EARLY CHILDHOOD COGNITIVE DEVELOPMENT:

A DESCRIPTIVE STUDY ON THE EFFECTIVENESS OF PRESCHOOL CURRICULA

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Abstract

This study examined the lack of rigorous, systematic evaluation of preschool curricula utilizing three survey instruments developed by NSSE: *Parent/Guardian Questionnaire, Staff Questionnaire, Program Specific Indicators of Teaching and Organizational Effectiveness*. The measures were designed to reflect the concepts of developmentally appropriate practices (DAP) as presented in the revised 2005 NAEYC guidelines, Association of Christian Schools International *Intended Student Outcomes*, and The National Study of School Evaluation (NSSE) accreditation assessment instruments. Two hundred surveys completed by nonprofit, Christian early childhood center administrators across the United States were utilized in this study. Quantitative data presented utilizing NSSE’s psychometric instruments provides the information necessary for documenting the lack of systematic evaluation of curriculum selection, teaching, and assessment practices. Researchers have developed taxonomy of three primary categories and 29 subcategories of factors influencing student achievement. To give the taxonomy utility for purposes of this study about school improvement, NSSE researchers described the categories as “core tasks” and “effective tasks,” which have been identified as important to educational practices and improved student learning (National Study of School Evaluation, 2004). The study provides rigorous evidence of the need to strengthen and improve the quality of the school’s selected curricula and produce educationally meaningful changes in a traditionally didactic approach to pedagogy.
Dedication

I dedicate this to my sons, my nieces, and my nephews: Bachman-Joseph, Joshua, Adam, Alexandra, Kyle, Emily, Jace, Sara, and Isaac. Without you this would not have been possible. Thank you for providing me with the inspiration and love I needed to spark the passion necessary to desire better education for children everywhere.
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CHAPTER 1. INTRODUCTION

Introduction to the Problem

America's young children stand on the brink of a new era for preschool learning, occasioned by three converging trends: (a) an unprecedented number of working mothers, creating a strong and increasing demand for child care; (b) a consensus among professionals and (increasingly) parents that the care of young children should provide them with educational experiences; and (c) growing evidence from child development research that young children are capable learners and that educational experiences during the preschool years can have a positive impact on school learning. Thus, a convergence of practical, moral, and scientific considerations leads to heightened interest in the education of young children and new opportunities for the improvement of their learning and the enhancement of their lives.

In recent years, investments in early care and education for children under 5 years old have dramatically increased at both the federal and state levels. Using the 2002 value of the dollar as a constant, federal expenditures on direct services for early care and education increased from about $8.8 billion to $16.3 billion between 1992 and 2001 (Barnett & Masse, 2003). At the state level, total spending for child development and family support efforts has increased by almost 90% since 1998. In 2000, state investments alone totaled more than $3.7 billion, a dramatic increase over a mere two-year period (Cauthen, Knitzer, & Ripple, 2000).

Prekindergarten programs in 1987 were subsidized by state or local funds in 27 states. For purposes of this research, the term prekindergarten refers to an educational program for 4-year-old children prior to their entrance in kindergarten (Morrison, 1991). Programs for children considered to be at risk had been implemented in 20 states, and 7 states had programs open to all children who met age eligibility requirements (Mitchell, Seligson, & Marx, 1989). Two years
later in 1989, 31 states had prekindergarten programs supported by state funds (Mitchell, 1989), and, by the 1991-1992 school year, 32 states had invested approximately $665 million in prekindergarten programs in which approximately 290,000 children received services (Adams & Sandfort, 1994).

Millions of families and children each year are assisted by these programs and other federally and state-funded programs. In fact, organizations such as the National Governors’ Association, the National Association of State Boards of Education (NASBE), and the National Commission on Children have asked for additional investment in early childhood programs because researchers have found that early childhood programs provide long-term cognitive and social benefits to children (Gomby et al., 1995). Moreover, members of the National Governors’ Association identified preschool education as a key investment by state governments in education (Mitchell et al., 1989).

As part of this identification process, the National Governors’ Association, along with then President George Bush, held an Education Summit in fall 1989, during which six national education goals were established. The goals, referred to as America 2000, were as follows: (a) all children in America will start school ready to learn; (b) the high school graduation rate will increase to at least 90%; (c) American students will leave grades 4, 8, and 12 having demonstrated competency in English, mathematics, science, history, and geography; (d) American students will be first in the world in science and mathematics achievement; (e) every adult American will be literate; and (f) every school in America will be free of drugs and violence (Reed & Bergemann, 1992). These goals became Goals 2000: Educate America Act (Reed, Bergemann, & Olson, 1998) in 1994, as well as two additional goals relating to teacher education and parental participation. With the school readiness goal placed first in the list of
Goals 2000, renewed interest in and national attention to early childhood programs increased, and the importance of school readiness was established.

Previously, interest in school readiness was evident with the establishment of programs related to the preparation of children for formal schooling and the education of children who were at risk of dropping out of school. For example, during the War on Poverty in the 1960s, programs such as Project Head Start (Spring, 1994) and the Ypsilanti, Michigan, Perry Preschool Project (Schweinhart & Weikart, 1993) received national attention. In an attempt to raise the achievement levels of preschool-age children and to close the achievement and economic gap between children of low-income and middle-income families, the Perry Preschool Project was developed (Urban Strategies Council, 1988).

Although interest in school readiness was present in the past, the issue has become an important educational topic of much discussion and debate over the last several years (Gredler, 1992). Much of the recent interest in school readiness has focused on children’s readiness levels upon entrance into kindergarten and has based on an understanding of current circumstances of children’s lives (Kagan & Meisels, 1992). Factors such as poverty, health issues, prenatal care, and access to quality prekindergarten programs relate to children’s readiness for school (Southern Regional Education Board [SREB], 1992), with poverty and economic instability being two of the most powerful predictors of children’s lack of success in school (National Governors’ Association, 1992). In fact, members of the National Association for the Education of Young Children [NAEYC] (1990) believed educators should reject the idea that readiness is something children must possess when they enter school. Instead, a commitment to promote universal school readiness should be made by addressing the inequities in the early life experiences of children so all children have access to opportunities that promote educational
success. Here the NAEYC position is that the onus is on schools to be ready for students and not on students to be ready for schools.

