflection sheets and had them complete those as well. This sheet asked each group member to report what she and other group members had personally contributed to the group project. During the break, I passed out cookies and evaluations. Following the break, I spent some time discussing appropriate activities for school agers and infants/toddlers to provide more assistance with completing the proficiency project. Finally, we discussed the final reflection and the procedure for next week.

12/13 – Final Exam

APPENDIX N: Online Discussion Forum Questions

Introduce Yourself!

Introduce Yourself!

For this week's discussion, please introduce yourself to the class. Please tell us your major here, your job (if employed), and anything else you would like to share.

Chapters 1 - 3, Understanding Child Development

Chapter 1: the young child

Think about the needs of the children in the descriptions in chapter 1. Describe your reactions and interpretations. Do you think there is a "typical" child at any age?

Chapter 2: the Coll model

On pages 22-23, there is a model at the bottom of the page that was designed by a group of minority child-development researchers to show how we should study developmental competencies in minority children. Compare and contrast the two versions, and share your thoughts about whether or not they are good models for understanding the minority child's experience.

Chapter 1, Theories of Childhood

John Dewey

Choose a statement or principle regarding education that comes from John Dewey that you read about in this week's chapter from Theories of Childhood. Write the statement, and then give your thoughts about it. Be sure that you are not repeating what someone else has already said. There are multiple statements to choose from.

Chapters 4-5, Understanding Child Development

Choose two of the following discussions to get involved in!

Nature vs. nurture (p. 43-44)

What is the nature vs. nurture debate all about?

sensory involvement (p. 46)

What are the benefits of sensory involvement? How do teachers create environments that promote sensory involvement?

active learning (p. 50-51)

What is active learning? Why is it important? What can teachers do to promote active learning?

the desire to learn (p. 52-53)

What is the teacher's role in a child's desire to learn?

Chapters 6-7, Understanding Child Development

Natural Motivation to Learn

In this week's chapters, you read about many different aspects of a child's life that affect his or her natural motivation to learn. Look at the following specific sections of your readings to talk about how each of these things affect a child's motivation to learn:

*teacher's attitude about socio-cultural background/diversity of children

*classroom environment/materials

*teacher's talk - use of praise, rewards, tone of voice, etc.

Chapters 8-11, Understanding Child Development

teen pregnancy

Chapter 9 discusses the rise in teenage pregnancy. Discuss the problems the author says that this situation creates, based on the very early formation of life. Pay special attention to pages 174-175.

Infant care practices

Read the case study in the green box on page 208. As it says, apply your knowledge of developmentally appropriate infant care practices to evaluating Mrs. Miller's child care situation. Make sure that you read all posts before posting your response, so that you are not repeating what others have said.

Mid-Term (week 8) discussion

For this week's discussion, please discuss with classmates your learning so far.

reflecting at mid term...

What has been your most significant learning so far? What have you missed that you wish you had learned about? What have you learned from discussing topics with classmates?

Chapters 12-14

For this week's discussion, take your completed infant observations and compare your notes with these chapters on infant development. Describe any new insights you have based on this comparison that you will want to include when you revise PP Part I for the final.

Chapters 19-22

After reading through these chapters, I'd like you to look in your own environment for evidence of materials that help children develop the skills discussed. For example, p. 386-394 discusses lots of cognition skills that can be encouraged through appropriate environments, materials, and activities. Take some time to identify what you provide that falls into these categories and identify them. Then, identify what categories of cognitive development you have not developed materials or activities for. Discuss all of this here in this forum this week.

Chapters 23-24

For our discussion over chapters 23-24, we are going to extend our discussion from last week and try to deepen our understanding of cognitive development and creativity. In the green box on the bottom of p. 482, there is a scenario that is extremely common. Most of the time, when teachers respond to this kind of question, they focus on the social benefits for children of dramatic play and conversation (ex: children learn to get along, learn to empathize with others, etc.) I want you to formulate a solid argument (together, through discussion)for the cognitive benefits of play and how real learning occurs that prepares children for elementary level reading, math, etc. You will need the information from these chapters as well as those before this one.

