MEETING LEARNER NEEDS THROUGH DEVELOPMENTAL PRACTICE:

AN APPROACH TO TEACHER PREPARATION REFORM

by

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(The Master of Education program was given permission by the author to use her final project online as a sample. We appreciate Victoria's willingness to share.)

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Abstract

The study of child and adolescent development has altered and improved public education throughout history as it has been applied to teaching settings. Research and analysis of teacher preparation programs revealed that teachers receive little training in developmental psychology. The lack of such training not only hinders learning progress, but often leads to detrimental learning experiences for students. To expand on prior research and recommendations from developmental and teacher education experts, the perceptions of elementary teachers were examined regarding needs for reform in courses and training related to developmental psychology, (e.g., child, adolescent, and human development, educational psychology). Prior training, understanding and application tendencies, and target needs of local teachers and students were examined in relation to child development through a survey approach. Results indicated that more training is necessary to increase understanding related to the developmental needs of children, and that application of developmental theories and principles to teaching practice is the missing element in most related courses. Significant relationships existed between having an Early Childhood Endorsement and responses related to the adequacy of preparation programs and application of developmental theories in teaching practice. Social, emotional, cognitive, and ethical domains of development emerged as areas of development where additional emphasis is needed in preparation programs.

NATURE OF THE PROBLEM

As our nation has developed and progressed from its infancy in the eighteenth century, the education of its people has grown and matured with it. At times this education has been the agent of change, at other times the object of that change, thus filling the roles of both the adjuster and the adjusted in a young country still striving to illuminate the standard for the world. It is within this context of our educational past and present that a critical element in that standard becomes clear: healthy intellectual development of today's children for the promise of tomorrow's future.

One of the greatest sources of influence on public education in America toward this goal has been knowledge in and practice of child development and educational psychology. Early educators and psychologists such as John Locke and Jean Piaget revolutionized the perspectives held about children, their potential, the respect and dignity they deserved, and the methods of education that would lead them to become refined and productive individuals. These ideas transformed the educational objective from an early Puritanistic view of needing to 'beat the devil out them' – literally and figuratively – to where we are today with learner-centered and differentiated instruction instigating educational reform.

Unfortunately, although the study of child development and consequential educational psychology has altered the face of education throughout American history, a substantial number of teacher education programs place little emphasis on these critical topics for elementary and secondary instructors. With all the necessary emphasis on content knowledge and pedagogy, there seems to be little focus left for the study of the actual development processes of the students that teachers of grades 1-12 will be molding throughout their career.

Teachers who do not receive a solid knowledge base in developmental psychology, specifically child and adolescent development, are less prepared to address individual learning needs and less likely to appropriately engage their students in challenging learning tasks. This lack of training often leads to detrimental learning experiences for the students and causes unnecessary stress and overburdening for teachers who are expected to meet high standards at individual levels without having the training to do so with ease.

Child and adolescent development psychology has greatly impacted American education and remains a key component in bringing learning experiences closer to the needs and abilities of the student to ensure academic success. Greater emphasis on child and adolescent development is needed in teacher preparation programs in order for teachers to more effectively meet learner needs and create a protective learning environment. Although the literature has indicated a need for an increase in developmental psychology courses, there is also an indication that this too may be insufficient unless there is more application to the classroom than is generally seen in such courses. Further research is necessary to better match child and adolescent development psychology courses to teacher-student relationships and the classroom learning environment.

Literature Review

This literature review will first define developmental psychology, and its associated fields of study, and explore the influence of change that developmental psychology has had on American public education. Next, it will examine the current state of teacher education for grade levels 1-12 respective to developmental psychology – namely, the study of child, adolescent, and human development and educational psychology and recommendations for reform identified by the research. Finally, it will explore common effects identified by the

research that result when teachers do not have sufficient training in developmental psychology to ensure and protect intellectual and personal development of students.

Developmental Psychology as a Change Agent in Education

Developmental psychology is essentially the scientific study of human development (Butterworth & Harris, 1994), or in other words, the social, emotional, cognitive, and physical development of a person from the beginning of life to the end (Berger, 2003). Although developmental psychology is mostly synonymous with child and adolescent development (Butterworth & Harris), the discipline has more recently been focused beyond adolescence to add to the understanding of how and why people change or stay the same throughout their entire lifespan, often referred to as human development (Berger). Developmental psychology is the overarching discipline for the study of child, adolescent, and human development and informs educational psychology.

Educational psychology is an application of human development to educational processes (O'Donnell, Reeve, & Smith, 2009), to understand the behavior, actions, and thought processes of learners and to apply that knowledge to teaching in order to further intellectual growth. Educational psychology is not only about increasing theoretical understanding about individual learning, but about applying this knowledge to improve teaching practice (Mandinach, 2009; O'Donnell, et al.). The study of child and adolescent development is similar in purpose – to not only discover and explain developmental stages and phenomenon, but use this knowledge to enable all people to reach their full potential (Berger, 2003).

The study of child development did not become a respected psychological discipline until the early 1900s (Smuts, 1985). However, well before then educators, philosophers, and

child advocates transformed global perceptions of the nature of children and how they should be taught. Early American education began in a young country that had inherited strict religious traditions, rooted in methods where children's young voices hummed, "In Adam's fall, we sinned all" (Spring, 2008, p. 39) and where Puritan belief had led to a commonly held perception that children shared the sins of humanity and needed to have the devil purged out of them. In light of this early context, it is no small matter to consider the influence that early philosophers and educators such as Jean-Jacques Rousseau and John Locke had on eighteenth century ideals concerning education.

Rousseau's belief that the child is inherently good and in danger of corruption from the outside world (Spring, 2008) contrasted starkly with early colonial beliefs. He endorsed that learning and the attainment of knowledge were for the individual's benefit and not to be used as a tool of society to manipulate and use the child for societal purposes (Spring). Likewise, John Locke's writings concerning education endorsed the idea that the child is shaped into an adult through education and the role of the teacher ought to mold children through careful education emphasizing performance and experience more than memorization (Chudacoff, 2007; Spring).

Both Rousseau's and Locke's ideas initiated vast change in the methods of education (Spring, 2008) and in the perceptions of parents and society (Chudacoff, 2007). Traditional methods of instruction were discarded, and the organization of public education in the nineteenth and twentieth centuries was greatly influenced by these philosophers (Rugg & Shumaker, 1969; Spring). In addition to education, these romantic views of childhood had a prominent role in initiating the study of child and adolescent psychology (Spring).

Swiss educator Johann Pestalozzi also revolutionized educational thought in regard to children by endorsing the fundamental basis that the development and function of the mind should be related to learning in the classroom (Rugg & Shumaker, 1969; Spring, 2008). He emphasized that learning, especially in the early years, should involve physical experience and activity and be adapted to the development and cognitive abilities of the learner. Like Locke and Rousseau, Pestalozzian theory transformed methods of instruction in education, this time with teaching children through objects and replacing corporal discipline with "control through love" (Spring, p. 155).

Further educational changes in the late nineteenth century were initiated by Herbartian thought (Rugg & Shumaker, 1969), philosophies of German psychologist Johann Herbart that emphasized that instructional teaching should be organized on the basis of interest to the student, setting the stage for child-centered education (Spring, 2008). Herbart's five steps of preparation, presentation, comparison and abstraction, generalization or definition, and application had a remarkable impact on teaching practice in America in the late nineteenth century, according to educator Willard Elsbree (as cited in Spring).

John Dewey's Laboratory School and ideas on social imagination further initiated educational ideals based on learning by doing, relating instruction to the interest of the student, and using group activity and projects to enhance learning (Rugg & Shumaker, 1969; Spring, 2008). His unique education for very young students emphasized developmental play, or learning in a group by imitating household work and professional occupations (Spring; Taylor, 1999). Under the leadership of Dewey, greater emphasis was placed in education on "the continuous growth of the child, upon freedom, initiative, spontaneity, vivid self-expression" (Rugg & Shumaker, p. 35). Although Dewey was not a prominent figure in

the psychology of child development (Senn, 1975), he was one of the first to seriously apply psychology to education (Sternberg, 2008) and his child-centered practices influenced education for decades to come (Spring).

It was in the late nineteenth century when G. Stanley Hall, founder of the American Psychological Association, sought to establish an enduring research organization of child development (Senn, 1975; Smuts, 1985). While many scientists looked scornfully at his attempts, parents and teachers embraced the possibility with enthusiasm (Senn; Smuts). Hall advanced the view that education should be "reoriented around the natural stages of children's growth" (Senn, p. 4) and was one of the greatest influences on the interest in preschool children, one of the most critical stages for learning development. Hall paved the way for many others to take the lead and further the discipline of child and human development as a means of reconstructing society by beginning with the child (Smuts). By the 1920s "the crusade for children became broader and bolder and adopted the exalted aim of improving the lives not only of disadvantaged children but of *all* children" (Smuts, p. 109).

Once the work of Swiss psychologist Jean Piaget was discovered by American psychologists, it was embraced "'with a vengeance'" (Senn, 1975, p. 52). Piaget's stages of development – sensorimotor, preoperational, concrete operational, and formal operational – continue to be one of the most prominent guides for both child development and early childhood education (Berger, 2003; Taylor, 1999). His work, and the added contributions of Lev Vygotsky, a Russian psychologist, resulted in revolutionary changes in scientific thought and educational practice in regard to human development and cognitive learning (Berger;

Senn; Taylor). Their research and ideas led to yet another transformation of the perception of children and adolescents and educators' capability to support the development of students.

Erik Erikson also contributed substantially to the knowledge of human development and its role in learning processes and education, identifying the preschool years as a critical period for learning development, particularly in the realms of initiative, responsibility, and independence (Berger, 2003; Taylor, 1999). His work and the work of those previously mentioned have had an enormous impact on the study of early childhood education (Taylor) the period of education that today has generally received the most emphasis in developmental knowledge.

While developmental psychology advances have improved education throughout time and across the nation in a general sense, some of its most profound effects have been seen on a smaller and more personal scale. K-12 institutions past and present that have employed a developmental approach to their learning and school culture have resulted in high achievement records, healthy and confident individuals, and satisfied teachers (Challenger School, 2008; Lightfoot, 1983). One such institution, featured in an award-winning research project, *The Good High School,* found that its developmental perspective led to an overwhelming feeling of respect and safety that permeated the school, allowing the students to delve into learning more ambitiously and responsibly (Lightfoot). Another private institution found that a developmental approach helps enable students to excel far beyond the norm and to develop unusually positive and confident attitudes toward learning (Challenger School; H. Flitton, personal communication, June 2009).

This literature review does not focus on the plethora of research concerning the detailed ways in which child and adolescent development has impacted, and continues to

impact, classrooms today. However, the research explored is an overview of how developmental psychology has altered and influenced the potential of children in American education history. As with other theories on instruction, the advancing work of developmental psychology made its way into public education teaching practice through teacher education programs (Spring, 2008).

Developmental Psychology within Teacher Education

Teacher education in the United States has made vast improvements since its early beginnings (Spring, 2008), but has long struggled to attain a level of respect as a professional discipline (Darling-Hammond & Goodwin, 1993). Historically "thin, uneven, and poorly financed," (Darling-Hammond, 1996, p. 193), radical changes in teacher education have been sought by educators and policy-makers to increase the rigor and professionalism within the field in recent decades (American Council on Education, 1999; National Council for the Accreditation of Teacher Education [NCATE], 2008; National Commission on Teaching and America's Future [NCTAF], 1996; Wehling & Schneider, 2007).

In a landmark report, *What Matters Most: Teaching for America's Future*, the National Commission on Teaching and America's Future (1996) determined that it was every student's "educational birthright" to be taught by a "competent, caring, and qualified" teacher (p. 10). The commission called for teacher education programs to reach for higher standards, rigor, and professionalism, emphasizing that teachers are the most critical factor in education reform. They further asserted that higher standards in teacher education programs were a teacher's right as much as a student's right; that teachers were entitled to "high-quality preparation, induction, and professional development" (p. vii) that would enable them to reach students in a supportive environment.

Because children are compelled to go to school and guaranteed protection and sound education by every state (Darling-Hammond, 1996), and because we seek a better future for all American children, it is imperative that teachers enter the work force armed with all the resources required to approach the task (NCTAF, 1996). Based on the premise that a teacher's fundamental job leads to the changing and shaping of lives (NCTAF, 1996, 2003), the research has emphasized the need for more adequate knowledge in developmental psychology within teacher education (Darling-Hammond, 1997, Eunice Kennedy Shriver National Institute of Child Health and Human Development [EKS-NICHD], NIH, & DHHS, 2007; NCATE, 2008, NCTAF, 1996).

Teachers are expected to teach to the learning needs of individual students, to provide supportive and protective learning environments, to connect knowledge to students with different interests, to diagnose learning difficulties and build on learning strengths, and to support student development and motivation, all the while increasing the students' knowledge base and capabilities in complex tasks (NCTAF, 1996). These goals, however, cannot be attained without adequate knowledge and application skills in child and adolescent development (Darling-Hammond, 1997; EKS-NICHD et al., 2007; NCATE, 2008). By studying the way students learn, grow, and behave across developmental levels, teachers will be more prepared to mold the lives and monitor the learning of students.

In a study conducted by the National Commission on Teaching and America's Future (Darling-Hammond, 1997), seven extraordinary teacher education undergraduate and graduate programs in both private and public universities across the nation were evaluated to determine common characteristics that distinguished them from other programs:

- a common, clear vision of good teaching that is apparent in all coursework and clinical experiences;
- a curriculum grounded in substantial knowledge of child and adolescent development, learning theory, cognition, motivation, and subject matter pedagogy, taught in the context of practice;
- extended clinical experiences (at least 30 weeks) which are carefully chosen to support the ideas and practices presented in simultaneous, closely interwoven coursework;
- well-defined standards of practice and performance that are used to guide and evaluate coursework and clinical work;
- strong relationships, common knowledge, and shared beliefs among school- and university-based faculty;
- extensive use of case study methods, teacher research, performance assessments, and portfolio evaluation to ensure that learning is applied to real problems of practice. (p. 30)

Within this list, child and adolescent development, learning theories that come from developmental psychology, and application to practice all stand out specifically as critical components in exceptional teacher education. Inclusion of adequate child and adolescent development training was further emphasized as fundamental to quality teacher education by the National Council for the Accreditation of Teacher Education (NCATE) (2008) and the Eunice Kennedy Shriver National Institute of Child Health and Human Development (EKS-NICHD) (EKS-NICHD et al., 2007).

Officially recognized by the U. S. Department of Education as an accrediting body for institutions with teacher education programs, NCATE (2008) gave the following standard for the training of elementary teachers: “elementary teachers know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students' development, acquisition of knowledge, and motivation” (p. 54). In regard to middle school, NCATE stated the standard as, “Middle school teachers understand the major concepts, principles and theories of young adolescent development. They create positive learning opportunities that reflect an understanding of the development of young adolescent learners” (p. 63).

Adequate knowledge in developmental psychology means having sufficient training and application practice of child and adolescent development to meet the standards and expectations noted above with ease (EKS-NICHD et al., 2007; NCATE, 2008). In the view of developmental and teacher education experts, the objective is to move child and adolescent development from the margins of education to the center, to become “the tree trunk rather than the limbs” (EKS-NICHD et al., 2007, p. v). Adequate training in developmental psychology enables a teacher to understand why students do the things they do and create a protective environment where these students can learn, grow, and develop in reaching their full potential (Eccles, et al., 1993; EKS-NICHD et al., 2007).