Of vital concern to educators is the placement of preschool-age children in healthy and positive learning environments before they begin school (Van Zant & Camozzi, 1992). Paul (1995) purported that quality early childhood programs should be our nation’s number one priority. He believed these programs would do more to counteract economic and ethnic group differences relating to student outcomes than any other changes that would occur in American education. Paul’s beliefs are supported by findings from a study conducted by Schweinhart, Barnes, and Weikart (1993). They concluded that children who attended a quality prekindergarten program had higher earnings and fewer criminal arrests at age 27 than children with no prekindergarten experience. Barnett (1995) reported that high-quality prekindergarten programs are found to have long-term cognitive benefits for children, as well. For example, children who attended quality prekindergarten programs were less likely to be retained or placed in special education classes than children who had not attended a prekindergarten program (Barnett, 1995; The Consortium for Longitudinal Studies, 1983).

In addition to educational benefits for children who attend quality prekindergarten programs, cost benefits have also been reported. Lewis (1993) stated that for every dollar invested in a high-quality prekindergarten program, $7.16 is saved. For example, dollars invested in quality prekindergarten programs help children succeed later in life; this ends up saving society money by reducing social expenditures for welfare, prison, and unemployment (Futrell, 1987). In relation to these findings, members of the American Psychological Association Commission on Violence and Youth (1993) believed quality prekindergarten programs play a
significant role in preventing violence because the programs can help build the foundation of children's attitudes, knowledge, and behavior related to aggression.

Legislators and business leaders maintain that high-quality early education for all children was a needed investment and not an expense (Strother, 1987). Accordingly, Adams and Sandfort (1994) believed the first goal of Goals 2000 concerning school readiness will not be achieved unless all children have access to high-quality prekindergarten and childcare programs. Such programs are critical in providing a foundation for later learning and in preparing children to enter the future workforce (Smith, Fairchild, & Groginsky, 1995).

With the large increase in the number of prekindergarten programs, concerns about providing quality programs have increased. Criteria for quality prekindergarten programs have been established by the NAEYC (1986), the Southern Association on Children under Six [SACUS] (1986), and the National Conference of State Legislatures (Smith et al., 1995). Standards-based education, once an ambitious initiative to reform K-12 education, is about to establish a foothold in the prekindergarten (pre-K) years. Federal initiatives including Good Start Grow Smart (2002), Child Care and Development Fund (CCDF) state plans (2002), and proposals for the reauthorization of Head Start call upon states to seriously review and, in some cases, develop pre-K guidelines or standards in literacy, language, and mathematics to be aligned with state K-12 standards. Seen as a critical part of a state's architecture for developing systems of service delivery for young children (Schweinhart, 2003), early learning standards have the potential to help frame content and curriculum, professional development, and assessments, for helping children in early care and education settings to develop school readiness skills. Appropriate class size, comprehensive services, low teacher/child ratios, parent involvement, developmentally appropriate practices, and qualified teachers are characteristics considered
essential in developing and implementing quality prekindergarten programs (Cummings, 1991; Day & Thomas, 1988; Mitchell, 1989; Morado, 1986; Schweinhart, 1988). Weikart (1989) recommended that comprehensive services clearly link to health, nutrition, and social support services. In addition, Weikart believed administrative support was essential in providing high-quality prekindergarten programs.

Early childhood education, prekindergarten programs, and school readiness are areas of concern that have been important to the educational community for a number of years. However, not since the 1960s and the creation of Project Head Start has so much emphasis been placed on these educational issues (Kagan, 1987). With the introduction of America 2000 in 1989 and Goals 2000 in 1994, which included eight national education goals, increased emphasis has been placed on the topic of early childhood education.

The first of the national goals, that all children in America will start school ready to learn by the year 2000 (Parkay & Stanford, 1995), focused public attention on the quality of our nation's educational system and early childhood education programs for 4- and 5-year-old children. As evidence of the first goal's importance, in a survey conducted by Elam, Rose, and Gallup (1993), respondents were asked how high a priority the first national education goal should have for the remainder of the decade. Of the respondents, 41% assigned very high priority and 48% assigned high priority to the first national education goal.

Despite a rapid and significant infusion of funds, many educators are concerned about the quality of services and their ability to yield and sustain the outcomes desired by policymakers (Cost, Quality, and Child Outcomes [CQO] Study Team, 1995; Galinsky, Howes, Kontos, & Shinn, 1994; Kagan & Cohen, 1997). High-quality prekindergarten improves school readiness. It provides children with the cognitive, academic, social, and emotional skills they require to be
successful in elementary school. The benefits of quality prekindergarten for children three to four years old go beyond the first years of school. Research shows that children in prekindergarten programs aligned with the educational goals of early elementary school are more likely to graduate from high school and be productive citizens (Cost, Quality, and Child Outcomes [CQO] Study Team, 1995). They are also less likely to have children during their teenage years or to become entangled in the criminal justice system.

In recent years, educators and policymakers have begun to recognize the benefits of good prekindergarten programs and, as a result, have been working to expand such programs. State-funded prekindergarten programs, operating in 40 states across the nation, now serve nearly 800,000 children each year. Governors, state departments of education, local school districts, and human service agencies are currently making crucial choices about how to best invest in their state’s early education programs so that children entering kindergarten are prepared to succeed.

The need for rigorous evaluation of available preschool curricula in the private Christian school market is driven by a national focus on the importance of high-quality early child care and preschool experiences. Each year, more children participate in child care and other preschool programs than ever before due to welfare reform and the participation of more mothers in the workforce (Gallagher, Clayton, & Heinemeier, 2001). The current Administration has emphasized high-quality early child care, early cognitive development, and early literacy through the No Child Left Behind legislation, Early Reading First and the Interagency Task force on Early Childhood Development.

The curricula implemented in these programs are the vehicles through which the goals of these initiatives will be achieved. Thus, it is critical that preschool administrators evaluate
program offerings and work toward goals that require research-based evidence to support their curriculum choices.

Background of the Study

Historically, prekindergarten programs in America have been supported by both private and federal funds. Federally supported prekindergarten programs were established to help poor families, unemployed parents, working parents, and disadvantaged children (Karweit, 1988). According to Zigler and Styfco (1994), federal funds for prekindergarten programs increased in 1964 when the EOA was passed, the War on Poverty began, and Project Head Start was developed. The federal cost for each child enrolled in Head Start program in 1994 was $4,345 with appropriated funds for the 1995 fiscal year of $3.5 billion. Federal funds appreciated for Head Start programs were used for 80% of the cost of operations and the other 20% of costs were provided by state and local funding (The Future of Children, 1995). Head Start programs have been provided for 14,594,000 children since the program began in 1965 (Zigler & Styfco, 1994).

Although federal funding of prekindergarten programs increased with the passing of the Economic Opportunity Act (EOA) of 1964, the majority of prekindergarten programs were operated by private agencies. These private prekindergarten programs, which have been in existence since 1922 (Hymes, 1988), were established for Caucasian children from high-income families whose mothers were not in the workforce (Karweit, 1988). The purposes of private programs were to provide educational enrichment and socialization for children, not to free mothers to enter the workforce (McGill-Franzen, 1993; Williams & Fromberg, 1992).