Chapter 25

Choose one of the theorists described in the first section of this chapter and summarize your understanding of their theory about affective development. Be sure to include any remaining question(s) in your mind.

APPENDIX O: IRB Approval

Oklahoma State University Institutional Review Board

Date:	Thursday, January 06, 2011
IRB Application No	ED113
Proposal Title:	Constructivist Education in Online and Traditional Higher Learning Environments
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 1/5/2012

Principal Investigator(s):

Rebecca Pruitt	Kathryn Castle
900 N. Portland Ave.	235 Willard
Okla. City, OK 73107	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

[X] The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Shelia M. Kennison

Shelia Kennison, Chair
Institutional Review Board

Oklahoma State University Institutional Review Board

Date	Tuesday, July 05, 2011	Protocol Expires:	1/5/2012
IRB Application	ED113		
Proposal Title:	Constructivist Education in Online and Traditional Higher Learning Environments		
Reviewed and Processed as:	Exempt **Modification**		

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s) :

Rebecca Pruitt	Kathryn Castle
900 N. Portland Ave.	235 Willard
Okla. City, OK 73107	Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB

X The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

Signature :

Shelia Kennison, Chair, OSU Institutional Review Board

Tuesday, July 05, 2011
Date

VITA

Rebecca J. Pruitt

Candidate for the Degree of

Doctor of Philosophy

Thesis: CONSTRUCTIVIST EDUCATION AND EPISTEMOLOGICAL DEVELOPMENT IN ONLINE AND FACE-TO-FACE HIGHER LEARNING ENVIRONMENTS

Major Field: Education, Curriculum Studies

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Education at Oklahoma State University, Stillwater, Oklahoma in December, 2011.

Completed the requirements for the Master of Science in Family Relations and Child Development at Oklahoma State University, Stillwater, Oklahoma in 2000.

Completed the requirements for the Bachelor of Arts in Child Care Administration at Oklahoma Baptist University, Shawnee, Oklahoma in 1994.

Experience:

Department Head, March 2010 – Present, Oklahoma State University – Oklahoma City

Graduate Assistant, 2008 – 2010, Oklahoma State University, School of Teaching, Curriculum, and Leadership

Research Associate, 2001 – 2007, Oklahoma State University, Stillwater, Oklahoma; Oklahoma University, Norman, Oklahoma

Professional Memberships:

Phi Kappa Phi
American Association for Teaching and Curriculum
National Association for the Education of Young Children
The Association for Constructivist Teaching

Name: Rebecca J. Pruitt Date of Degree: December, 2011

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: CONSTRUCTIVIST EDUCATION AND EPISTEMOLOGICAL DEVELOPMENT IN ONLINE AND FACE-TO-FACE HIGHER LEARNING ENVIRONMENTS

Pages in Study: 242 Candidate for the Degree of Doctor of Philosophy

Major Field: Education, Curriculum Studies

Scope and Method of Study:

This study examined two sections of a course in child development, one online and one face-to-face, to determine similarities and differences between the two related to constructivist education and constructivist processes. Course documents, instructor reflections, online discussion forum text, student-instructor electronic communication, and participant interviews were data sources. Participant data was divided into two groups (face-to-face student data and online student data) for separate analysis and then brought together for comparison. The study was grounded in the theory of constructivism as postulated by Piaget (1970) and informed by the framework for women's epistemological development created by Belenky, et al. (1997) entitled *Women's Ways of Knowing*.

Findings and Conclusions:

Constructivist education themes included attending to the individual, facilitating inquiry, facilitating meaningful investigations, facilitating dialogue, and introducing disequilibrium. Constructivist process themes included interest, questioning, thinking about thinking, social interaction, cognitive disequilibrium, sense making, and theory building. Themes for each course section were more similar than different, indicating that the online environment does not preclude the use of constructivist education principles. The lens of the *Women's Ways of Knowing* (Belenky, et al., 1997) framework revealed additional implications for teaching from a constructivist perspective that include the assessment of epistemological development as a way to inform the type and quality of the application of constructivist education principles in both online and face-to-face learning environments.

ADVISER'S APPROVAL: Dr. Kathryn Castle