Current state of teacher preparation programs in Utah. In spite of the importance of developmental study, Utah’s teacher preparation institutions include only a bare minimum of coursework in this field. Similar to many teacher education programs in the nation (EKS-NICHD et al., 2007), most teachers graduating from Utah institutions will receive at least

some coursework in developmental psychology. Although nearly all of the ten teacher preparation programs approved by the Utah State Board of Education (Utah State Office of Education, n.d.), required at least one development psychology course – among educational psychology, child development, adolescent development, or human development – very few required or recommended more than two (See Table 1 for complete comparisons and sources).

Educational psychology was the most commonly required course in just over half of the elementary and secondary degrees analyzed, a course which emphasizes the application of psychological principles of learning (O'Donnell et al., 2009), but does not focus on developmental patterns or stages of behavior (EKS-NICHD et al., 2007). Of the development science courses, human development was the most commonly required or recommended course among the programs, nearly twice as often as child or adolescent development (Table 1 & 2).

It has been emphasized that a single course in developmental psychology is inadequate to properly train teachers for classroom practice and that teachers need training that will inform them of the age-specific needs and developmental natures of the students they will be teaching (EKS-NICHD et al., 2007; Elkind, 1991; NCATE, 2008). A developmental course of study that focuses on neither child nor adolescent development but on the overall development of a person from conception through lifespan, as does human development, is probably the least likely course to give teachers an adequate grip on interpreting their students' learning levels, behavior, and developmental needs.

Table 1

Comparison of Developmental Psychology Requirements for Elementary Degrees in Utah Teacher Preparation Programs

	Number of Credits					
Institution Degree	Child Development	Adolescent Development	Human Development	Education Psychology	Total Credits	Total Courses
BYU			3	2	5	2
Dixie	2[a]		3[b]	3	5 to 8	2 to 3
SUU			3[b]	3	3 to 6	1 to 2
U of U	3			3	6	2
Phoenix	3				3	1
USU			3	2	5	2
UVU	2[c]		3	3	8	3
WSU			3	3	6	2
WGU			3		3	1
Westminster	4			3[d]	7	2
Total Courses	5	0	5 to 7	8		

Note. BYU = Brigham Young University; Dixie = Dixie State College of Utah; SUU = Southern Utah University; U of U = University of Utah; Phoenix = University of Phoenix; USU = Utah State University; UVU = Utah Valley University; WSU = Weber State University; WGU = Western Governors University; Westminster = Westminster College. (Brigham Young University, 2007; Dixie State College of Utah, 2008; Southern Utah University, 2009; University of Utah, 2009; University of Phoenix, 2009; Utah State University, 2009; Utah Valley University, 2009; Weber State University, 2009; Western Governors University, 2009; Westminster College, n.d.).

[a] Principles of Early Childhood Education. [b] Course is recommended but not required. [c] Kindergarten Guidance. [d] Learning Theory.

Table 2

Comparison of Developmental Psychology Requirements for Secondary Degrees in Utah Teacher Preparation Programs

	Number of Credits					
Institution Degree	Child Development	Adolescent Development	Human Development	Education Psychology	Total Credits	Total Courses
BYU		2			2	1
Dixie				3	3	1
SUU				3	3	1
U of U		3			3	1
USU					0	0
UVU		2		3	5	2
WSU			3		3	1
WGU			3		3	1
Westminster		4		3[a]	7	2
Total Courses	0	4	2	4		

Note. A secondary education degree was not offered at the University of Phoenix. BYU = Brigham Young University; Dixie = Dixie State College of Utah; SUU = Southern Utah University; U of U = University of Utah; USU = Utah State University; UVU = Utah Valley University; WSU = Weber State University; WGU = Western Governors University; Westminster = Westminster College. (Brigham Young University, 2007; Dixie State College of Utah, 2008; Southern Utah University, 2009; The University of Utah, 2009; University of Phoenix, 2009; Utah State University, 2009; Utah Valley University, 2009; Weber State University, 2009; Western Governors University, 2009; Westminster College, n.d.).

[a] Learning Theory.

Obstacles and recommendations for reform. In a groundbreaking study conducted by both NCATE and EKS-NICHD, the current state of teacher training, research in developmental psychology applicable to teachers and education, and the need for integrating the two were analyzed in depth through the collaboration of teacher training and child and adolescent development experts (e.g., Comer, Pianta, Spencer; EKS-NICHD et al., 2007). The report specifically focused on where the gaps in teacher training existed with child and adolescent development, and what novice and experienced teachers alike needed to make classroom application of developmental theory more accessible and effective for the needs of their students. In addition to emphasis on the need for more rigorous coursework, an overarching finding that emerged from the report was the need for more direct application of child and adolescent research to classroom practice. Although nearly all teacher preparation programs require at least one course in child and adolescent development, this was determined to be insufficient by the panel. It was not, however, the most emphasized deficiency seen in the programs. Application to classroom practice was seen as "the missing element in most teacher preparation programs" (EKS-NICHD et al., p. 2).

A survey conducted within the study by EKS-NICHD and NCATE found that adolescent and middle level childhood development preparation was especially lacking among teacher preparation institutions accredited by NCATE (EKS-NICHD et al., 2007). Textbooks were also seen to be an issue; very few textbooks being used by the majority of institutions surveyed contained practical classroom application to help pre-service teachers make the connection between theory and practice. The institutions also indicated the following as additional obstacles to in-depth training: lack of time within the program, state

law constraining additional coursework, and a lack of consensus among professors on how child and adolescent development should be taught and applied in the program.

In addition to the prominent need for more applicable coursework, providing teachers with a solid grounding in child and adolescent development psychology is inhibited by other factors. Often coursework is not taught to the experience level of the teachers in preparation programs (EKS-NICHD et al., 2007). The learning needs of novice teachers differ greatly with more experienced teachers in graduate programs; while specific application to age-level students would be helpful for a more experienced teacher, it would overwhelm a novice teacher needing basic knowledge of developmental patterns. 'Carrying capacity' has also been determined to be a barrier to better integration of child and adolescent development into preparation programs when state, local, or institutional policies limit what a department can do (EKS-NICHD et al.). A third inhibitor is lack of access to child and adolescent development research. Although current research and findings in child and adolescent development are a critical necessity, this information is not easily or appropriately disseminated to pre-service teachers, policy-makers, administrators, parents, and general educators alike, particularly in a form that is directly applicable and ready for use in the classroom (EKS-NICHD et al.).

With these obstacles in mind, child development experts have sought to find a way to make integration with research and practice more readily available for teachers. Comer, the founder of the Yale Child Study Center School Development Program, recommended a framework that includes six developmental domains that have emerged from field-based research: physical, cognitive, language, social, psychological, and ethical (EKS-NICHD et al., 2007). Within this framework are specific teacher training goals that include areas of

developmental study for teachers to learn and apply for optimal learning in the classroom. For instance, in the language domain, Comer recommended a course focus on developmental research that would enhance students' capacities "to develop receptive and expressive skills" (EKS-NICHD et al., p. 10). The same pattern is continued for each developmental domain, followed by the recommendation for pre-service programs to tailor course instruction based on both the framework and the determined needs of the communities in which the teachers will serve. This would enable not only direct application of child and adolescent development research to classroom practice, but would align that application with the unique needs of the students affected.

Spencer (EKS-NICHD et al., 2007) recommended a strong emphasis on care and competence in teacher preparation for classroom practice based on research regarding child vulnerabilities, risk, and protective factors. A child will often use coping strategies to deal with difficulties that "either exacerbate the risks or mask their vulnerabilities" (EKS-NICHD et al., p 11). Because of these vulnerabilities, Spencer emphasized the critical need for helping teachers to recognize such instances in order to enable students and prevent further negative effects. Teacher preparation programs that offer clear guidelines to identify a child's needs help prevent unnecessary harm to children during the learning process (EKS-NICHD et al.).

Emphasizing that teachers need research-based answers to approach classroom challenges, NCATE and EKS-NICHD recommended the intersection of Comer's domain framework described earlier and fundamental questions faced by teachers when attempting to create positive outcomes in their classrooms, based on Pianta's research (EKS-NICHD et al., 2007). This would give teachers a framework to structure everyday classroom questions in

order to elicit developmentally-based answers. Child and adolescent development coursework might train teachers to approach daily challenges and demands by reformulating the situation into a question that would lead to a research-based response. This method would also instruct teachers on how to find and utilize the research in child and adolescent development needed to answer such questions. Such an approach would enable teachers to ask questions such as, "Given what I know about language development, how can I teach basic literacy skills in a conceptually rich way?" (EKS-NICHD et al., p. 11 [italics removed from original]).

The Role of Developmental Psychology for Students and Teachers

Taylor (1999), like many other educators and developmental specialists (Comer, 2004; Elkind, 1991; EKS-NICHD et al., 2007), purports that knowledge of a student's development is a key component to teaching them effectively and enabling them to reach their full potential.

> Over time, children have been looked upon in different ways: as miniature adults, as chattel, as hurdles, as punishment, or various personal interpretations. Those who saw children as the future of civilization instituted educational paths, parental education, and health and safety measures, and recognized individual differences within and among children. We have come a long way - but as long as children in any part of the world are undervalued, underfed, exploited, or inappropriately cared for, we have a long way to go. (Taylor, 1999, p. v).

This review has explored how knowledge in developmental psychology has changed the face of education for young people in America and examined the level of expertise currently attained for teachers in teacher preparation programs. When such positive outcomes

related to developmental approaches are not applied to teacher preparation or, rather, when teachers do not have adequate training in developmental processes – such as cognitive abilities and patterns, growth and maturation, behavior stages, learning needs, motivational factors, etc. – educators are not equipped to meet the learning needs of their students (Cornelius-White, 2007; Darling-Hammond, 1997; Eccles et al., 1993; EKS-NICHD et al.).

While application of developmental psychology to teaching practice leads to academic gains and healthier, happier, and more capable students, the lack of such training can have tremendous negative impacts (EKS-NICHD et al., 2007). Specifically, inadequate training in developmental psychology leads to detrimental effects on students' learning capabilities and overall development (Brophy & Evertson, 1976; EKS-NICHD et al.; Olson, 2009; Stipek & Miles, 2008). Further, it leaves teachers with unnecessary strain and stress in the classroom by not providing the necessary tools they need to work with students' learning needs (Comer, 2004; NCTAF, 1996, 2003; EKS-NICHD et al.).

Students experience these resulting detrimental effects when (a) they lose interest and passion for learning and develop negative attitudes toward school overall (Haladyna & Thomas, 1979; Olson); (b) misinterpretation of their behavior and a lack of support dampens their level of engagement, self-efficacy, and motivation (Anderman & Maehr, 1994; Brophy & Evertson, 1976; Brophy & Good, 1974; Eccles et al., 1993; EKS-NICHD et al., 2007; Skinner & Belmont, 1993; Tollefson, Melvin, & Thippavajjala, 1990); and (c) their overall potential is stunted from negative classroom experiences that hamper their ability to push through difficult learning tasks (Anderman & Maehr; EKS-NICHD et al.; Skinner & Belmont). Teachers experience unnecessary strain or job pressure when they (a) are confronted with behavior problems without the developmental understanding to react

effectively and impact the core of the problem for positive learning outcomes (Bennett, Gottesman, Rock, & Cerullo, 1993; Brophy & Evertson; Brophy & Good; EKS-NICHD et al.; Skinner & Belmont), (b) experience high levels of emotional tension and stress from the inability to help students or maintain a positive learning environment despite best efforts (Brophy & Evertson; Brophy & Good; Chubbuck & Zembylas, 2008; EKS-NICHD et al.), and (c) are unable to match the learning needs of their students regardless of the abundance of time and attention spent endeavoring to do so (Anderman & Maehr; Eccles et al.).

Effects for students. Motivation is one of the key elements to persevering in challenging learning tasks (Skinner & Belmont, 1993) and essential for promoting positive learning and social behaviors (EKS-NICHD et al., 2007). One of the greatest dangers in misunderstanding students is that they lose the desire to persevere in school learning (Eccles et al., 1993; Skinner & Belmont) and their overall attitude toward school becomes negative (Anderman & Maehr, 1994). A fundamental principle in human development is that young children have an inherent desire to learn and attain knowledge (Berger, 2003), having already learned much of life's basic skills on their own initiative, and generally entering school with that passion to continue developing cognitive and physical abilities (Haladyna & Thomas, 1979; Olson, 2009; Skinner & Belmont). Strong research has indicated that as students progress through school, early passion decreases in significant ways, desire to learn is greatly dampened, and overall attitude toward school sharply declines (Anderman & Maehr; Haladyna & Thomas; Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Eccles et al.; Skinner & Belmont). Although family and home environment can play an important role, these effects may be a result of misunderstanding children's learning needs at developmental stages within a school context (Anderman & Maehr; Eccles et al., Skinner & Belmont). Often

students sensing an attitude of inequity from the teacher will experience a decrease in their motivation and confidence to learn (EKS-NICHD et al.).When developmental stages change, the ways to most effectively engage, approach, and teach a student also change (Berger; Eccles et al.; EKS-NICHD et al.; Taylor, 1999).

When a teacher is unaware of how to support students in response to developmental needs and create positive learning experiences, students further experience long-term and detrimental effects to self-efficacy, or personal perceptions of ability and competence in approaching learning tasks (Eccles et al., 1993; EKS-NICHD et al., 2007; Olson, 2009; Skinner & Belmont, 1993; Tollefson, et al., 1990). A student struggling with past failure, with home environment stress, or with feelings of apathy or a lack of self-confidence will behave in ways that will communicate these and other core problems if a teacher has the training and understanding to recognize them (Comer, 2004; EKS-NICHD et al.; Skinner & Belmont; Tollefson et al.). Even a child who is simply having difficulty with a learning task will often exhibit behavior in a variety of cognitive and emotional domains that may be easily misinterpreted by the teacher (EKS-NICHD et al.; Pianta, 1999). When appropriate training is absent, a teacher will often react harshly, or negatively, toward students who are demonstrating pleas for help through negative or even neutral behavior based on their level of developmental capacity (Bennett et al., 1993; Brophy & Evertson, 1976; Brophy & Good, 1974; EKS-NICHD et al.; Skinner & Belmont; Tollefson et al.; Webster-Stratton, Reid, & Hammond, 2004). Such negative responses resulting from misinterpretations and assumptions are often due to inaccurate belief systems and render negative effects on the entire classroom.

Child development expert Elkind (1972) detailed five major misunderstandings that adults have about student learners and children in general: (1) children are most like adults in their thinking and least like them in their feelings; (2) children learn best while sitting still and listening; (3) children can learn and operate according to rules; (4) acceleration is preferable to elaboration; (5) parents and teachers can raise children's IQ (pp.18-20). Cognitive research has also indicated that behavior is not fixed or determined despite having a genetic or biological basis; both the behavior and cognition of a child are a constant function of interactions with their experiences, varying with the environment in which those interactions take place (EKS-NICHD et al., 2007). It is from these repeated experiences that a child's cognition and behavior continue to develop, forming into the more permanent responses and abilities of an adult (EKS-NICHD et al.). Students who experience difficulties in school will likely experience difficulty in a number of domains; a problem of behavior or cognitive processes in one area is likely to indicate additional problems that will also interfere with their learning capabilities. Although students who struggle have been found to exhibit similar cognitive profiles, the level of difficulty experienced by each one is dependent on the context in which they are trying to learn (EKS-NICHD et al.). This is why a number of child development experts have emphasized the importance of focusing more on the child and less on the skill in question (EKS-NICHD et al.). A developmental approach may provide teachers with the necessary know-how to prevent genetic risks from becoming an inhibitor to the learning process by promoting an environment that changes the way these risks are expressed (EKS-NICHD et al.).