Enrollment for both public and private prekindergarten programs has increased substantially over the last three decades. In 1964, approximately 15% of all 4-year-old
children attended prekindergarten programs. From 1970 to 1983, public and private prekindergarten enrollment increased from approximately 4.3 million children to 5.7 million children despite a decline in the population of 3- to 5-year-old children during this time period (Karweit, 1988). Prekindergarten enrollment for children 3 and 4 years of age increased from 10.6% in 1965 to 48.7% in 1995 (National Center for Education Statistics [NCES], 1996). Between 1991 and 2001, the percentage of children ages 3-5 who had not yet entered kindergarten and who attended center-based early childhood care and education programs—such as Head Start, nursery school, and prekindergarten—rose from 53-56% (The Condition of Education, 2002).

Nationally, almost half of all 4-year-old children were enrolled in a prekindergarten program in 1986 (Stern & Williams, 1986). In 1995, approximately 61% of the nation’s 4-year-old children were enrolled in public and private prekindergarten programs (NCES, 1997). The greatest attendance growth of prekindergarten programs occurred between 1975 and 1984 in private programs (Karweit, 1988). Mitchell et al. (1989) believed the growth in private prekindergarten enrollment may have been related to family income; the higher the income of the family, the more likely the child attended a private prekindergarten program. Also, Mitchell et al. reported that more children from high-income families may have been enrolled in private programs than children from low-income families because during this time public school program enrollment was limited to children from low-income families.

Attendance for public school prekindergarten programs increased, as well. The number of children enrolled in public school prekindergarten programs increased from 25% in 1965 to 37% in 1988 (Karweit, 1988). Increase in enrollment in public school settings resulted from the
development of state-supported public school programs created for at-risk children and for children who were not enrolled in Head Start (Karweit, 1988; Zigler & Styfco, 1994).

With the increase in the number of prekindergarten programs and because approximately twice as many prekindergarten programs in the late 1980s were private programs rather than public programs, regulation to determine quality of the private programs became a problem. One of the problems concerned staffing. A majority of teachers in private programs lacked the early childhood training required of public school teachers. In fact, the majority of prekindergarten teachers in private programs are considered child care givers rather than educators. This role perception affected the quality of the programs at many sites (Reed & Bergemann, 1992).

As interest in education for preschool-age children and public school sponsorship of prekindergarten programs increased, the number of states that invested in programs to help preschool-age children succeed in school increased, as well. States that provided education-related services to preschool-age children almost tripled between 1979 and 1992. For example, in 1979, seven states had appropriated funds for prekindergarten programs in their public school systems (Mitchell, 1989). Ten states had state-funded prekindergarten programs in 1984 (Mitchell & Modigliani, 1989). In 1991-1992, 32 states had well-established prekindergarten initiatives (Adams & Sandfort, 1994). Most of the states used their funding from the initiatives to either expand Head Start programs and other federally funded prekindergarten programs or to support new state prekindergarten programs. Related services, as well as prekindergarten programs, were provided for 3- and 4-year-old children through some of the state initiatives. Approximately half of the programs implemented had a comprehensive services component designed for at-risk children and their families (Adams & Sandfort, 1994).

By the end of 1992, states were investing a total of approximately $665 million in
prekindergarten programs in which services were provided to approximately 290,000 children (Adams & Sandfort, 1994). The investment in state funding initiatives for prekindergarten programs may have increased due to the support of various educational organizations. For example, organizations like NAEYC, the Task Force on Early Childhood Education for the NASBE, the Carnegie Foundation for the Advancement of Teaching, the Committee for Economic Development (CED), and the National Governors’ Association had taken an active role in promoting prekindergarten funding initiatives (Reed & Bergemann, 1992).

Of particular interest for this study was the growth of prekindergarten programs in southern states. According to Creech (1996), a little over a decade ago only a few southern states had well-developed prekindergarten programs; however, since 1989, prekindergarten program enrollment in southern states doubled. In most southern states funding was provided for Head Start to meet the needs of 3- and 4-year-old disadvantaged children. The number of children enrolled in Head Start programs in southern states increased 65% since 1991. Some southern states added prekindergarten programs that serve at-risk children and disadvantaged children who were not enrolled in Head Start programs due to limited space.

Shipley and Oborn (1996) compared the effectiveness of four types of prekindergarten programs: Head Start, Montessori, public prekindergarten, and private day care programs. The researchers concluded that the development of an effective public school prekindergarten program must include a set of criteria designed to implement the instructional strategies of all four types of prekindergarten programs in the study. Also, Shipley and Oborn developed a model for public school prekindergarten programs, which included the following components: (a) connections to service agencies to increase parent involvement; (b) effective teacher training; (c) attachment to existing public school buildings and joining the elementary school routine; and
(d) curricular connections between prekindergarten programs and kindergarten programs.

Marcon (1996) conducted a similar longitudinal study to determine the effectiveness of three prekindergarten models. Models compared were a child-initiated model, a didactic, academically directed model, and a model that was a combination of the child-initiated model and the academically directed model. The didactic, academically directed model and the combination of the child-initiated model and the academically directed model were shown to have negative effects on the participants during their transition from third grade to fourth grade. For example, participants who attended the academically oriented model program and the combination of the child-initiated model and the academically directed model program performed more poorly in academic achievement and social development than did their peers who had attended the child-initiated model program.

Because children's experiences from birth to the age of 5 have been determined to be crucial in the development of general intelligence and 50% of intelligence development occurs by age 4 (Bloom, 1964), attention must be given to providing quality, effective prekindergarten programs for young children (NAEYC, 1986). Comer (1989) purported that unless children are prepared to function adequately in society, the quality of life in the nation will be lowered and democratic ideals will never be realized. Public interest has been generated about curriculum development for young children that is active and engaging, validated by brain research and the standards movement (National Association of Early Childhood Specialists in State Departments of Education in the United States, 2004). High-quality early education has proven to produce long-lasting results and policy makers are keenly interested in what and how children should be taught birth through age eight (Joint position paper NAECE/SDE). Within this review of literature, the following topics will be discussed: history of early childhood education in America,
public and private prekindergarten program development, characteristics of quality prekindergarten programs, educational benefits of prekindergarten programs, cost benefits of prekindergarten programs, and readiness for kindergarten.

Statement of the Problem

This research was intended to address the lack of rigorous, systematic evaluation of preschool curricula in use. Specific attention will be given to the private Christian preschool market and how it makes curriculum and assessment choices for the students they serve. The study will provide rigorous evidence of the need to strengthen and improve the quality of these school's selected curricula and produce educationally meaningful changes in a traditionally didactic approach to pedagogy.

Purpose of the Study

The purpose of this study was to implement evaluations of preschool curricula that will provide information to support informed choices of classroom curricula for early childhood programs. After examining curricula used in a random sample of private preschool programs, empirical data will exist to support the lack of research-based teaching, assessment, and curricula that sequences developmentally appropriate concepts and links them to larger ideas.

Research Questions

- In developing curriculum or deciding whether a particular curriculum is appropriate, is the curriculum itself supported by a body of research that supports a “best practice” approach to instruction?
- Does the curriculum promote interactive learning, engagement, and encourage the child’s construction of knowledge?
- Is the curriculum based on a set of quality standards?
• Is goal-oriented skill development ignored in the content?

• Is there a balance of developmentally appropriate practices with attention to academic content?

• Does the curriculum lead to conceptual understanding by helping children construct their own understanding in meaningful contexts?

• Are private Christian preschools harming the growth and development of children, thereby impacting school readiness by utilizing didactic instructional models?

Rationale

Research has concluded that well-implemented preschool curriculum models, regardless of their theoretical orientation, had similar effects on children’s intellectual and academic performance. Scripted teacher-directed instruction, touted by some as the surest path to school readiness, seems to purchase a temporary improvement in academic performance at the cost of missed opportunity for long-term improvement. Within the past several years, an increasing number of professionals have noted that educational curriculum for young children lacks a strong empirical research base. Knowledge on which early childhood education programs are developed has been described as professional judgment and best opinion (White, 1985). This lack of empirical support has not hindered the development of programs; as White noted, “there is not a scarcity of programs, there is a scarcity of good data” (p. 16).

As in other areas of early childhood education, various best practices in curriculum content have become controversial practices due to the lack of empirical support. The fundamental underlying strategy of new curricula rests in the way they sequence developmentally appropriate concepts and progressively link and web together toward a grand
idea. Without such a strategy, the curriculum is a counterfeit curriculum, which includes an eclectic collection of activities with weak, if any, linkages and no long-range goals or purpose.

Overview of Methodology/Research Design

This study investigated particular descriptive characteristics of preschool curricula with a focus on developmentally appropriate practices, with corresponding selection criteria that is supported by a body of research that supports a best practice approach to instruction that utilized the survey method. The following survey was used to take into account the perspectives of the school stakeholders in decision-making and school improvement planning efforts: *Indicators of Organizational and Teaching Effectiveness* web-based surveys. This survey was built on the research-based practices and organizational conditions that contribute to improved student performance. Respondents rated practices and conditions as strongly agree, agree, neutral, disagree, strongly disagree, and does not apply/do not know. This inventory contains items on the following topics:

*Research-Based Practices*

- Expect results
- Monitor performance
- Support student learning
- Maximize teachers’ effectiveness
- Develop a professional learning community
- Lead for improvement

*Organizational Conditions for Improving Schools*

- Quality teachers
- Effective leadership
Using a survey to collect information about stakeholders’ perspectives is a common method of collecting data. It is efficient and cost-effective and can provide a variety of viewpoints in a short amount of time. Some risks are also inherent in any data collection methodology. Biased items or poor response rates can lead to misinterpretation. Also, the extent to which “perceptions” reflect reality is often questioned. The corporate office of Christian Early Education through the Association of Christian School International (ACSI) assisted in contacting member early childhood centers to encourage their participation in the research study. The contact announcement informed participants of the importance of their survey participation, provided instructions, and provided the necessary web link to the researcher in order to secure their unique access code. The survey asked respondents to select curriculum used in a random sample of private Christian preschool programs across the four regions of the United States. Empirical data collected provided a measure of research-based teaching, curriculum implementation, and organizational effectiveness as compared to research-based principles of effective early childhood programs (NSSE, 2005).

Expected Results

Learning and development are so individualized; it is neither possible nor desirable to establish uniform age-appropriate expectations. However, it is possible to identify parameters to guide decisions about the appropriateness of curriculum expectations. The researcher expects that the data will support the idea that the development of early childhood curriculum selection is based on professional judgment and best opinion versus good data. The researcher also expects
to find a scarcity of research-based teaching and curricula that sequences developmentally appropriate concepts and links them to larger ideas.

Definition of Terms

The following terms are defined based upon their use in this study:

Authentic task - A task performed by a student that has a high degree of similarity to tasks performed in the real world.

Average - A statistic that indicates the central tendency or most typical score of a group of scores. Most often average refers to the sum of a set of scores divided by the number of scores in the set.

Ceiling - The upper limit of ability that can be measured by a particular test.

Dimensions, traits, or subscales - The subcategories used in evaluating a performance or portfolio product (e.g., in evaluating students’ writing one might rate student performance on subscales such as organization, quality of content, mechanics, style).

Domain-referenced test - A test in which performance is measured against a well-defined set of tasks or body of knowledge (domain). Domain-referenced tests are a specific set of criterion-referenced tests and have a similar purpose.

Grade equivalent - The estimated grade level that corresponds to a given score.

Informal test - A nonstandardized test designed to give an approximate index of an individual’s level of ability or learning style; often teacher-constructed.

Inventory - A catalog or list for assessing the absence or presence of certain attitudes, interests, behaviors, or other items regarded as relevant to a given purpose.

Item - An individual question or exercise in a test or evaluative instrument.

Norm - Performance standard that is established by a reference group and that describes
average or typical performance. Usually norms are determined by testing a representative group then calculating the group’s test performance.

Normal curve equivalent - Standard scores with a mean of 50 and a standard deviation of approximately 21.

Norm-referenced test - An objective test that is standardized on a group of individuals whose performance is evaluated in relation to the performance of others; contrasted with criterion-referenced test.

Percent score - The percent of items answered correctly.

Percentile - The percent of people in the norming sample whose scores were below a given score.

Performance assessment - An evaluation in which students are asked to engage in a complex task, often involving the creation of a product. Student performance is rated based on the process the student engages in and/or based on the product of his or her task. Many performance assessments emulate actual workplace activities or real-life skill applications that require higher order processing skills. Performance assessments can be individual or group-oriented.

Performance criteria - A predetermined list of observable standards used to rate performance assessments. Effective performance criteria include considerations for validity and reliability.

Performance standards - The levels of achievement pupils must reach to receive particular grades in a criterion-referenced grading system (e.g., higher than 90 receives an A, between 80 and 89 receives a B, etc.) or to be certified at particular levels of proficiency.

Prompt - An assignment or directions asking the student to undertake a task or series of
tasks. A prompt presents the context of the situation, the problem or problems to be solved, and criteria or standards by which students will be evaluated.