In a qualitative inquiry of the impact of school experiences in enabling or disabling powerful learning experiences, *Wounded by School*, Olson (2009) documented a vast number

of school experiences of both successful and struggling learners. Although the data initially sought were the pivotal experiences enabling successful learners, what emerged was an overabundance of recollections where the learner was wounded by school – in academics and life. Olson categorized the reports into seven overarching themes: (a) wounds of creativity, (b) wounds of compliance, (c) wounds of rebelliousness, (d) wounds that numb, (e) wounds of underestimation, (f) wounds of perfectionism, and (g) wounds of the average, and found that these 'wounds' were a result of the misperceptions and misunderstanding of students' needs and behavior among teachers and administrators. These 'wounds' are more than obstacles or inhibitors to learning effectively; many of them altered students' lives and disabled their progress and potential to experience success in educational and vocational endeavors.

At various levels of cognitive, emotional, socio-emotional, and physical abilities, in addition to the vast differences in influential home environments, children are often incapable of communicating needs to adults in ways that clearly indicate what the core problem and response need is unless that adult has the ability to interpret those communications through developmental understanding (Anderman & Maehr, 1994; Coloroso, 2005; Comer, 2004; Eccles et al., 1993; EKS-NICHD et al., 2007; Ginott, 1972, 2003; Olson, 2009; Skinner & Belmont, 1993; Tollefson et al., 1990). This can lead a student to perceive their capabilities as inadequate and to lose desire to engage in further learning experiences (Anderman & Maehr; Coloroso; Eccles et al.; Ginott; Olson; Skinner & Belmont; Tollefson et al.). A sense of apathy is developed when a student experiences the overwhelming sense of failure and inability that results from a mismatch of teacher response and the developmental needs of the student (Anderman & Maehr; Eccles et al.).

The intellectual capabilities required of students today who want to remain above the poverty level is far beyond the educational skills that was sufficient for students when manufacturing, farming, and blue-collar jobs served the needs of families (NCTAF, 1996; Spring, 2008). If students do not succeed in obtaining intellectual competence during elementary, middle, and high school years they are more than hindered intellectually, they are placed in a position where economic success becomes virtually out of reach (Comer, 2004; NCTAF). Teachers make the biggest difference on whether intellectual competence or failure is attained (American Council on Education, 1999; NCTAF), and the knowledge and application skills teachers have are the principle influence on student intellectual success (NCTAF). For educators, knowledge of, and ability to apply, developmental and cognitive science is critical if they hope to empower students and decrease the existing achievement gap (EKS-NICHD et al., 2007).

The processes of learning, and learning how to learn, are tasks that require much support and guidance on the level of the learner (NCTAF, 1996). When a teacher creates a learning environment that ensures positive and guiding support matched to students' developmental needs, students are more likely to engage and succeed in complex learning tasks and learn more effectively, efficiently, and permanently (Anderman & Maehr, 1994; Eccles et al., 1993; EKS-NICHD et al., 2007; Skinner & Belmont, 1993). Children are more confident in their capabilities and feel more competent about exploring and taking risks in learning; even high-risk students have matched achievement and social functioning levels of their low-risk peers after learning in such an environment (EKS-NICHD et al.). Conversely, teachers who do not match developmental levels in teaching practice – teaching above or below students' learning ability levels, giving inappropriate feedback, reacting negatively to

perceived misconduct or misunderstanding, etc. – cause students to be less likely and less able to approach and succeed in difficult learning tasks (Brophy & Evertson, 1976; Brophy & Good, 1974; Cornelius-White, 2007; Eccles et al.; Olson, 2009; Skinner & Belmont; Tollefson et al., 1990). When teachers have the know-how to effectively connect to students' learning needs and enable them to push through difficult learning tasks, they "literally save lives" (NCTAF, 1996, p. vii).

Effects for teachers. Teachers, it is often argued, are the shaping agents for the future as they mold and cultivate the impressionable minds and lives of children (American Council on Education, 1999; Ginott, 1972; NCTAF, 1996). If teachers are expected to engender the American future, they need proper tools for the task at hand (Darling-Hammond, 1997; EKS-NICHD et al., 2007, NCTAF; NCATE, 2008). A solid understanding in the field of science revealing the needs and capabilities of children in every developmental stage and in context of physical, emotional, cognitive, and environmental factors, may be one of the most indispensable tools a teacher can have (Comer, 2004; Darling-Hammond; Elkind, 1991; EKS-NICHD et al.; NCATE). To enact high standards and expect teachers to turn out bright, intelligent, and enthusiastically competent students, without providing the groundwork necessary to do so, leads to teacher frustration, distress, and attrition (EKS-NICHD et al.; NCTAF; Wehling & Schneider, 2007). Research conducted by Pianta (1999) has emphasized that teachers face new and daunting challenges every day and need constructive research-based answers to help them meet these challenges with ease and confidence (EKS-NICHD et al.). Without the tools to succeed in such tasks, a teacher will become overwhelmed and may consider giving up altogether (Pianta).

Further, one of the main functions of a teacher is to diagnose learning needs of students in order to meet them properly for achievement and learning success (NCTAF, 1996, 2003). Research has also indicated that although family and home environments play a tremendous role on development, it is the teacher who is the center of the social ecology within a classroom upon which students depend for the success of their cognitive, emotional, and intellectual development (EKS-NICHD et al., 2007). Teachers are expected to meet these demands through simple personal experience more than through purposeful and rigorous training, as evidenced by the lack of emphasis on developmental psychology in teacher training programs (Comer, 2004; Elkind, 1991; EKS-NICHD et al.). Comer noted,

> Once I began working in schools and observed children speaking through behavior rather than words, I began to understand what a difficult position we have put teachers in. We do not prepare them to 'read' child behavior, but we expect them to respond to it in ways that can be helpful. We do not do that to other professionals. (p. 17)

Thus, increased developmental experience may vastly improve teacher retention (EKS-NICHD et al.) and is fundamental to easing the burden that teachers experience daily in meeting individual learner needs.

Ultimately, students have the "birthright" (NCTAF, 1996, p. 21) to an effective teacher who has the proper tools to maintain dignity and respect for each student while meeting their learning needs at their developmental level (EKS-NICHD et al., 2007). Research regarding risk factors of children and adolescents has shown that all students are vulnerable and that the students with the lowest perceived risk factors often have the greatest need of protection as their vulnerability is least likely to be perceived (EKS-NICHD et al.).

Because all students are vulnerable and at risk for realizing detrimental effects due to negative learning environments, solid training in child and adolescent development becomes more critical as it holds the potential to quell misperceptions regarding a child's learning behavior and abilities (EKS-NICHD et al.). EKS-NICHD and NCATE have strongly emphasized that "children do things for a reason" (EKS-NICHD et al., p. v) and that respect and protection for all students should be of paramount importance for all educators and educational leaders. In the words of Coloroso (2005), "they are worth it because they are children and for no other reason. They have dignity and worth simply because they are" (p. 4).

Summary

Human development is an ongoing and purposive process including biological, social, and psychological changes that directs the transformation of a child into an adult (EKS-NICHD et al., 2007). No one individual develops in the same way or at the same pace, but stages and patterns have emerged in child and adolescent development science that guide caretakers and educators in understanding why children do the things they do and how to alter adult responses and the environment to promote optimal development. Throughout time, adults who have embraced the theories and principles of child and adolescent development, and used these to improve learning circumstances for children, have vastly improved the conditions in which children are educated.

While research in child and adolescent development has advanced dramatically since the beginning of public education in America, integration of the science with teacher education has been slow to follow. Although teachers are arguably one of the strongest sources of influence on a child's overall development, the vast majority of teacher education

programs are insufficient in offering the foundation in developmental psychology necessary to give teachers the tools to promote optimal development of their students.

Student achievement goes hand in hand with the elements most strongly associated with developmental principles (e.g., learning environment, teacher response, relationships). Without an in-depth understanding of child and adolescent development, teachers are subject to unknowingly creating negative learning experiences that can hamper a student's success for life. If student achievement is to improve, it is imperative to look closely at the fundamental principles upon which an individual's growth and success is dependent.

Although nearly all accredited teacher preparation programs contain at least some exposure to developmental principles, the research has indicated both a need for more rigorous coursework and more application to classroom practice. Classroom application, in particular, was deemed to be a crucial element missing in the training process of teacher preparation programs. Greater application to practice was found to be needed in general course instruction, course textbooks, and in specific preparation for teaching in the target communities served by the program.

Missing from the research, however, are the perceptions and experiences of teachers in the classroom. The findings that emerged regarding the reform needed in teacher preparation programs to meet the needs of teachers and students was obtained almost entirely from university professors and experts in teacher training and/or child and adolescent development. Research related to the effects rendered by developmental psychology on students and teachers included teacher input but was not specifically related to teacher preparation needs and reform. Still unknown from current teachers is whether they feel confident in child and development training upon completing a teacher training program,

their perceived ability to apply such theories, and their perception of needed reform regarding how developmental psychology is taught in preparation programs.

This research study seeks to obtain and explore teacher input regarding teachers' experiences with child and development training in teacher preparation programs and their recommendations for reform in related courses within preparation programs. This exploration will include current teachers' ability to apply developmental science skills in the classroom and how child and adolescent development courses can better prepare teachers to meet developmental needs of students based on the reported struggles experienced by local teachers.

(This literature review is longer than most reviews. Most are between 12-20 pages. Your chair will advise you as to the length of yours.)

PURPOSE

Since early beginnings in American public education, the science of child and adolescent development has served as an informant and change agent to improve and refine educational practices for optimal student learning. Although it provides the basic knowledge of how children learn and develop across all related domains, child and adolescent development is typically only covered in one or two general courses in most teacher training programs. Without this fundamental training, the daily tasks faced by teachers are prominently more difficult and student learning is negatively impacted.

The research has emphasized a need for more rigorous training and application in child and adolescent development principles for teacher preparation programs. This research has emerged by and large from child development experts, teacher preparation specialists, and university professors. Missing from the research are the voices of experts on the ground floor – teachers in the classroom – regarding their perception of the current preparation offered in developmental science within teacher preparation programs and recommendations for reform.

The purpose of this study was to explore the perceptions and knowledge of current elementary teachers regarding (a) prior training in developmental psychology, (b) understanding and application tendencies related to child development principles, and (c) areas of development where greater emphasis is needed in training programs to better serve teachers and students. This was done to confirm and expand upon prior research, and to determine how developmental psychology courses within teacher preparation programs can improve the application and accessibility of child and adolescent development research for future teachers.

METHOD

To address the purpose of this study, a survey approach was used to gather quantitative data concerning the perceptions of elementary teachers in relation to child and adolescent development training in teacher preparation programs.

Participants

Participants for this study were gathered from three elementary schools within a northern Utah public school district. Although participants were not asked to identify race or ethnicity, they were collected from schools with predominantly Caucasian staff members. All participants were current elementary teachers for grade levels K-6 with the majority teaching grades 1 through 3 (n = 29) and the fewest teaching kindergarten (n = 5). Of the sample (N = 58), the participants were primarily females (n = 54). The sample included varied levels of education, with the majority of participants having a graduate degree (n = 31). Teaching experience was measured by years licensed and ranged from 1 to 36 (M = 16.8). Years licensed might not imply an accurate representation of teaching experience, however, as some teachers may have obtained and maintained a teaching license while not teaching professionally.

The three elementary schools were demographically similar in many respects; all were predominantly white with student-teacher ratios ranging from 21.6 to 23.5 and average daily attendance at 95.0% or above. Greater variations existed with student population, which ranged from 465 to 765, average class sizes ranging from 22.0 to 26.8, and socio-economic status ranging from 15.2% to 28.8%. Whole school proficiencies for Utah Performance Assessment System for Students (UPASS; 2009) ranged from 73.0% to 84.0%. These statistics were gathered from the 2009 UPASS report.

Instruments

To explore the perceptions of current elementary teachers regarding perceived needs in developmental psychology study based on their teacher preparation experience, a questionnaire (see Appendix A) was developed by the researcher in connection with the research committee and the school district. In addition to basic demographic information determined useful by the research committee, the questionnaire sought the following data from each participant: level of education, institution(s) where teacher training program was completed, developmental psychology courses taken within those programs, type of program, length of teaching experience, grade levels taught, and whether the participant had obtained an Early Childhood Endorsement.

For the final version of the questionnaire, a Likert scale was used to obtain data regarding participants' prior experience with teacher training, particularly related to developmental psychology courses, and understanding and application tendencies related to the development of children. The rating scale included six response choices and ranged from 'strongly disagree' to 'strongly agree.' The question items examined feelings of preparation gained from teacher training to face classroom challenges, meet individual needs, and apply developmental theories to practice. The items also sought to determine whether teacher training courses or teaching experience and practice had the greatest impact on understanding how children develop. Other items examined satisfaction levels of developmental understanding, and the tendency to apply developmental psychology coursework to classroom practice.

The final section employed checklist items related to application tendencies, students' developmental needs, and areas of developmental psychology where additional training was

desired by teachers. These items were developed based on Comer's framework, and the recommendation of EKS-NICHD and NCATE, for pre-service programs to tailor instruction based on six domains of development and the target needs of the communities served by the program. These domains were: physical, cognitive, language, social, psychological, and ethical (EKS-NICHD et al., 2007). The 'psychological' domain was re-termed 'emotional' within the questionnaire for clarification purposes. Examples and descriptions were included with each item to provide clarity for the respondent and improve overall validity.

After initial development, the questionnaire was altered per recommendation of the research committee. The questionnaire was then examined through an informal pilot study using graduate students currently teaching in a public education setting. Changes were made per recommendations to eliminate ambiguity and provide additional clarity. The questionnaire then underwent additional revision upon request of the district in which participants were to be gathered. All revisions were made to improve the reliability, validity, and feasibility of the instrument. Final revisions were reviewed and approved by the research committee. The complete version of the questionnaire can be found in Appendix A.

Procedure

Upon final revision of the questionnaire and approval from the participating district, three elementary schools were approved and selected by the district for participation in the study. The principals for each school were contacted both by the district assistant superintendent and the researcher to seek cooperation and determine the preferred method of distribution. All three principals preferred to distribute the questionnaire at their faculty meetings; two of the three principals preferred to distribute the questionnaire themselves, the remaining principal allowed the researcher to present, distribute, and collect the

questionnaire. For the schools in which the researcher did not present, a cover letter was attached to each questionnaire including an explanation of the purpose and nature of the study, a request for participation, an assurance of confidentiality and privacy protection, instructions for completing the questionnaire, and a note that participation was voluntary (see Appendix B). These items were presented orally to participants at the meeting in which the researcher distributed the questionnaire. For the schools in which the principal distributed the questionnaire, teachers were asked to return the survey to their principal by the end of the day and, after a three-day period, were collected by the researcher. A letter to the principals was included with the packet of questionnaires detailing the nature and purpose of the study (see Appendix C). Questionnaires presented and distributed by the researcher were immediately completed by participants and collected before the end of the faculty meeting. Combined data collection took place over a two-week period.