Reliability - The extent to which a test is dependable, stable, and consistent when administered to the same individuals on different occasions. Technically, this is a statistical term that defines the extent to which errors of measurement are absent from a measurement instrument.

Rubric - A set of guidelines for giving scores. A typical rubric states all the dimensions being assessed, contains a scale, and helps the rater place the given work properly on the scale.

Screening - A fast, efficient measurement for a large population to identify individuals who may deviate in a specified area, such as the incidence of maladjustment or readiness for academic work.

Standard scores - A score that is expressed as a deviation from a population mean.

Standards-based education – early learning standards are defined as expectations for what children should learn and be able to do at certain age levels.

Stanine - One of the steps in a nine-point scale of standard scores.

Task - A goal-directed assessment activity, demanding that the student use their background of knowledge and skill in a continuous way to solve a complex problem or question.

Validity - The extent to which a test measures what it was intended to measure.Validity indicates the degree of accuracy of either predictions or inferences based upon a test score.

Dimensions and Criteria of Children’s Early Learning, Development, and Abilities

Each of the five dimensions of early learning, development, and abilities includes a number of criteria for assessment.
Physical Well-Being and Motor Development:

Physical development - rate of growth, physical fitness, and body physiology; prevention of diseases; disabilities

Physical abilities - gross-motor skills, fine-motor skills, sensorimotor skills, oral motor skills, and functional performance

Social and Emotional Development:

Emotional development - feeling states regarding self and others, including self-concept; emotions, such as joy, fear, anger, grief, disgust, delight, horror, shame, pride, and guilt; self-efficacy; and the ability to express feelings appropriately, including empathy and sensitivity to the feelings of others

Social development - ability to form and sustain social relationships with adults and friends, and social skills necessary to cooperate with peers; ability to form and sustain reciprocal relationships; understanding the rights of others; ability to treat others equitably and to avoid being overly submissive or directive; ability to distinguish between incidental and intentional actions; willingness to give and receive support; ability to balance one’s own needs against those of others, creating opportunities for affection and companionship; ability to solicit and listen to others’ points of view; being emotionally secure with parents and teachers; being open to approaching others with expectations of positive and prosocial interactions, or trust

Approaches toward Learning:

Predispositions - gender, temperament, and cultural patterns and values

Learning styles - openness to and curiosity about new tasks and challenges; initiative, task persistence, and attentiveness; approach to reflection and interpretation; capacity for invention and imagination; and cognitive approaches “styles” to tasks
Language Development:

Verbal language - listening, speaking, social uses of language, vocabulary and meaning, questioning, and creative uses of language

Emerging literacy - literature awareness, print awareness (including assigning verbal labels to familiar letters, sound-letter combinations, and recognizing own name in writing), story sense (beginning, middle, end), and writing process (ordered scribbling, producing writing configurations)

Cognition and General Knowledge:

Knowledge - physical knowledge, logic-mathematical knowledge, and social conventional knowledge

Cognitive competencies - representational thought, problem solving, mathematical knowledge, social knowledge, and imagination

Assumptions and Limitations

There were two primary assumptions made in this study. The first assumption was that the members of the Association of Christian Schools International Early Education Program, selected at random from the ACSI corporate office, were representative of the private Christian early childhood education constituency. While the survey participants represented the wide variety of early childhood centers associated with ACSI, there was no way to assure that all members of the represented group were being heard.

The second assumption of the study included the following: survey participants may not have had a clear understanding of definitional descriptions and terminology; program selection was varied and carried with it the administrative bias toward particular program selection and content; and subjective judgment was used to categorize data.
Limitations of the study included:

1. The survey was dependent upon direct communication with persons having characteristics, behaviors, attitudes, and other relevant information appropriate for this investigation. This made them reactive in nature; that is, the survey directly involved the respondents in the assessments by eliciting a reaction.

2. The survey only involved respondents who were accessible and cooperative.

3. The surveys were vulnerable to over-rater or under-rater bias, which is the tendency for respondents to give consistently high or low ratings.

Organization of the Remainder of the Study

This study is organized in a five-chapter model. The first chapter is an introduction to the study. It includes the following components: introduction to the problem, background of the study, statement of the problem, purpose of the study, rationale, research questions, significance of the study, definition of terms, assumptions and limitations, nature of the study, and organization of the remainder of the study.

The second chapter provides a review of the relevant literature. It includes a review of best practice theories for early childhood education in the area of academic achievement and curriculum selection. It looks at pedagogical practices and how they affect these areas. This chapter will also provide a brief overview of brain development and learning and the impact of this new research on educational practices.

The third chapter provides a description of the methodology. The fourth chapter is a presentation and analysis of the data. The fifth chapter provides a summary and discussion of the results, conclusions, and recommendations.
CHAPTER 2: LITERATURE REVIEW

History of Early Childhood Education in America

Historically, young children in America have always been provided opportunities to participate in educational programs. During the colonial era, 1620-1750, families sent their very young children to school if schools were available. The Puritans believed children should learn to read the Bible as soon as possible; therefore, children were taught to read when they were 3 or 4 years of age (Spodek, 1988). Young children often attended dame schools where women would teach reading and writing in their homes. Readers should note that typically children from more affluent circumstances were more likely to attend these dame schools than were children from less affluent circumstances. When district schools were established for older children, many parents sent their younger children to these schools along with their older children (McGill-Franzen, 1993). In fact, differences in the education of young children and the education of older children did not exist during this time (Spodek & Saracho, 1994).

Changes regarding differences in how younger and older children were educated were made at the beginning of the nineteenth century with the development of teaching methods appropriate for children in their early years. Public and private schooling were offered to very young children during this time. Primary schools, also known as common schools, were public schools established to provide instruction in the basic skills of reading, writing, and arithmetic. Young children were often enrolled in primary schools, learned to read at age 3 or 4, and began Latin instruction at age 5 or 6. Interestingly, in 1826, 5% of all children enrolled in public schools were below 4 years of age (Spodek & Saracho, 1994). Readers should again note that the children who went to these schools were typically from more affluent circumstances than children who did not attend these schools.

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According to Mitchell et al. (1989), the history of early childhood education in the United States is generally believed to have begun in Boston in 1828 with the opening of the Boston Infant School, considered the country’s first day care center. This day care center accepted children between the ages of 18 months and 4 years of age. Two purposes of the Boston Infant School were to enable mothers to work and to provide a more appropriate setting for children other than their home with emphasis being placed on the importance of children’s early years before the age of 6. The Boston Infant School, as well as other infant schools, was modeled after infant schools in Scotland developed by Robert Owen, a Welsh educator. Infant schools established in Scotland were for children 2 to 6 years of age whose mothers worked in factories. While the mothers were working, children received moral and literary instruction (Spodek & Saracho, 1994).

Another type of school for young children was the day nursery. The first day nursery for children ages 6 weeks to 6 years opened in New York in 1854 and was affiliated with New York Hospital. This day nursery was established for children of poor women and the focus of the program was hygiene and custodial care of the children who attended the program. In addition to providing custodial care for young children, in most day nurseries, mothers of children enrolled in the program were taught parenting skills and were provided employment services. Eventually, the day nursery at New York Hospital became the model on which today’s nursery schools are based (Mitchell et al., 1989).

Expansion of day nurseries took place throughout the nineteenth century, especially during the 1880s and 1890s when many European immigrants were arriving in America. By 1898, 175 day nurseries were in existence. However, around 1900, the number of day nurseries
began to decline due to changes in societal perceptions of the appropriate maternal role, poverty, and the role of government in social welfare (Mitchell et al., 1989).

During the time day nurseries were being established, the first kindergartens for English-speaking children were opening in Boston in 1860. Tuition for kindergarten was high compared to fees for the day nurseries, resulting in kindergarten programs being geared to children of educated, well-to-do families. However, in 1870, the Boston, Massachusetts, school board opened a tuition-free, experimental kindergarten for children between 4 and 6 years of age in one of the public schools. A second, tuition-free public kindergarten opened in Brighton, Massachusetts, in 1873 (Mitchell et al., 1989).

Kindergarten programs were based on the works of Friedrich Froebel, philosopher and educator, who developed kindergarten programs in Germany. The educational philosophy of kindergarten programs, based upon a religious philosophy of the unity of nature, God, and humanity, distinguished it from other programs for young children (Spodek & Saracho, 1994). Froebel’s philosophical ideas were that childhood was not just a transition toward adulthood and a child’s play was not merely a preparation for adult life. Thus, kindergarten programs included activities for self-development and socialization of children conducted through songs, stories, and games (Reed & Bergemann, 1992).

The initial expansion of kindergarten in the Massachusetts region continued in the St. Louis public school system with the opening of experimental classrooms in 1873 (Mitchell et al., 1989). By 1880, 400 kindergartens had been established in 30 states. Although advocates of kindergartens were divided on the issue of whether preparation for the academic work of first grade should be stressed or whether an emphasis should be placed on the moral, emotional, physical, and social development of children (a continuing debate today), kindergartens had
become a major force in American education by 1900 (Parkay & Stanford, 1995). By the turn of the century, over half of all kindergartens in the United States were operated by public school systems (Kahn & Kamerman, 1987).

In addition to kindergartens, during the latter part of the nineteenth century other educational programs were being offered to young children. John Dewey established a Laboratory School at the University of Chicago in 1896. This school opened with 2 instructors and 16 students. By 1902, 140 students ranging in age from 4 to 14 were enrolled in the program. The philosophy of the Chicago Laboratory School was based on the idea that children learned from their experiences and acquired skills as they were needed. Therefore, the curriculum at the Chicago Laboratory School was child-centered and was organized to correspond with each child’s experiences (Parkay & Stanford, 1995).

A second type of educational program offered to young children at the turn of the century was the nursery school. The first nursery school was organized by a group of faculty wives at the University of Chicago in 1915 to provide socialization and play activities for their children (Mitchell et al., 1989). Other nursery school programs were established during the nursery school movement in the 1920s and were directed toward the cognitive enrichment of upper- and middle-class children. Children attended nursery schools because experiences were considered beneficial for their social and educational development (Condry, 1983; McGill-Franzen, 1993). Most nursery school programs differed from previously existing programs for young children because they were half-day programs rather than full-day programs (Grubb, 1991).

For the next two decades, the nursery school movement spread throughout the United States. By 1931, 203 nursery schools were in existence. Approximately half of these nursery schools were affiliated with colleges and universities, a third of the nursery schools were private,
and a fifth of the nursery schools were part of child welfare agencies (Spodek & Saracho, 1994). Some earlier nursery schools were established at Teachers College, Columbia University, and the Merrill Palmer School of Motherhood and Home Training. Also, a small number of nursery schools were established within public school systems (Condry, 1983). All nursery schools were concerned with educating children (Spodek & Saracho, 1994), and, similar to kindergartens, nursery schools became associated with the American education system (McGill-Franzen, 1993).

The Montessori program was another educational program offered to young children during the time of the nursery school movement. Development of Montessori schools began in the United States in the 1920s and was based on the works of Dr. Maria Montessori, an Italian physician. Dr. Montessori began her career working primarily with children with mental disabilities. Eventually, she moved from working with children with mental retardation to the development of an education program for children who lived in the slums of Rome. She emphasized sensory education for young children and identified sensitive periods of instruction in the development of children. The sensitive periods were seen as periods of development when children are more receptive to particular kinds of learning than they are at other times (Spodek & Saracho, 1994). Montessori schools were established in several communities in the United States in the 1920s and were for children between 3 and 5 years of age. During the 1930s and 1940s, most Montessori schools either closed or became nursery schools. A resurgence of Montessori education occurred in the 1960s when Montessori schools were reestablished, and Montessori training programs for teachers were developed (Spodek & Saracho, 1994).

During the 1950s, another type of nursery school, known as parent-cooperative nursery schools, was established. The development of parent-cooperative nursery schools was supported by parents who wanted to have access to a high-quality nursery school education at a reasonable
cost for their preschool-age children. Adult classes and parent meetings relating to child development and child-rearing practices were also part of the program. Parents owned the parent-cooperative nursery schools and participated in the administration of the program (Spodek & Saracho, 1994).

According to Spodek and Saracho (1994), the nursery school movement continued to develop slowly until the mid-1960s when the federal government became involved in providing preschool education for children from low-income families. Prekindergarten programs for disadvantaged children were provided through the Economic Opportunity Act (EOA) of 1964 and the Elementary and Secondary Education Act of 1965 that were part of President Lyndon B. Johnson’s War on Poverty. The acts were designed to bridge the gap between poverty and prosperity and provide individuals with opportunities for education and training for work. Project Head Start began at this time and signaled a major change in early childhood education in the United States (Spodek & Saracho, 1994). Head Start, which evolved as a result of the Community Action Programs of EOA, was a comprehensive child development program for 4- and 5-year-old children from low-income families. With this program, the mental, physical, and intellectual development of children in poverty was addressed (Reed & Bergemann, 1992).

In addition to these influences, special education legislation has strongly affected early childhood education. In 1986 with the passage of Public Law 99-457, a mandate existed for free and appropriate public education for preschool children, ages 3 through 5, with disabilities. In 1991, this law was reauthorized and extended through Public Law 102-119. Through these legislative acts, states were now required to provide services to young children with disabilities.