The questionnaire was distributed to an estimated total of 101 teachers. The response rate varied for each school; based on the number of teachers for each school as reported by the principal to the assistant superintendent, the response rates were 51.4%, 72.2%, and 80.0% respectively, for a combined response rate of 67.3%. To ensure more valid results for the purpose of the study, questionnaires completed by preschool teachers, special education teachers, and reading or math coaches were excluded from the data analysis for a final response rate of 57.4%. Because the questionnaire was distributed at faculty meetings, only teachers who were in attendance at the faculty meeting were asked to participate in the study. As the researcher did not distribute all questionnaires, the actual number distributed cannot be determined and the response rate, therefore, is only an estimate. In addition to being affected by attendance at faculty meetings, the response rate was also likely influenced by

method of distribution. The lowest response rate of 51.4% came from a school where the principal was very willing to assist but demonstrated less interest in learning about the nature of the study than the other two principals. The next highest response rate came from the meeting where the researcher presented, distributed, and collected the questionnaire directly from teachers. The highest response rate, however, came from a school whose principal was very interested in the study and its value to future teachers and who demonstrated a higher level of participation with the efforts of the study. A response wave analysis was not conducted as the questionnaires were collected at one time for each school.

Data Analysis Procedures

(Please note: This section is required for the proposal. However, in the final project, it will be up to your chair to determine if it should be folded into the Results section.)

The response data gathered from the questionnaires were coded and school names were identified as A, B, and C to protect personal information and provide confidentiality of responses. Data were analyzed using descriptive statistics, frequency distribution, and Pearson product-moment correlation coefficients, aided by computer programs such as Microsoft Excel and SPSS. Analysis was performed to examine the data against demographic profiles such as years of experience, number of credits earned in developmental psychology courses, grade level taught, whether the respondent had an Early Childhood Endorsement, and so forth. General trends and patterns were examined among frequency distribution in responses to gain meaning from the data; coefficients were analyzed to determine possible relationships between demographic profiles and responses as well as response patterns.

Incomplete responses on rating scale and checklist items were recoded using a random up-down-up pattern where ‘up’ determined retaining the value or rounding it up and

'down' eliminated the value or rounded it down. Items left unanswered by the respondent were not included in respective data calculations. Partial responses on checklist items that did not exceed the number of responses requested were included as marked by the respondent.

As part of the demographic profile section related to teacher training, respondents were asked to identify which developmental psychology courses they had taken among human development, child development, adolescent development, educational psychology, and any related courses, and then to specify the number of credits associated with each course for accuracy and validity purposes. For answers where the respondent did not specify the number of credits, a value of three was assigned for each course. For write-ins such as "minor" or "several" a value of five was added to the respective course.

Question items regarding teacher training, understanding, and application related to developmental psychology were examined to better understand the current resources and satisfaction levels had by teachers attained through their respective preparation programs. Items regarding their students' developmental needs were examined to better understand the target areas of development where greater emphasis is needed in order to better serve teachers and students in the northern Utah area.

RESULTS

Prior research has indicated that teacher preparation programs are in need of greater emphasis and application of child and adolescent development study to ease the burdens of teachers and to serve and protect students. Survey research was conducted for this study to examine the perceptions of elementary teachers regarding the adequacy of developmental psychology training in teacher education programs and to seek insight on how such courses can be improved.

Response data were examined to answer research questions related to the purpose of the study, which was to explore the perceptions and knowledge of current elementary teachers regarding (a) prior training in developmental psychology, (b) understanding and application tendencies related to child development principles, and (c) areas of development where greater emphasis is needed in training programs to better serve teachers and students.

Prior Training in Developmental Psychology

All respondents (N = 58) obtained their teaching license through a traditional licensure program; two of the respondents also received training in an alternative licensure program. Ninety-three percent of respondents received all or part of their teacher training preparation from a preparatory institution within the state of Utah; 65.5% of respondents received training from Weber State University, or its predecessor, Weber State College. Among the respondents, nearly one-third held an Early Childhood Endorsement (n = 18; one respondent did not specify) and just over half had earned a graduate-level degree (n = 31).

Analysis of developmental psychology courses taken revealed that child development was the most commonly received course, taken by 91.4% of the respondents; human development followed with 63.8%, educational psychology was taken by 56.9%, and

adolescent development trailed at 22.4%. Twenty-one percent of respondents also reported having received additional courses related to child development. All but three respondents reported taking at least one course in developmental psychology; the total number of developmental psychology credits per respondent ranged from 0 to 29 (M = 9.5, SD = 5.8). Most respondents reported taking less than 12 credits (n = 40); approximately one third of respondents reported less than nine credits (n = 21), one third reported 9 to 11 credits (n = 19), and the remaining third reported 12 credits or more (n = 18).

Information related to perceptions of preparation adequacy in developmental psychology was sought using question items on a Likert rating scale. Respondents were asked to rate the items on a scale of 1 (for 'strongly disagree') to 6 (for 'strongly agree'). Frequency of responses is shown for each item in Table 3.

Responses indicated that teachers generally agreed that their teacher preparation program prepared them for classroom challenges (M = 4.2, SD = 1.2); teachers holding an Early Childhood Endorsement felt more prepared (M = 4.8), especially compared to those without an Early Childhood Endorsement (M = 3.9). Teachers slightly agreed that training related to child and adolescent development was adequate to meet individual learning needs (M = 4.1, SD = 1.2) and apply developmental principles in the classroom (M = 4.1, SD = 1.0). Again, teachers with an Early Childhood Endorsement felt more prepared on both items (M = 4.7 and M = 4.8, respectively) and those without an Early Childhood Endorsement felt less prepared (M =3.8 and M = 3.7, respectively).

Table 3

Frequency Distribution for Responses Related to Teacher Training (N = 58)

Response Item	1	2	3	4	5	6
Teacher education preparation						
Adequate overall	3.4%	5.2%	10.3%	37.9%	31.0%	12.1%
Adequate to meet individual learning needs	3.4%	6.9%	15.5%	32.8%	34.5%	6.9%
Adequate to apply developmental principles in classroom	5.2%	0%	20.7%	32.8%	37.9%	3.4%
Understanding of development of children						
Derived from teacher preparation courses	0%	5.2%	24.1%	32.8%	31.0%	6.9%
Derived from teaching experience and practice	0%	0%	0%	6.9%	32.8%	60.3%

Note. 1 = Strongly Disagree; 2 = Moderately Disagree; 3 = Slightly Disagree; 4 = Slightly Agree; 5 = Moderately Agree; 6 = Strongly Agree. Question items have been summarized for the purpose of analysis; see Appendix A for complete wording of items.

Teachers felt that their understanding of how children develop physically and psychologically was derived more from personal teaching experience and practice (M = 5.5, SD = 0.6) than from courses taught during their teacher preparation (M =4.1, SD = 1.0). Teachers with an Early Childhood Endorsement also felt that understanding came more from practice than preparation courses, but reported slightly less of a difference between experience (M =5.7) and courses (M = 4.8) and teachers without an Early Childhood

Endorsement reported a slightly greater difference between experience (M = 5.4) and courses (M = 3.7).

Relationships were examined for items related to prior teacher training and demographic profiles such as years of licensure, total number of credits earned in developmental psychology courses, and Early Childhood Endorsements. Correlation coefficients are shown in Table 4.

Table 4

Pearson Correlation of Responses Related to Teacher Training for Years Licensed, Early Childhood Endorsement, and Development Credits (N = 58)

Response Item	2	3	4	5	Years Licensed	Early Childhood Endorsement[a]	Total Credits
Teacher Training							
1. Adequate overall	-	-	-	-	-.19	.35**	.01
2. Adequate to meet individual needs		.81**	-	-	-	.35**	.16
3. Adequate to apply principles			-	-	-	.44**	.14
Understanding of development							
4. From courses				.08	-.20	.52**	.10
5. From experience					.11	.21	.12

Note. Dashes indicate the correlation was not calculated. Question items have been summarized for the purpose of analysis; see Appendix A for complete wording of items.

**p <.01, two-tailed. [a]n = 57.

Results indicated significant positive relationships between teachers with an Early Childhood Endorsement and items related to adequacy of preparation programs. Respondents with an Early Childhood Endorsement rated higher levels of agreement for preparation rendered by their teacher training program to face classroom challenges, as well as adequacy of training related to child and adolescent development to meet individual learning needs and apply developmental principles in the classroom. A positive correlation was also shown between having an Early Childhood Endorsement and agreement ratings for understanding how children develop being derived from teacher preparation courses. There were no significant correlations between years of licensure or total number of credits earned in developmental psychology and feelings of preparation related to understanding and using developmental psychology in teaching. A positive correlation was indicated between adequacy of training preparation to meet individual learning needs of students and to apply developmental principles to classroom practice.

Understanding and Application Tendencies

Respondents were also asked to rate levels of agreement from 1 (‘strongly disagree’) to 6 (‘strongly agree’) on items related to understanding a child’s developmental needs, their tendency to apply experience gained from developmental psychology courses to teaching practice, and whether those courses specifically applied developmental theories to teaching practice to enable that process. Frequency of responses for the described items is presented in Table 5.

The data indicated that respondents generally felt satisfied with their level of understanding regarding a child’s developmental needs in a classroom environment (M = 4.7, SD = 1.0). Most respondents strongly agreed that understanding a child’s developmental

Table 5

Frequency Distribution for Responses Related to Understanding and Application of Developmental Psychology (N = 58)

Response Item	1	2	3	4	5	6
Understanding regarding the developmental needs of children						
Satisfied with current level attained	0%	5.2%	6.9%	20.7%	50.0%	17.2%
Important in order to successfully support children in learning processes	0%	0%	0%	5.2%	24.1%	70.7%
Application of developmental principles						
Related coursework applied theories to teaching practice[a]	1.8%	10.7%	16.1%	41.1%	21.4%	8.9%
Experience attained from related coursework is used in teaching practice	1.7%	3.4%	12.1%	39.7%	27.6%	15.5%

Note. 1 = Strongly Disagree; 2 = Moderately Disagree; 3 = Slightly Disagree; 4 = Slightly Agree; 5 = Moderately Agree; 6 = Strongly Agree. Question items have been summarized for the purpose of analysis; see Appendix A for complete wording of items.

[a]*n* = 56.

needs is important in order to successfully support that child in learning processes (*M* = 5.7, *SD* = 0.6). Teachers with an Early Childhood Endorsement felt more satisfied with their level of understanding regarding a child's developmental needs (*M* = 5.1) than teacher without an Early Childhood Endorsement (*M* = 4.5).Teachers with an Early Childhood Endorsement also agreed slightly more on the importance of understanding a child's developmental needs (*M* = 5.9) than teachers without an Early Childhood Endorsement (*M* = 5.5).

Of all items related to teacher training, understanding, and application, respondents rated specific application of developmental theories to classroom practice within related coursework the lowest (M = 4.0, SD = 1.2). Responses from teachers with an Early Childhood Endorsement were rated higher than the overall mean for this item (M =4.8), and responses from teachers without an Early Childhood Endorsement were rated lower (M =3.6). For the item regarding application of coursework experience to practice, respondents slightly agreed that they used the experience attained in child and adolescent development coursework in their teaching practice (M = 4.3, SD = 1.1). Response data again revealed that teachers with an Early Childhood Endorsement rated this item higher than the overall response (M = 5.1) while teachers without an Early Childhood Endorsement gave it a lower rating (M =4.0).

Correlation coefficients were used to determine possible relationships among Early Childhood Endorsements, years of licensure, or total number of developmental psychology credits and responses related to understanding or application items. Results are shown in Table 6.

Correlation analysis indicated a significant positive relationship between having an Early Childhood Endorsement and ratings on the importance of understanding developmental needs to provide support in learning processes. Higher correlations were shown for an Early Childhood Endorsement and application items; namely, whether child and adolescent development coursework specifically applied developmental theories to teaching practice and whether coursework experience was used by the respondent in teaching practice. Negative relationships were shown between years of licensure and agreement ratings for the respondent’s satisfaction level for understanding developmental needs within the classroom

Table 6

Pearson Correlation of Responses Related to Understanding and Application of Developmental Psychology for Years Licensed, Early Childhood Endorsement, and Development Credits

Response Item	2	3	4	Years Licensed	Early Childhood Endorsement	Total Credits
Understanding						
1. Satisfaction	.07	.42**	.17	-.29*	.25	-.12
2. Importance		.22	.33*	-.09	.28*	.10
Application						
3. Coursework applied theories to practice			.46**	-.28*	.46**	.23
4. Coursework used in teaching practice				.08	.45**	.19

Note. Question items have been summarized for the purpose of analysis; see Appendix A for complete wording of items. Sample sizes ranged from 55 to 58.

*$p < .05$, two-tailed. **$p < .01$, two-tailed.

and coursework application of developmental theories to teaching practice. Results also indicated that respondents who felt more satisfied with their level of understanding regarding a child's developmental needs were also more likely to feel that their coursework specifically applied developmental theories to practice. Respondents who gave high ratings on the importance of understanding child development were also likely to indicate use of coursework experience in teaching practice, as demonstrated by the coefficient for items 2

and 4. A positive coefficient was also shown between ratings for application of theories to practice within coursework and application of coursework experience in teaching practice.

Correlation coefficients for items 1 through 4 and grade level taught by respondents were also analyzed, but not included in Table 6. Results indicated only one significant relationship between grade level taught and item 1 (r = -.28, p <.05). This coefficient indicated that as grade level taught increased, the satisfaction rating for level of understanding in child development decreased.

In addition to rating scale items, a checklist item was used to determine application tendencies among respondents. Based on Comer's framework (EKS-NICHD et al., 2007), six domains of development were listed and respondents were asked to indicate two areas where they were most likely to use related theories or developmental principles in their teaching practice. Results for all respondents are demonstrated in Figure 1.