In summary, early childhood education in America today has been influenced by all of the previously mentioned early childhood programs. Kindergarten has become part of the normal
school experience for the vast majority of children with 98% of all children attending kindergarten prior to first grade (Zill, Collins, West, & Hausken, 1995). Also, early childhood programs for children below kindergarten age have increased substantially. The greatest growth of the programs has occurred in child care programs for children who need full-day care services. In fact, over the last three decades the percentage of children 3 and 4 years of age enrolled in nursery schools increased from approximately 11% to 48% (Robinson, 1997). Furthermore, an increasing number of preschool-age children who are considered at risk and children from diverse language and cultural backgrounds are being served by prekindergarten programs (Spodek & Saracho, 1994).

The last decade has brought a growing consensus on the range of skills that serve as the foundation for later reading and writing ability (National Reading Panel Report, 2000; Neumen & Dickinson, 2001; Snow et al., 1998). Recent federal initiatives, including Good Start Grow Smart and the Child Care and Development Grant (CCDF), call for states to develop early learning standards for children ages 3-5 in language, literacy, and mathematics. To date, 43 states have such standards, with the remaining seven in progress. Standards-based reform (David, Shields, Humphrey, & Young, 2001), premised on an ambitious set of goals that include (a) high expectations for what children know and should be able to do; (b) reliable assessments of basic skills for purposes of accountability; (c) alignment of curricula to standards and assessments; and (d) quality professional development, is now becoming a reality in early learning. In 2000, 16 states reported early childhood standards (Quality Counts, 2002); in 2005, this total more than doubled to 43 states. Consequently, with K-12 education increasingly pointing the way for early childhood education, the development of early learning standards represents a critical juncture for early childhood education. It requires policymakers and early childhood specialists to address
a fundamental issue: How to retain the traditional strengths of early care and education and at the same time to appropriately align it with more formal educational systems.

Characteristics of Quality Prekindergarten Programs

Because of the large increases in the number of prekindergarten programs, concerns about providing quality programs and using developmentally appropriate curricula have been heightened. Legislators and business leaders have maintained that high-quality early education for all children is a needed investment and not an expense (Research and Policy Committee of the CED, 1989; Strother, 1987). Moreover, Adams and Sandfort (1994) indicated the first goal of Goals 2000 concerning school readiness would not be achieved unless children have access to high-quality prekindergarten and child care programs.

Views regarding the importance of providing high-quality prekindergarten programs for children have been expressed by other researchers and educators. Smith et al. (1995) depicted two reasons for offering high-quality programs. First, high-quality programs are critical in preparing children to enter the future workforce. Second, at-risk children who have prekindergarten experience in high-quality programs have higher levels of success in school, greater achievement motivation, higher vocation aspirations, and higher employment rates than at-risk children with no prekindergarten experience.

Dodge (1995) suggested children’s social competence, such as developing a positive sense of identity, learning to trust others, and acquiring the characteristics that enable them to be successful learners is promoted by quality prekindergarten programs. Similarly, Zill and Wolpow (1991) stated that high-quality programs with developmentally appropriate curricula help to nurture young children’s social, emotional, and cognitive development. Therefore, quality
programs should be provided for all disadvantaged 3- and 4-year-old children (Research and Policy Committee of the CED, 1989).

Members of the Carnegie Task Force on Learning in the Primary Grades (1996) recommended that high-quality public and private early care and education programs be provided for children 3 to 5 years of age because during the preschool years children make developmental gains that form the basis for their later achievement. Accordingly, the years from 3 to 10 are considered a crucial time in a child’s life when the foundation is laid for healthy development and lifelong learning. The importance of developing and implementing quality programs was defined by the Carnegie Task Force on Learning in the Primary Grades in the following statement:

For most children, the long-term success of their learning and development depends to a great extent on what happens to them during these years of promise. Children fortunate enough to attend a high-quality preschool or childcare program and who enter the primary grades with adequate preparation have a better chance of achieving to high levels than those who do not. (p. vii)

Criteria for quality prekindergarten programs have been developed by professional organizations such as the NAEYC (1986), SACUS (1986), and the National Conference of State Legislatures (Smith et al., 1995). Small class size, low teacher/child ratios, comprehensive services, teacher qualification, parent involvement, and developmentally appropriate curricula are characteristics considered important in developing and implementing prekindergarten programs (Cummings, 1991; Day & Thomas, 1988; Mitchell, 1989; Morado, 1986; Schweinhart, 1988). Furthermore, Weikart (1989) determined that comprehensive services clearly linked to
health, nutrition, and social support services and administrative support were essential components in high-quality prekindergarten programs.

Regarding teacher qualification, one way to increase the quality of prekindergarten programs is to hire highly educated teachers (Barnett, Frede, Mobasher, & Mohr, 1987; National Association of Elementary School Principals [NAESP], 1990; SACUS, 1986; Smyser, 1990). According to the NAEYC (1991), the quality of the staff was the most important determinant of the quality of any early childhood program. In relation to this concept, two criteria for the qualifications of staff positions in early childhood programs were developed by the NAEYC. First, staff members who are in charge of a group of children in an early childhood setting should have at least a Child Development Associate (CDA) credential or an associate degree in early childhood education or child development. Second, early childhood specialists with either a baccalaureate degree and/or graduate degree in early childhood education or child development and at least three years of full-time teaching experience with young children should be hired to direct the education program in early childhood settings.

Researchers and educators have developed other criteria for quality programs. For example, Dodge (1995) listed five components of quality prekindergarten programs. First, quality programs are based on an understanding of child development and on recognition that each child is an individual with unique needs, learning styles, and interests. Second, in quality programs children’s safety and well-being are of paramount importance. Third, the physical environment of quality programs is well-organized and has a variety of age-appropriate and culturally relevant materials. Fourth, in quality programs relationships between staff members and families are positive and supportive. Finally, staff members in quality programs receive ongoing training and support from the administration.
Members of The Consortium for Longitudinal Studies (1983) noted several characteristics associated with high-quality programs. The characteristics include intervention for children with special needs, services for parents (including home visits), low teacher/child ratios, and involvement of parents in their children’s instruction. Additionally, use of an appropriate curriculum, implementation of staff training, and frequent assessment and monitoring of the program were seen as necessary components of high-quality programs.