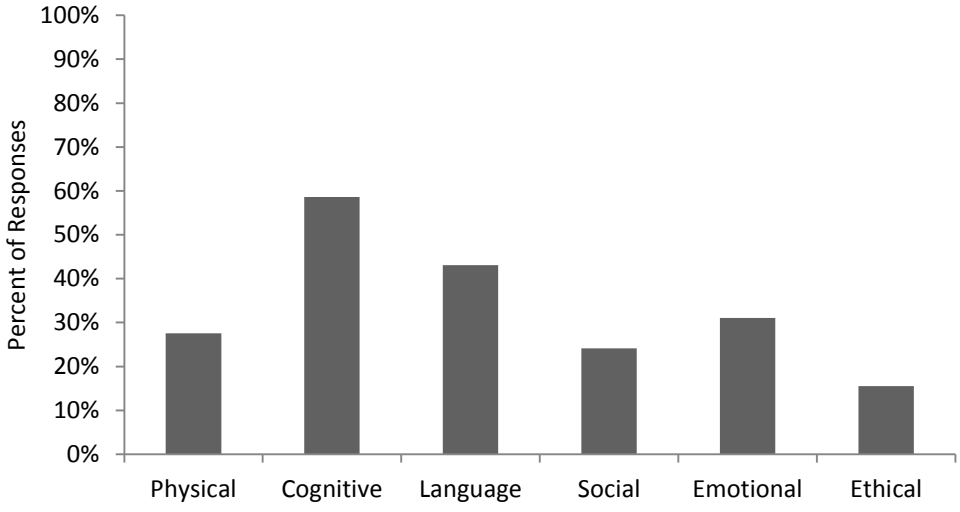
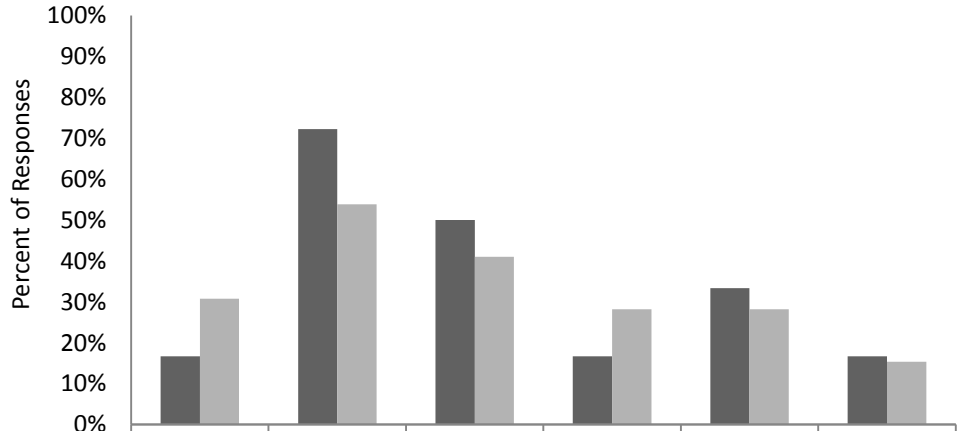


Figure 1. Frequency distribution of all respondents for developmental domains in which related theories or developmental principles were most likely to be used in teaching practice. Percentages do not equal 100 because two responses were allowed.

Cognitive and language areas of development were most likely to be applied by respondents at 58.6% and 43.1%, respectively. Variation among respondents with and without an Early Childhood Endorsement is shown in Figure 2. Teachers with an Early Childhood Endorsement reported higher frequencies of application for cognitive, language and emotional areas of development in their teaching practice. Teachers without an Early Childhood Endorsement were more likely to apply theories and principles in physical and social areas of development.



	Physical	Cognitive	Language	Social	Emotional	Ethical
EC End Y	16.7%	72.2%	50.0%	16.7%	33.3%	16.7%
EC End N	30.8%	53.8%	41.0%	28.2%	28.2%	15.4%

Figure 2. Frequency distribution comparison for respondents with (EC End Y) and without (EC End N) Early Childhood Endorsements regarding developmental domains in which related theories or developmental principles were most likely to be used in teaching practice. Percentages do not equal 100 because two responses were allowed.

Analyses of frequency distribution for respondents by number of credits and years of licensure demonstrated little consistency among data patterns. For number of credits in developmental psychology, the greatest difference was found at 22.9% for application in

ethical development: respondents with 6-10 credits responded at 7.1% while respondents with 11-30 credits responded at 30.0%. Frequency distribution for this item by number of credits and years of licensure can be examined in Figure 9 and Figure 10, respectively, in Appendix D.

Developmental Areas for Greater Emphasis

To identify areas of development where greater emphasis within teacher training would better serve teachers and students, checklist items were included for respondents to indicate areas of development that they would like to have more training in, and in which areas their students were either proficient or lacking. For the first item, teachers were asked to identify all areas of development in which they would like more in-depth training. Results for all respondents are shown in Figure 3 by frequency of responses.

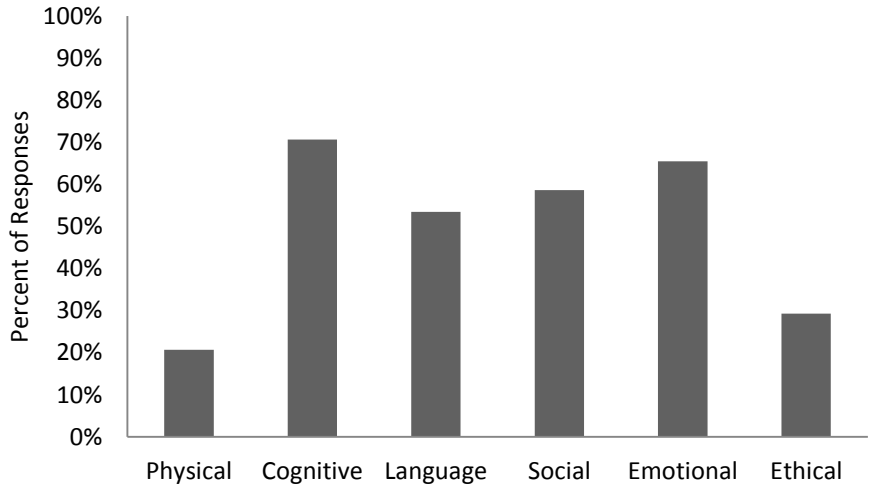
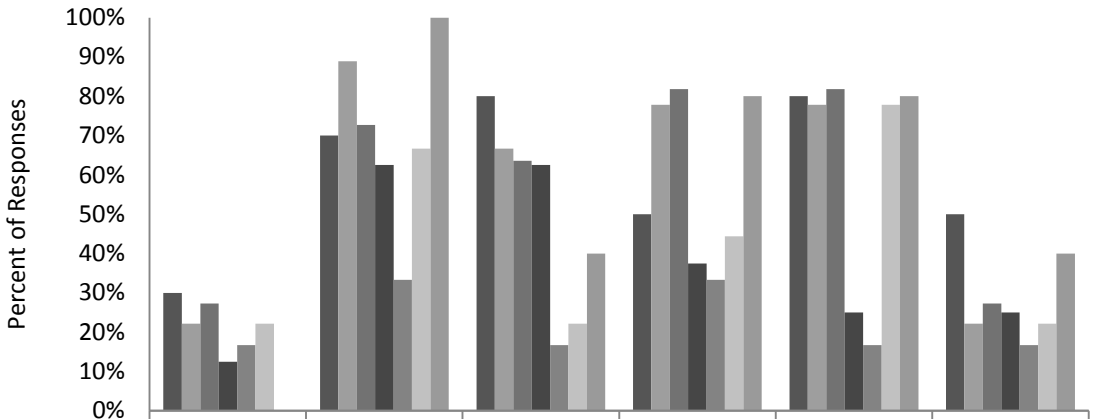


Figure 3. Frequency distribution of all respondents for developmental domains in which more in-depth training was desired. Percentages do not equal 100 because multiple responses were allowed.

Cognitive and emotional domains were most frequently marked by respondents at 70.7% and 65.5%, closely followed by social and language domains at 58.6% and 53.4%,

respectively. There were only slight variations among responses between teachers with and without an Early Childhood Endorsement. The greatest variation existed between responses for the cognitive domain; frequency distribution for respondents with an Early Childhood Endorsement was 66.7% compared to 74.4% for respondents without. Comparison of responses by number of credits in developmental psychology revealed that, in general, desire for more training was lowest for teachers with 0 to 5 credits and highest for teachers with 6 to 10 credits. Respondents with 0 to 5 credits indicated the least desire for more training in all but the physical and cognitive domains while respondents with 6 to 10 credits indicated the most desire in all but the social domain. Respondents with 11 to 30 credits exhibited the highest desire for more training in the social domain and the lowest in the physical and cognitive domains. Figures displaying frequency distribution comparisons for Early Childhood Endorsements and number of credits can be found in Figures 11 and 12, respectively, in Appendix D.

An interesting pattern emerged in responses for desired training when compared by years of licensure. Higher frequencies of responses for domains of development in which teachers wanted more training were shown for respondents with the fewest and the most years of licensure, in general. Frequency distribution compared by years licensed is shown in Figure 4.



	Physical	Cognitive	Language	Social	Emotional	Ethical
0-5 Yrs	30.0%	70.0%	80.0%	50.0%	80.0%	50.0%
6-10 Yrs	22.2%	88.9%	66.7%	77.8%	77.8%	22.2%
11-15 Yrs	27.3%	72.7%	63.6%	81.8%	81.8%	27.3%
16-20 Yrs	12.5%	62.5%	62.5%	37.5%	25.0%	25.0%
21-25 Yrs	16.7%	33.3%	16.7%	33.3%	16.7%	16.7%
26-30 Yrs	22.2%	66.7%	22.2%	44.4%	77.8%	22.2%
31+ Yrs	0.0%	100.0%	40.0%	80.0%	80.0%	40.0%

Figure 4. Frequency distribution for developmental domains in which more in-depth training was desired compared by years of licensure. Percentages do not equal 100 because multiple responses were allowed.

Analysis of domains of development in which respondents were asked to identify their students' areas of highest functioning and greatest need for interventional support provided further insight for areas needing greater emphasis. Respondents were asked to specify two areas of development, among the six domains noted earlier, in which their students exhibited the highest level of functioning. Frequency distribution for all respondents is displayed in Figure 5. Respondents were then asked to indicate all areas of development in which their students needed the most interventional support from adults. Results from all respondents are shown in Figure 6.

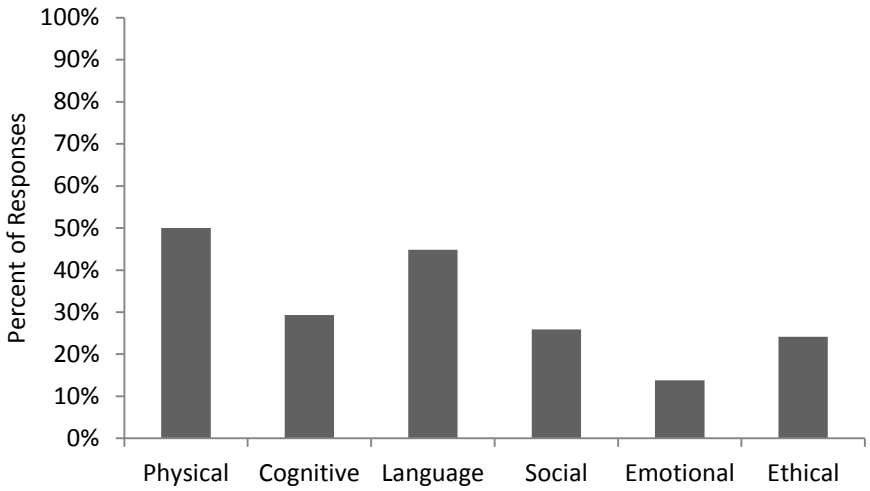


Figure 5. Frequency distribution for developmental domains in which students exhibited highest level of functioning. Percentages do not equal 100 because two responses were allowed.

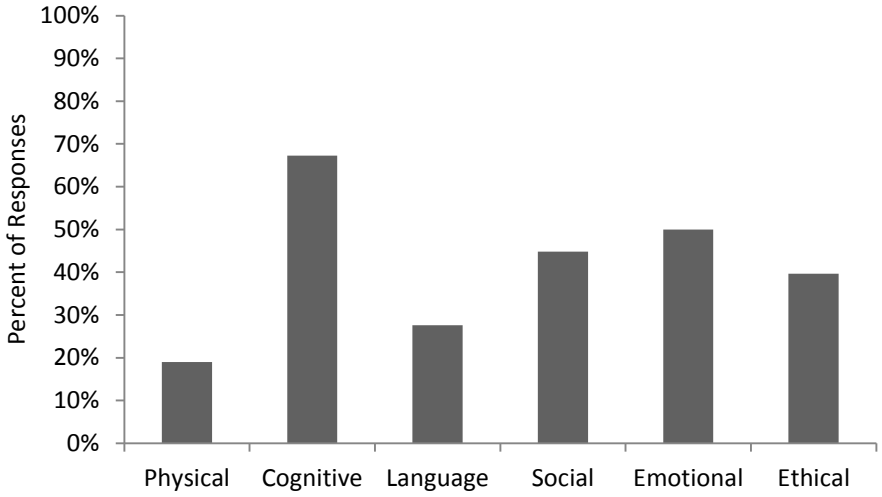


Figure 6. Frequency distribution for developmental domains in which students needed most interventional support from adults. Percentages do not equal 100 because multiple responses were allowed.

More respondents selected the physical and language domains to be those areas in which their students demonstrated the highest level of functioning at 50.0% and 44.8%, respectively. Cognitive development received the highest frequency of responses at 67.2% for the developmental domain in which students needed the most interventional support.

Emotional, social, and ethical areas of development followed at 50.0%, 44.8%, and 39.7%, respectively.

In comparison of responses among teachers with and without an Early Childhood Endorsement, little variation was shown in frequencies regarding domains of development in which students exhibited the highest level of functioning. The greatest difference was found in cognitive development, where teachers with an Early Childhood Endorsement chose this item more often than teachers without, at 41.2% and 27.0%, respectively. Figure 13 in Appendix D can be examined for additional comparisons.

Greater variations were indicated between teachers with and without an Early Childhood Endorsement for responses regarding areas of development where students needed the most interventional support from adults. The greatest difference was shown for social development, with a frequency of 66.7% for teachers with an Early Childhood Endorsement and 33.3% for teachers without. Ethical development and emotional development showed the next highest variations, with differences in response frequencies of 16.7% and 14.9%, respectively. Further comparisons can be examined in Figure 14 in Appendix D.

Frequencies of responses were also compared and analyzed by school for the purpose of informing reform efforts for local teachers and students. Each school was also profiled demographically for interpretation purposes. Data revealing comparisons and demographic profiles for each school can be found in Appendix E.

DISCUSSION

Prior research has stressed the invaluable impact of developmental psychology on improving educational practices when properly applied. Because training in developmental science emphasizes respect for and understanding of children, adults who receive this training are more equipped to reach individuals in learning situations to guide and enhance growth across all developmental domains. Examination of current teacher training programs and related research revealed that teachers are not receiving an adequate understanding and skill base of this fundamental knowledge. Additional research has indicated that knowledge in this area of study is more than a superfluous resource; rather, it is an imperative tool to successfully meet the needs and challenges associated with teaching children. Without it, teachers lack the resources to connect appropriately to students in learning situations and detrimental experiences often result, diminishing students' intrinsic assets for academic success.

To confirm and expand existing research, this study sought to advance beyond the voices of child development experts, teacher training experts, and university professors to seek knowledge from teachers themselves. This was done to better understand the needs of teachers and students within the context of developmental psychology in order to more effectively prepare teachers to serve, protect, and enable students in learning processes. Perceptions of current elementary teachers were gathered, analyzed, and reviewed regarding (a) prior training in developmental psychology, (b) understanding and application tendencies related to child development principles, and (c) areas of development where greater emphasis is needed in training programs to better serve teachers and students.

Prior Training in Developmental Psychology

Result data related to prior training in teacher education programs confirmed much of what the research has indicated: for the most part, teachers feel somewhat prepared but not overly confident in meeting students' developmental needs. Respondents reported taking slightly more than the one or two classes predicted by research related to undergraduate degrees (Tables 1 & 2); just under half the respondents reported approximately two developmental psychology courses or less while the other half reported taking three or more. In addition, child development was the most commonly reported course, in contrast with previous research indicating that educational psychology and human development were more commonly required by undergraduate programs (Tables 1 & 2). Nearly all respondents, however, had taken at least one course in developmental psychology as was expected from prior research (EKS-NICHD et al., 2007). In reviewing data responses, it can therefore be assumed that respondents had as strong a background, or better, in developmental psychology as was predicted for teachers in general according to the previous research. This is likely due to the fact that over half the respondents had obtained graduate degrees in which many of these courses were possibly acquired. Additionally, close to one third of the respondents had an Early Childhood Endorsement providing even more rigorous training. Although this endorsement is typically required of kindergarten level teachers, the majority of respondents with an endorsement taught above the kindergarten level.

Respondents generally felt their teacher preparation program prepared them to face classroom challenges, although the response was not overly strong. Unfortunately, they agreed even less that their program helped them prepare to meet individual learning needs and apply developmental principles in their classroom. Although it was not surprising to see

room for improvement in teacher preparation, a much more confident response is both desired and expected for a profession with so much influence on the future of society (American Council on Education, 1999; NCTAF, 1996).

Interestingly, teachers with an Early Childhood Endorsement felt more prepared by their program to face classroom challenges overall. Although this was expected for preparation related to child and adolescent development, the researcher found it remarkable that teachers with an endorsement feel more prepared in teaching altogether than those without and endorsement, as this data suggested. This implication strongly correlated with conclusions made by earlier research that training in developmental psychology has the potential to enhance all aspects of teaching (EKS-NICHD et al., 2007; Lightfoot, 1983; NCATE, 2008).

In addition, data suggested that having an Early Childhood Endorsement may be the greatest determining factor in understanding, and feeling prepared to meet, the developmental needs of students. This was indicated through consistently higher means on all related items as well as significant relationships between having an endorsement and response items. Such significant relationships did not emerge when correlated with years of licensure or number of credits in developmental psychology. Teachers with an Early Childhood Endorsement consistently felt more prepared to meet individual learning needs and apply developmental principles, while teachers without an Early Childhood Endorsement consistently felt less prepared in both cases. Although it cannot be construed that an Early Childhood Endorsement is causal to feeling more prepared, the data correlated with research indicating that a greater understanding in developmental psychology provides resources that

ease a teacher's burden and enables them to appropriately meet the learning needs of their students (Comer, 2004; Elkind, 1991; EKS-NICHD et al., 2007).

Although those teachers with an Early Childhood Endorsement tended to also have a higher number of credits, only half of respondents with more than 12 credits had an endorsement. In other words, a respondent may have a substantial amount of credits in developmental psychology but still not have an Early Childhood Endorsement. Responses were compared both by Early Childhood Endorsements and by total credits in developmental psychology for this reason – to determine if taking several credits related to child development was comparable to obtaining an Early Childhood Endorsement for the purpose of using and understanding developmental theories in an educational setting. This was important to determine which elements are most effective in improving developmental psychology training for teachers.

Result data related to having an Early Childhood Endorsement was enlightening as the comparison of preparation between having an endorsement versus acquiring several credits in developmental psychology was not explored by the previous research. However, the data correlated strongly with research related to the elements of top-performing teacher preparation programs. Programs noted for their excellence were set apart by having curriculum grounded in child and adolescent development knowledge, extensive clinical experiences, and emphasis of application to real practice through the use of case studies, assessment, and teacher research (Darling-Hammond, 1997). These elements are more likely to exist in training associated with an endorsement than in taking disjointed credits related to child and adolescent development.

In seeking to understand the impact of preparation programs on developmental understanding, it was also important to understand whether experience or course training had more influence on enabling a teacher to meet developmental needs. According to data results, teachers felt that teaching experience and practice had a greater impact than teacher preparation courses on understanding how a child develops physically and psychologically. This rendered two possible implications. First, that teachers feel they are left to their own resources to attain the most effective training possible to meet the complicated learning needs of young people. And, second, that current training does not include enough application and hands-on experience related to understanding and meeting the developmental needs of children in a classroom environment, a theory strongly supported by prior research (EKS-NICHD et al., 2007). Both implications are further supported by previous research asserting that teachers are not given the appropriate tools to meet developmental needs of students and are therefore left to rely on experience alone to cope with such a daunting task (Comer, 2004; Elkind, 1991).

Two comments written voluntarily by respondents emphasized the perspective that experience is more impactful on understanding than coursework. One respondent wrote, "There is no substitute for hands on experience. Teacher ed students need to be in schools with kids and teachers." Another wrote, "Greatest and most beneficial learning and teaching experiences came from working with my own children and their problems on a one to one basis." Efforts to improve application of developmental principles to teaching practice would do well to consider this perspective on the impact of hands-on experience, particularly as this inference was supported by prior research related to effective teacher education methods (Darling-Hammond, 1997).

The feeling among teachers that experience mattered more for gaining developmental understanding was strong enough that the rating was surpassed only by their perspective on the importance of understanding a child's developmental needs. No relationship existed among the data, however, to indicate that more years as a licensed teacher led to more satisfaction with understanding levels or with perceiving the importance of understanding child development. In fact, years licensed was negatively correlated with satisfaction related to level of understanding, indicating that with more experience respondents were less likely to feel satisfied with their level of understanding regarding a child's developmental needs. This correlation does not rule out the importance of experience and practice in gaining understanding, but it may be a strong indication that experience alone is not more effective than coursework. It is also important to note that while a course in child development cannot take the place of actual experience, hands-on experience without research-based information is not likely to lead a teacher to effective developmental practice (EKS-NICHD et al., 2007; Pianta, 1999).

Respondents with an Early Childhood Endorsement echoed this perspective, but gave more attribution to preparation courses in gaining understanding than respondents without an Early Childhood Endorsement. This was emphasized by the relationship between the two items, indicating that teachers with an Early Childhood Endorsement were more likely to gain understanding of child development through teacher training courses than those without an endorsement. Although this conclusion may seem obvious considering the deeper training involved with gaining an endorsement, having a higher number of credits in developmental psychology did not render the same result. These results strongly indicated that an Early Childhood Endorsement comes closer to meeting teacher training needs –

overall and in relation to students' developmental needs – than training without the endorsement, even if the pre-service teacher has taken a substantial number of courses related to child development. This perspective was echoed by one teacher's voluntary comment, "Even with a psychology and child and family studies major, I still felt under-prepared to meet my students' needs in these areas" (A. Florence-Henderson, personal communication, April 8, 2010).

In addition, respondents who felt that their teacher training program prepared them to apply developmental principles also felt prepared by that program to meet individual learning needs, reaffirming research suggesting that developmental understanding enables teachers to meet individual learning needs (Anderman & Maehr, 1994; Eccles et al., 1993; EKS-NICHD et al., 2007; NCATE, 2008). And although prior research did not examine acquiring related credits versus obtaining an endorsement, these conclusions were further supported by research indicating that application of theories and principles to teaching is critical in order for this preparation to make its way into the classroom (EKS-NICHD et al.; NCATE).

Understanding and Application Tendencies

Respondents felt generally satisfied with their level of understanding regarding the developmental needs of children. In addition, they felt strongly that understanding those needs was important in order to successfully support children in learning processes. Although teachers with an Early Childhood Endorsement generally felt more satisfied with their understanding level, the data did not make this conclusion affirmative. As mentioned earlier, a negative relationship was indicated between years of licensure and satisfaction levels. One possible explanation may include the realization that naturally comes with age of how little one really knows compared with the knowledge there is to be had. Another possible

explanation may be found in the negative correlation between coursework applying developmental theories and years licensed. Teachers with more years of licensure were additionally less likely to feel that their coursework applied developmental theories to teaching practice.

In addition to recommending more coursework training, prior research highly emphasized the need for more application in developmental psychology courses to teaching practice, referring to it as the missing link (EKS-NICHD et al., 2007). Teacher perceptions seemed to confirm that conclusion. Specific application within coursework of developmental theories to teaching practice received the lowest rating response for all items regarding prior training, understanding, and application. The mean for responses came just below the slightly agree level, indicating that teachers barely felt that their child and adolescent development coursework applied theories to teaching practice. Ratings were even lower for respondents without an Early Childhood Endorsement; and although respondents with an Early Childhood Endorsement were more likely to feel that their courses applied theory to practice, this response did not even reach the 'moderately agree' level. Conversely, coursework that specifically applied theories to practice was connected to higher levels of satisfaction related to understanding the developmental needs of children, further emphasizing application as the essential link.

Results related to using experience from child and adolescent development coursework in the classroom also indicated a low tendency to apply developmental psychology coursework to teaching practice. Although teachers – particularly the teachers used in this study – have training in child development and related psychology, they are not necessarily using it in the classroom. In contrast, the relationship between the two application

items suggested that when coursework in developmental psychology directly applies theories to teaching practice, the teacher will make use of that coursework experience by applying it in the classroom. This suggested that a lack of application within coursework results in a lack of application in the classroom, and that focusing reform efforts on improving application elements may make the greatest difference for teachers and students. This conclusion was supported by prior research (EKS-NICHD et al., 2007) and further validates the critical need for emphasizing child and adolescent development in teacher education. Teachers are by far the greatest source of impact on student learning (American Council on Education, 1999; EKS-NICHD et al.; NCTAF, 1996) and teacher education reform is purported to be the most effective way to improve that impact (NCTAF).

Positive correlations revealed that obtaining an Early Childhood Endorsement was significantly related to child and adolescent development coursework being more applicable to an educational setting, and making use of that coursework experience in teaching practice. Such relationships did not exist with having a higher number of credits, further indicating that coursework connected to an Early Childhood Endorsement is not the same as taking a number of credits in developmental psychology alone. Both analyses correlated with the conclusion that training for an endorsement comes closer to meeting rigorous standards for teacher preparation. In addition, the higher the grade level taught, the lower the satisfaction rating was for level of understanding. This relationship was also likely connected to having an Early Childhood Endorsement; because an Early Childhood Endorsement is generally required for kindergarten, teachers holding an endorsement generally teach in the lower grades.

Not surprisingly, results also indicated that teachers who felt their preparation courses applied developmental theories to practice also felt more satisfied with their level of understanding regarding a child's developmental needs. And respondents who strongly felt that understanding a child's developmental needs is important to support that child in learning processes were also more likely to apply experience gained from child and adolescent development coursework in teaching students. In other words, if teachers are given the opportunity to understand the importance of developmental practice and the tools to practice it, they will place more importance on correlating instruction and teacher response to developmental stages and have more confidence in their ability to do so (Brophy & Evertson, 1976). Such a result is not only desirable for student success (Anderman & Maehr, 1994; Eccles et al., 1993; EKS-NICHD et al., 2007; NCATE, 2008; NCTAF, 1996) but absolutely critical in order for teachers to understand, respect, and protect students in learning processes (Comer, 2004; EKS-NICHD et al.; Elkind, 1991).

Based on responses related to domains of development where theories and principles were most often applied by respondents, the physical, social, emotional, and ethical domains of development emerged as areas needing more application emphasis in developmental psychology courses. The two domains most often applied – cognitive and language – were not surprising as those domains of development receive far more emphasis in teacher education, education policy, and teacher performance assessment in comparison with the other domains.

Developmental Areas for Greater Emphasis

In order for this study to further attempts to reform and improve developmental psychology courses within teacher training, information was sought regarding domains of

development where training was especially needed. This was done in connection with research recommendations to emphasize six developmental domains (i.e., physical, cognitive, language, social, psychological, ethical) in teacher education programs and to align coursework focus based on local needs.

Based on responses regarding developmental areas in which more training was desired, respondents expressed the need for more emphasis in cognitive, language, social, and emotional development. Results compared by number of credits revealed that teachers with the fewest credits in developmental psychology felt the least need for further training. This is a possible indication that additional training in developmental psychology helps teachers understand its importance in the classroom. Interest in more training tended to peak for teachers with 6 to 10 credits before falling again in most domains for teachers with the highest number of credits. Once teachers begin to understand the nature of developmental psychology, the resource that it can become and the critical role it plays in serving and protecting students in learning processes, they may understand enough to realize its importance but not enough to feel confident in applying that understanding. According to these results, a minimum of four courses covering developmental theories and principles in depth would be recommended.

A different pattern emerged with years licensed, however. A rise-fall-rise pattern seemed to indicate that teachers with the fewest and most years of experience desired the most additional training. A possible explanation may be a natural phenomenon that tends to emerge as experience is gained: a novice teacher may feel unprepared and unsure of what they don’t know. Middle-of-the-road teachers likely begin to feel more confident in what they know while experienced teachers realize how much more there is to learn.

Areas of development where students reportedly needed the most interventional support from adults included the cognitive, emotional, social, and ethical domains of development, with cognitive receiving the highest response. In contrast, the physical and language domains were reported as areas of development where students exhibited the highest level of functioning, mirroring the interpretation above.

Based on all four items regarding the six domains of development, the social and emotional domains emerged as developmental domains needing greater emphasis in all three areas explored (i.e., training desired, application tendencies, and student needs). The cognitive and ethical domains also emerged in at least two of the three considered areas for needing more emphasis. Based on recommendations made by previous research (Darling-Hammond, 1997; EKS-NICHD et al., 2007), providing specific focus in teacher training to these particular areas of development by tailoring instruction, application, and assessment for solid understanding of these six domains is vitally important for developmental practice to take place. However, also based on this research, giving particular focus to the areas emerged for greater emphasis is especially important to optimally serve teachers and students in the region where this study took place.

The need for more training in social and emotional development was emphasized by the voluntary comment made by one respondent who wrote, “The longer I teach the more I see many students that need emotional help.” The revealed need for more emphasis in these two areas was also a strong parallel to research that indicated the critical need for understanding student behavior and how to appropriately respond to that behavior (Anderman & Maehr, 1994; Brophy & Good, 1974; Eccles et al., 1993; EKS-NICHD et al., 2007; Pianta, 1999). Although teachers are not assessed on their ability to strengthen the

social or emotional development of students, these domains of development are extremely prevalent and impactful in the everyday life of students and teachers (EKS-NICHD et al.; Olson, 2009; Pianta). Academic achievement is supported or hindered based on students' abilities to regulate these areas of development and teachers' abilities to enable this process (Anderman & Maehr; Eccles et al.; EKS-NICHD et al.).

Limitations and Recommendations

Result data confirmed prior research emphasizing that application is perhaps the most critical element necessary in developmental psychology courses within teacher training. Teachers may have a multitude of credits in developmental science, but without application to practice this training is unlikely to become the indispensable resource that it ought to be. It also confirmed the need for more rigorous training in developmental psychology; while teachers felt strongly about the importance of understanding a child's developmental needs, reported feelings of preparation and satisfaction demonstrated far less confidence.

The results also added a new dimension to prior research, revealing that an Early Childhood Endorsement led to significantly more positive responses related to training, and the use of that training, gained from developmental psychology courses, even when the number of credits earned in developmental psychology courses was considered. This may be due to the fact that an Early Childhood Endorsement is specific for educational settings, where many courses taken in developmental psychology may come from psychology or family departments of education, receiving a different emphasis. Recommendations for further research would include a closer look at this phenomenon. This might be done to discover what is different about developmental psychology courses taught in an Early

Childhood Endorsement program versus general education or a psychology department, and how training and assessment differs.

Although the means for rated responses did not reach a negative level, the low means on most items become more meaningful when response tendencies related to Likert scales were considered. Respondents, like people in general (Spector, 1992; Suskie, 1996), were likely to have a tendency to agree with the statements than disagree. However, this was also a limitation of the study as response bias would have been more controlled for if the questionnaire had included both negatively and positively worded item stems on rating scale questions. In addition, scale item stems likely contained ambiguity and bias undetected by the researcher prior to distribution.

Checklist items were also vulnerable to response bias as respondents who tend to check many items will have responses that weigh heavier than those who tend to select only a few. For items where two responses were required, responses may be misrepresentative if only one item or several items provided the most valid answer. Additionally, checklist items did not allow respondents to rank items in order of importance, giving each selection equal weight. This may have also affected the validity of responses.

Additional limitations to this study include the lack of an extensive pilot study and item analysis to determine the internal consistency of rating scale items and ensure reliability and validity measures of questionnaire constructs. Due to the particular nature of the study and the specific information sought, an existing instrument was unavailable for use. Nonetheless, question items were developed by the researcher with efforts to be as clear, unambiguous, and specific as possible.

Further limitations involve the grade level explored by the study. Only the perceptions of teachers for grade levels K-6 were sought, although the research emphasized the need for greater emphasis of developmental understanding for all grade levels, including middle school and beyond. A follow-up study exploring the perceptions of middle school or secondary grade-level teachers would provide valuable information to broaden reform efforts.

Although this study sought to compare responses to teaching experience, this was likely inhibited by measuring teaching experience by years licensed. Many teachers, particularly in the region where participants were gathered, will obtain and maintain a license but postpone professional teaching for a number of years. To more accurately explore the weight of experience over coursework, the demographic item on the questionnaire should be reworded to seek teaching experience by years of practice as a professional teacher. Including similar response items independent of preparation programs would also provide more accurate interpretations of the influence of experience. Duplication of this study with a research design gathering more qualitative data would also lend more insight to the needs and perspectives of teachers, particularly if the study compared responses of teachers with and without an Early Childhood Endorsement.

Further recommendations for research include a repetition of this study with a similar percentage of Weber State University teacher graduates. Because Weber State is making extensive changes with developmental psychology courses in their teacher training program, and because more than half of respondents for this study were graduates from Weber State, it would be informative to repeat the study among graduates who had gone through the new program to determine the efficacy of changes currently taking place. This may also be done

by comparing responses of alumni who attended Weber State prior to and following the aforementioned changes. A duplication of this study in a different demographic area would also provide insight as to the validity and reliability of the results obtained in this study.

This study contributed to prior research by obtaining the perceptions and knowledge of current elementary teachers previously missing from the research. Result data both confirmed and expanded on conclusions and recommendations from research related to teacher training in developmental psychology as derived from child development experts, teacher training experts, and university professors.

If only one recommendation were to be extracted for use from this study, the researcher hopes it would be a better understanding of the nature of children. It is often difficult to see meaning in research among numbers and data. Ultimately, however, the subjects most affected by this topic of research – and public education in general – are the students. And because this impact is so tremendous and life-altering for those individuals, the petition of this study is for educators, administrators, policy-makers, and education professionals to remember that "children do things for a reason" (EKS-NICHD et al., 2007, p. v). When we learn to respect and understand those reasons, attempts made to connect to children and instill concepts and skills through education become successful, enabling, and life-lasting.

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APPENDICES

Appendix A: Questionnaire Instrument

Appendix B: Cover Letter to Teachers

Appendix C: Letter to Principals

Appendix D: Figures 7 through 12

Appendix E: School Comparisons and Demographic Profiles

Appendix F: Approval Request to District

Appendix G: Research Approval Letters

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Appendix A

Questionnaire Instrument

Teacher Training Questionnaire

In order to inform efforts to improve child and adolescent development coursework within teacher education programs, your valuable input is sought to better understand the needs of teachers.

Note: Participation in this study is voluntary. Completion and submittal of this questionnaire indicates agreement to participate.

Section 1

1. Please indicate your gender: __Male __Female

2. Please indicate your level of completed education:

   __Undergraduate Degree __Some Graduate work __Graduate Degree

   __Other (please describe):_____

3. Please indicate the number of years you have been a licensed teacher:_____

4. Please indicate the developmental psychology courses you have taken and, if possible, the number of credits associated with each course:

   __Human Development (____) __Child Development (____)

   __Adolescent Development (___) __Educational Psychology (___)

5. Please list any additional courses taken with an emphasis on child or adolescent development processes:

   _____

   _____

6. I have an early childhood endorsement: __Yes __No

7. I obtained my teaching license through:

   __A Traditional Licensure Program __An Alternative Licensure Program

8. The institution(s) where I received teacher preparation training:

   _____

   _____

9. The school at which I am currently teaching: _____

10. The current grade level I teach:_____

11. Other grade levels previously taught: _____

Section 2

Please indicate the degree to which you agree or disagree with the following statements.

1 = Strongly Disagree **3 = Slightly Disagree** **5 = Moderately Agree**

2 = Moderately Disagree **4 = Slightly Agree** **6 = Strongly Agree**

1. My teacher preparation program prepared me for the challenges I face in the classroom.	**1**	**2**	**3**	**4**	**5**	**6**
2. The teacher training I received related to child and adolescent development gave adequate preparation to:						
a) meet the individual learning needs of students.	**1**	**2**	**3**	**4**	**5**	**6**
b) apply developmental principles to classroom practice.	**1**	**2**	**3**	**4**	**5**	**6**
3. My understanding of how children develop physically and psychologically is derived from:						
a) the courses taught during my teacher preparation.	**1**	**2**	**3**	**4**	**5**	**6**
b) my own teaching experience and practice.	**1**	**2**	**3**	**4**	**5**	**6**
4. The coursework I received related to child and adolescent development specifically applied developmental theories to teaching practice.	**1**	**2**	**3**	**4**	**5**	**6**
5. I am satisfied with my level of understanding regarding a child's developmental needs in a classroom environment.	**1**	**2**	**3**	**4**	**5**	**6**
6. I use the experience attained from coursework related to child and adolescent development in my teaching practice.	**1**	**2**	**3**	**4**	**5**	**6**
7. Understanding a child's developmental needs is important in order to successfully support that child in learning processes.	**1**	**2**	**3**	**4**	**5**	**6**

Section 3

1. Please indicate which developmental areas you would like to have more in-depth training in: (Check all that apply)

__ Physical development __ Social development

__ Cognitive development __ Emotional development

__ Language development __ Ethical development

(Section 3 continued)

2. Please indicate *two* areas of development where you are most likely to use related theories or developmental principles in your teaching practice:

   For example: Vygotsky's Sociocultural Theory for cognitive development; Bandura's Social Cognitive Theory for emotional development; principles of physical growth for physical development, and so on.

   __ Physical development *(e.g., to understand why a student cannot focus in class)*

   __ Cognitive development *(e.g., to help students extend their thinking skills)*

   __ Language development *(e.g., to teach reading skills, communication skills)*

   __ Social development *(e.g., to help students in their relationships with peers)*

   __ Emotional development *(e.g., to help students develop self-efficacy, self-regulation)*

   __ Ethical development *(e.g., to create a respectful classroom environment)*

3. Please indicate *two* areas of development in which your students exhibit the highest level of functioning:

   __ Physical development (e.g., physical readiness to learn)

   __ Cognitive development (e.g., ability to think, plan, set goals)

   __ Language development (e.g., receptive and expressive communication skills)

   __ Social development (e.g., relationships with peers, adults)

   __ Emotional development (e.g., self-acceptance, self-reliance, self-efficacy)

   __ Ethical development (e.g., respect for self and others, integrity)

4. Please indicate which areas of development your students need the most interventional support from adults:
   (Check all that apply)

   __ Physical development (e.g., physical readiness to learn)

   __ Cognitive development (e.g., ability to think, plan, set goals)

   __ Language development (e.g., receptive and expressive communication skills)

   __ Social development (e.g., relationships with peers, adults)

   __ Emotional development (e.g., self-acceptance, self-reliance, self-efficacy)

   __ Ethical development (e.g., respect for self and others, integrity)

Please write any additional comments on the reverse.

Thank you for your participation!

2010 Victoria Johnson

Appendix B

Cover Letter to Teachers

30 April 2010

[Sample Elementary School]
[Sample School District]
[Sample School Address]

Dear Teacher:

You have been selected to participate in an important research study conducted through Weber State University. The teacher training program at Weber State is currently undergoing some changes associated with the number of child development courses required for new K-6 teachers.

Prior research has been conducted regarding training in the physical, psychological, and social development of children, and how this training should take place in teacher education programs. The research connected with this information, however, lacks the opinions and insight from teachers themselves. Because the effect of such changes will have the greatest impact on teachers, *it is imperative that we seek out the feelings, perceptions, and needs of teachers directly from the teachers themselves.* The knowledge and recommendations that you have to offer is vital to understanding the full scope of the research.

We recognize that your time as a teacher is valuable and in short supply. This survey has been estimated to take only 3-4 minutes to complete. Please recognize that your willingness to participate in this study will further dedicated attempts to ease the burden for future teachers in meeting the individual needs of students. **Please return the following survey to your principal by the end of the day, Wednesday, May 5, 2010.**

Please be assured that your confidentiality will be protected. All information collected through this study will remain anonymous and any identifying information will be eliminated from the records.

We sincerely thank you for your time and expertise,

Victoria Johnson
Weber State University
Master of Education candidate
[Researcher Address]

Appendix C

Letter to Principals

26 April 2010

[Sample Principal]
[Sample Elementary School]
[Sample School District]
[Sample School Address]

Dear Principal:

Thank you for taking the time to further the efforts of this important research study. I am working in connection with Weber State University and with the endorsement of Dr. Stephens to seek information regarding child development training for teachers. The data collected through this study will be used to inform reform efforts in teacher education programs, particularly at Weber State University.

Research has indicated that adequate training in child development is fundamental to serve teachers and students in the learning process – both to raise the achievement gap and to prevent disabling learning experiences that can hinder student abilities. The recommendations for teacher education reform associated with this research, however, come from child development experts, teacher training experts, and university professors. There is currently no data from teachers themselves, although they are the group that will be most affected by these changes.

The research committee hopes to collect data to help direct the changes currently taking place in Weber State University's teacher education program. We are seeking to better understand the needs of teachers and students to better serve those persons through teacher education programs.

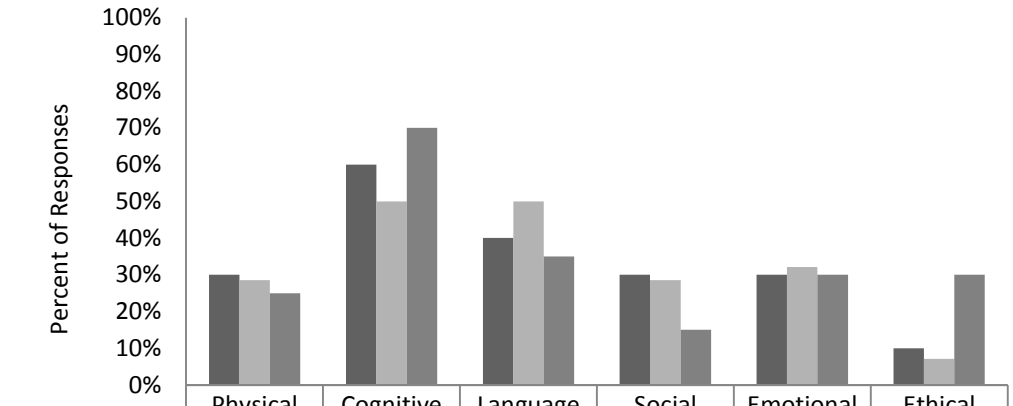
Please emphasize to your teachers that this questionnaire will only take a few short minutes to complete and that it will render invaluable information to the purposes of this research study in the hopes of serving teachers and students in the northern Utah area.

We recognize how valuable your time is and thank you again for your efforts and cooperation in this endeavor,

Victoria Johnson
Weber State University
Master of Education candidate
[Researcher Address]

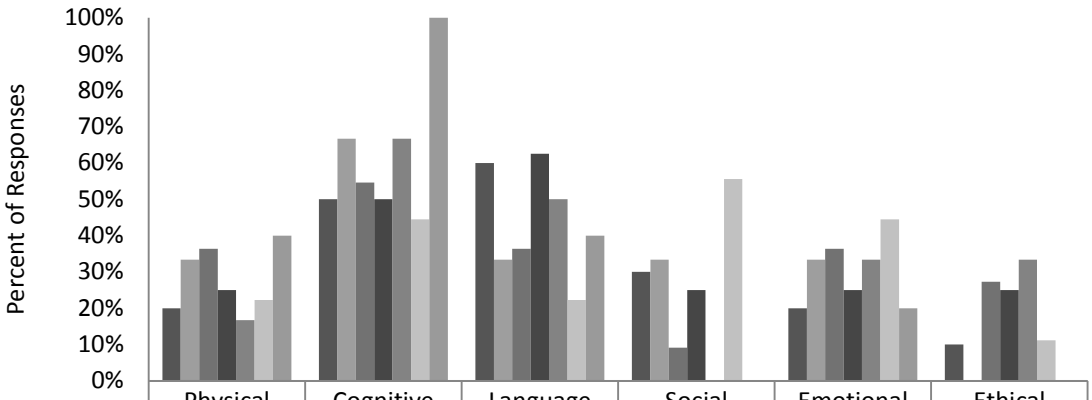
APPENDIX D

Figures 7 through 12



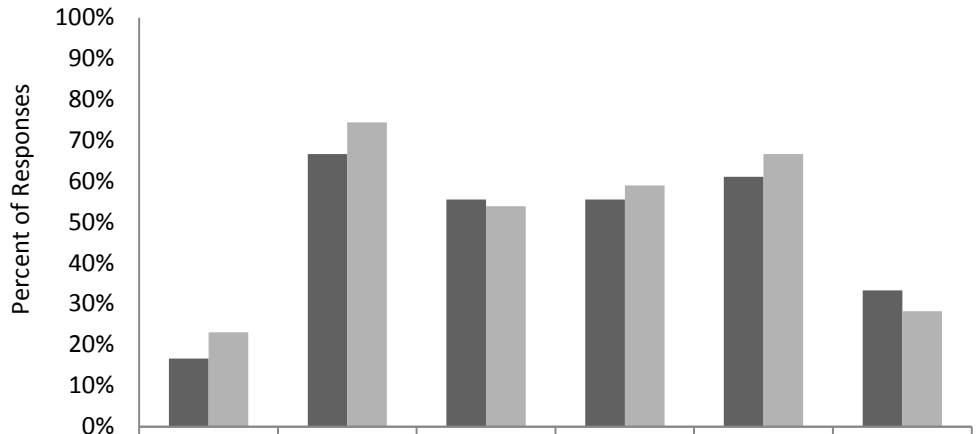
	Physical	Cognitive	Language	Social	Emotional	Ethical
0-5 Credits	30.0%	60.0%	40.0%	30.0%	30.0%	10.0%
6-10 Credits	28.6%	50.0%	50.0%	28.6%	32.1%	7.1%
11-30 Credits	25.0%	70.0%	35.0%	15.0%	30.0%	30.0%

Figure 7. Frequency distribution for developmental domains in which related theories or developmental principles were most likely to be used in teaching practice compared by number of credits in developmental psychology courses. Percentages do not equal 100 because two responses were allowed.



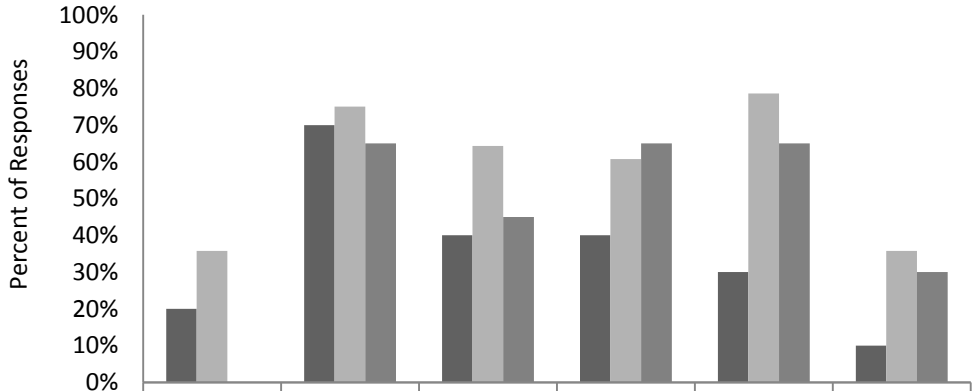
	Physical	Cognitive	Language	Social	Emotional	Ethical
0-5 Yrs	20.0%	50.0%	60.0%	30.0%	20.0%	10.0%
6-10 Yrs	33.3%	66.7%	33.3%	33.3%	33.3%	0.0%
11-15 Yrs	36.4%	54.5%	36.4%	9.1%	36.4%	27.3%
16-20 Yrs	25.0%	50.0%	62.5%	25.0%	25.0%	25.0%
21-25 Yrs	16.7%	66.7%	50.0%	0.0%	33.3%	33.3%
26-30 Yrs	22.2%	44.4%	22.2%	55.6%	44.4%	11.1%
31+ Yrs	40.0%	100.0%	40.0%	0.0%	20.0%	0.0%

Figure 8. Frequency distribution for developmental domains in which related theories or developmental principles were most likely to be used in teaching practice compared by years of licensure. Percentages do not equal 100 because two responses were allowed.



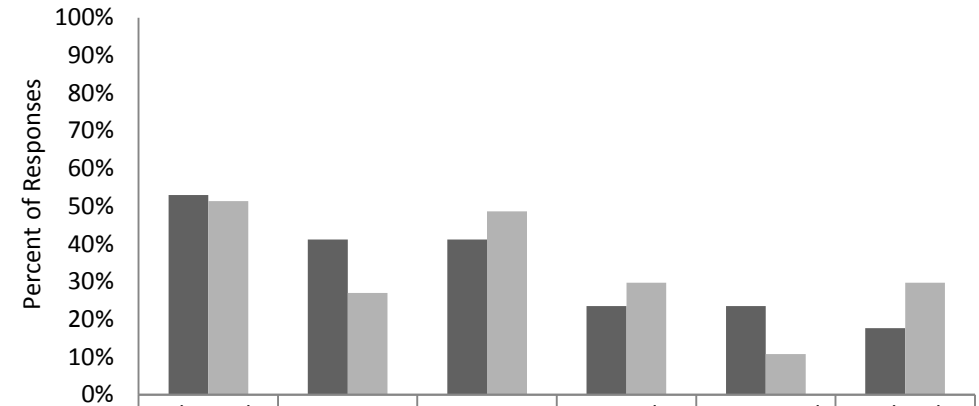
	Physical	Cognitive	Language	Social	Emotional	Ethical
EC End Y	16.7%	66.7%	55.6%	55.6%	61.1%	33.3%
EC End N	23.1%	74.4%	53.8%	59.0%	66.7%	28.2%

Figure 9. Frequency distribution comparison for respondents with (EC End Y) and without (EC End N) an Early Childhood Endorsement for developmental domains in which more in-depth training was desired. Percentages do not equal 100 because multiple responses were allowed.



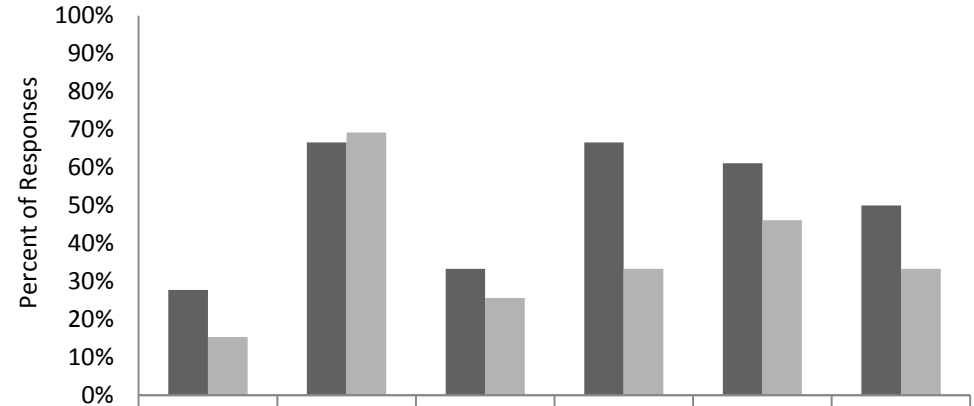
	Physical	Cognitive	Language	Social	Emotional	Ethical
0-5 Credits	20.0%	70.0%	40.0%	40.0%	30.0%	10.0%
6-10 Credits	35.7%	75.0%	64.3%	60.7%	78.6%	35.7%
11-30 Credits	0.0%	65.0%	45.0%	65.0%	65.0%	30.0%

Figure 10. Frequency distribution for developmental domains in which more in-depth training was desired compared by number of credits in developmental psychology courses. Percentages do not equal 100 because multiple responses were allowed.



	Physical	Cognitive	Language	Social	Emotional	Ethical
EC End Y	52.9%	41.2%	41.2%	23.5%	23.5%	17.6%
EC End N	51.4%	27.0%	48.6%	29.7%	10.8%	29.7%

Figure 11. Frequency distribution comparison for respondents with (EC End Y) and without (EC End N) an Early Childhood Endorsement for developmental domains in which students exhibited highest level of functioning. Percentages do not equal 100 because two responses were allowed.



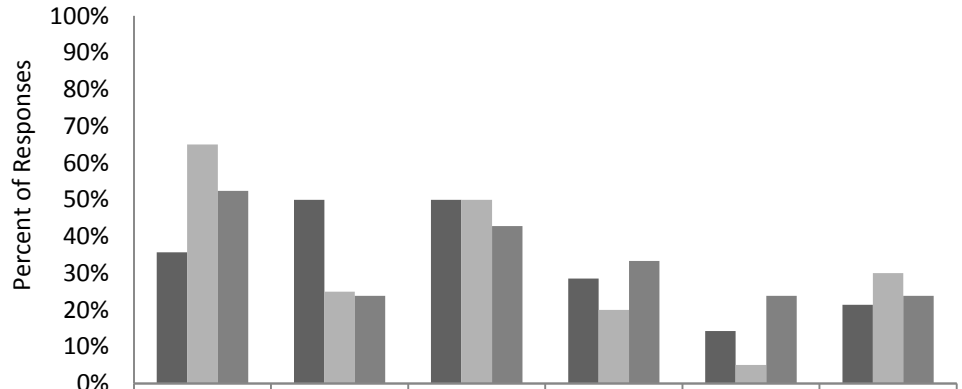
	Physical	Cognitive	Language	Social	Emotional	Ethical
EC End Y	27.8%	66.7%	33.3%	66.7%	61.1%	50.0%
EC End N	15.4%	69.2%	25.6%	33.3%	46.2%	33.3%

Figure 12. Frequency distribution for respondents with (EC End Y) and without (EC End N) an Early Childhood Endorsement for developmental domains in which students needed most interventional support from adults. Percentages do not equal 100 because multiple responses were allowed.

APPENDIX E

School Comparisons and Demographic Profiles

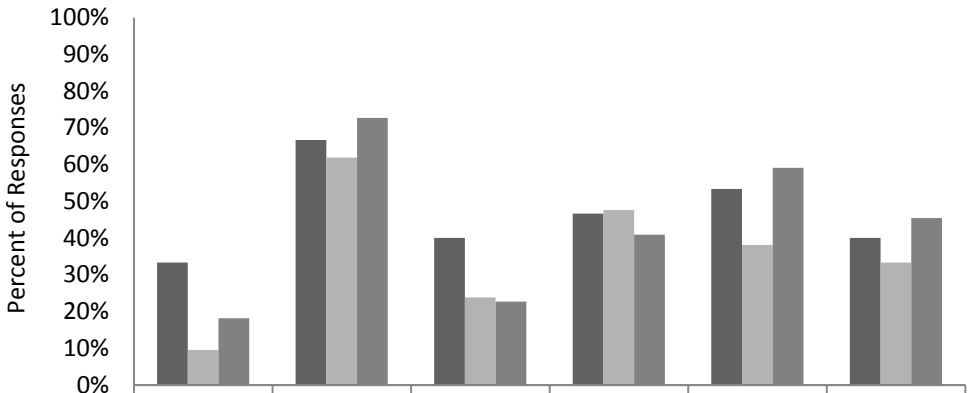
Respondents were asked to indicate two areas of development in which their students exhibited the highest level of functioning and all areas of development in which their students needed the most interventional support from adults. Frequencies of responses compared for each school are demonstrated in Figures 7 and 8.



	Physical	Cognitive	Language	Social	Emotional	Ethical
School A	35.7%	50.0%	50.0%	28.6%	14.3%	21.4%
School B	65.0%	25.0%	50.0%	20.0%	5.0%	30.0%
School C	52.4%	23.8%	42.9%	33.3%	23.8%	23.8%

Figure 13. Frequency distribution for developmental domains in which students exhibited highest level of functioning compared by school. Percentages do not equal 100 because two responses were allowed.

The greatest differences for high levels of functioning are shown in the physical, cognitive, and emotional domains. School B showed the highest response for physical with a minimum difference of 12.6%; school A showed a much higher response for cognitive development with a minimum difference of nearly 25.0%; and school C showed a higher response for emotional development with a minimum difference of 9.5%.



	Physical	Cognitive	Language	Social	Emotional	Ethical
School A	33.3%	66.7%	40.0%	46.7%	53.3%	40.0%
School B	9.5%	61.9%	23.8%	47.6%	38.1%	33.3%
School C	18.2%	72.7%	22.7%	40.9%	59.1%	45.5%

Figure 14. Frequency distribution for developmental domains in which students needed most interventional support from adults compared by school. Percentages do not equal 100 because multiple responses were allowed.

In the examination of responses for developmental areas where students needed most interventional support, School B indicated a lower frequency of response in all domain areas than either school A or C except social development and language development where school C was lower than school B by one percentage point. School A ranked much higher in the physical and language domains than the other two schools, with minimum differences of 15.1% and 16.2%, respectively. School B ranked lower than A or C in emotional development at a minimum difference of 15.2%. For purposes of comparison and to interpret findings by school profiles, complete demographic profiles for each school are shown in Table 7.

Table 7

Demographic Profiles for Schools A, B, And C, Where Participants Were Gathered.

	School A	School B	School C
UPASS school proficiency	84.0%	73.0%	74.0%
Student teacher ratio	22.6	21.6	23.5
Average daily attendance	96.0%	95.0%	96.0%
Average class size	26.8	22.0	23.9
Student population	598	465	765
White students	93.1%	91.6%	96.7%
English language learners	1.5%	1.7%	3.9%
Students with disabilities	9.5%	17.2%	12.8%
Socio-economic status[a]	15.2%	28.8%	27.1%
Mobility rate	10.6%	6.8%	8.6%
Teachers with graduate degree[b]	53.3%	57.1%	50.0%
Teachers with EC end[b]	46.7%	9.5%	40.9%
Teachers mean years experience[b]	16.3	20.6	13.6

Note. UPASS = Utah Performance Assessment System for Students. Acceptable range is 77%. Percentages were rounded to whole numbers. (UPASS, 2009). EC End = Early Childhood Endorsement.

[a]Socio-economic status is determined by the percentage of students qualifying for free or reduced lunch. [b]As reported on questionnaires; percentages calculated by number indicated against total responses. Response rate = 57%

Appendix F

Approval Request to District

April 12, 2010

[Research Supervisor]
[Sample District]
[Sample District Address]

To Whom It May Concern:

My name is Victoria Johnson and I am a student in the Master of Education program at Weber State University. In cooperation with Weber State University, I am conducting a research study regarding teacher training in child and adolescent development, or developmental psychology, within teacher preparation programs. The research committee expects that this study will directly benefit university programs for pre-service teachers. Although I am not currently teaching, I live within the Weber District.

Strong research has indicated that in-depth training in developmental psychology is crucial in order for teachers to fully understand the learning needs of the children they teach. The National Institute of Child Health and Human Development and the National Council for the Accreditation of Teacher Education, in particular, have emphasized that the vulnerability of children is at risk when teachers lack the resources to meet their developmental needs and that the resulting harm directly affects the achievement level of students.

Because the research has strongly recommended more emphasis in developmental psychology for pre-service teachers, I have found it needful to seek additional information from the teacher's point of view, as this aspect is lacking in the research. In connection with faculty at Weber State University, I have developed a short questionnaire to explore the needs and perceptions of elementary teachers regarding developmental psychology training in teacher education programs. I would like to distribute this questionnaire to a sample of 1-6 grade level teachers in four schools within the Weber District. Full measures will be taken to protect the confidentiality and privacy of the surveyed participants so that all results collected will remain anonymous.

Thank you for your time and effort in considering this research project,

Victoria Johnson
Weber State University
Master of Education candidate
[Researcher Address]

Appendix G

Research Approval Letters

April 19, 2010

Victoria Johnson
Weber State University
Ogden, Utah

Dear Ms. Johnson:

Weber School District is committed to quality education and supports the efforts made by all individuals and groups who wish to improve it through research and study. As a state agency charged with the education and safety of the students who attend our school, we take a close look at the many proposals that are sent to us.

Please recognize our commitment to children and know that all decisions we make are made with them in mind. We wish you the best and hope for your success in education.

Your project is approved __X__ Date: April 19, 2010_____

Your project is rejected _____ Date: _____

Respectfully,

Scott Zellmer
Supervisor of Research and Testing
Weber School District

WEBER STATE UNIVERSITY

INSTITUTIONAL REVIEW BOARD (IRB)

April 12, 2010

Victoria Johnson
2549 West 2575 North
Far West, UT 84404

Victoria,

Your project entitled "Meeting Learner Needs Through Developmental Practice: An Approach to Teacher Preparation Reform" has been reviewed and is approved as written. The project was reviewed as "exempt" because it comprises using assessments which would normally be used.

Subjects are considered adults and may choose not to participate. Notification of the study and how data will be reported are appropriate. No individual subject data will be revealed. All subject information will be confidential. Please seek permission from the site/district.

Anonymity and confidentiality are addressed appropriately, and the type of information gathered could not "reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation" (Code of Federal Regulations 45 CFR 46, Section 46.101.)

You may proceed at this time.

Please remember that any anticipated changes to the project and approved procedures must be submitted to the IRB prior to implementation. Any unanticipated problems that arise during any stage of the project require a written report to the IRB and possible suspension of the project.

A final copy of your application will remain on file with the IRB records. If you need further assistance of have any questions, call me at 626-7370 or e-mail me at lgowans@weber.edu.

Sincerely,

Linda Gowans

Linda Gowans, Ph.D.
Chair, Institutional Review Board, Education Subcommittee