In summarizing the major findings from early education intervention research, Ramey and Ramey (1992) identified six principles that were characteristic of quality programs. First, young children benefit from intervention programs that begin earlier in their lives and continue longer than intervention programs that begin later in their lives and do not last as long. Second, programs that are more intensive in terms of hours per day, days per week, and weeks per year are more beneficial to children than programs that are less intensive in relation to time. Third, intervention programs that have direct daily learning experiences for children are more beneficial in producing positive and long-lasting results for children than programs that lack direct daily learning experiences. Fourth, programs with comprehensive services are more beneficial to children than programs that lack comprehensive services. Fifth, greater benefits for children are provided through programs that match children’s learning styles and risk conditions than programs that lack these components. Finally, initial effects of intervention programs for children will diminish unless the changes that are made are supported and maintained in each child’s family, community, and school environments. To determine characteristics of quality prekindergarten programs, Frede (1995) reviewed studies designed to define and measure the effects of quality in early care and education. Frede concluded that quality prekindergarten programs have small class sizes with low teacher/child ratios, teachers who receive support from
the administration, an intervention component, and ongoing communication between parents and teachers. Interestingly, Frede determined quality prekindergarten programs used some curricula content and classroom practices similar to practices used in traditional schooling.

Developmentally appropriate curricula have also been found to be a critical factor in providing high-quality prekindergarten experiences for young children (Dodge, 1995; NAEYC, 1986). Frede and Barnett (1992) reported that young children who were exposed to developmentally appropriate curricula had increased academic skills in first grade. Moreover, developmentally appropriate experiences were well-suited for diverse backgrounds of students (Schweinhart & Hohmann, 1992). Researchers and educators have noted other components for high-quality prekindergarten programs. Adams and Sandfort (1994) and Mitchell (1989) considered a comprehensive family service program to be a necessary component of a high-quality program.

Critical Factors of Early Childhood Standards

Although relatively new to the field of early childhood, virtually every state in the nation now has K-12 standards, largely through the impetus of two education summits, Goals 2000 and the Improving America’s School Act. Review of the literature, as well as position papers by organizations on criteria for quality standards (Kendall & Marzano, 1997; NAEYC/NAESC/SDE, 2002) and content learning (Bredekamp & Rosegrant, 1992, 1995; Neuman et al., 2000), reveal application to early learning content standards for language, early literacy, and mathematics. Also examining guidance documents from the Child Care Block Grant (2002) and policies and materials related to the Good Start Grow Smart (2002) initiative highlighted five critical factors that seem particular to developing quality early childhood standards (Neuman & Roskos, 2005):
• *Big ideas.* Standards and indicators should focus on the big ideas that young children should know and be able to do (Clements et al., 2004; Roskos, Vukelich, & Clements, 2001). These skills should be grounded in the core discipline and represent foundational understandings of important, key ideas. Indicators that attempt to prescribe how these big ideas are taught, however, should be avoided (NAEYC/NAESC/SDE, 2002).

• *Research-based.* Standards and indicators should be research-based (IRA/NAEYC, 1998; NAEYC/NAESC/SDE, 2002; NCTM, 2000). Indicators that are built on a solid foundation of research are reasonably achievable for all pre-k children, age-appropriate, and necessary for school readiness.

• *Clearly written.* Standards and indicators must be written clearly enough for teachers, parents, policymakers, and the general public to understand. Educational jargon can be off-putting, alienating the very public from which educators seek support. A clear indicator, for example, should be measurable, focus on a particular targeted skill (instead of many skills), and send an unambiguous message as to what preschoolers will know and be able to do.

• *Comprehensive.* Standards and indicators should be comprehensive representing the knowledge and skills essential for achievement. Indicators need to be balanced, to adequately cover the domain and not emphasize one set of skills over another.

• *Manageable.* Standards should be manageable and realistic given the constraints of time (NAEYC/NAESC/SDE, 2002). Given the competing demands and limited hours (many programs are still only 2½ hours long), states should be parsimonious in the number of indicators required. Too many indicators put undue demands on teachers and place impossible expectations on children.
Applicable to multiple early childhood settings. Standards and indicators should be appropriate for learning in multiple early childhood settings (Child Care Block Grant Guidance, 2002). Learning in the early years occurs in many different educational settings - some children are in family day care arrangements, others in center-based care, still others with family members. Standards and indicators should be consistent across settings, helping to eliminate the fragmentation that has traditionally plagued the early childhood field.

Although children have benefited by attending quality prekindergarten programs (Carnegie Task Force on Learning in the Primary Grades, 1996), a number of factors have impeded the achievement of developing quality programs. According to Dodge (1995), low wages for teachers, high staff turnover, minimum state regulations for health and safety, and the cost of appropriate teacher/child ratios, inadequate facilities, and inappropriate curricula have had an effect on the quality of some programs. Regarding teachers, Howes, Phillips, and Whitebook (1992) concluded that when teachers teach in programs meeting reasonably high standards of quality, they are more likely to provide appropriate care and developmentally appropriate activities than teachers who teach in programs that fail to meet quality standards.

Beliefs About Learning

In the past 10 years, teachers have been bombarded by education reform initiatives, including standards-based instruction, teaching to students' learning styles, performance-based instruction, multiple intelligences, and most recently brain-based learning. In addition, during the 1990s the Individuals with Disabilities Education Act (IDEA) mandated that students with disabilities have access to the general education curriculum. This mandate has resulted in more students with special needs being taught in general education classrooms.
Quality instruction depends on attention given to a sensitive period that exists in all subjects that can be explained in biological, social, and cultural terms. Quality instruction leads to development. The goal of an instructor should be to lead a student from their current skill level to their potential level. Instructors must be knowledgeable in certain subjects and share their knowledge, but they also need to know how to carry students to higher levels of problem solving. It is critical to instruction that students go beyond their current skill and knowledge levels. Conflict-generating problem solving is a part of everyday learning. Teachers should provide instruction that provides opportunities for students to resolve problems. The ideas of teaching and learning that began in the 1930s with Vygotsky are now being supported by what researchers are discovering in regards to brain research and educational practices.

Learning, according to Vygotsky, depends on development, but development is not dependent on learning. Development can be furthered by effective instruction. Instruction influences development of higher functions into all subjects not just the subject being taught. Vygotsky's theory suggests that children or students can be guided by explanation, demonstration, and work and can attain to higher levels of thinking if more capable and competent adults guide them. For Vygotsky, learning from others more competent in culturally appropriate skills and technologies was the capstone to his educational theory. According to Vygotsky, rather than taking as the unit of analysis the individual characteristics of a child, the unit of analysis should be the child as a social dynamic.

Methods of assessment are determined by our beliefs about learning. According to early theories of learning, complex higher-order skills had to be acquired bit-by-bit by breaking learning down into a series of prerequisite skill, a building-blocks-of-knowledge approach. It was
assumed incorrectly that after basic skills had been learned by rote, they could be assembled into complex understandings and insight. However, evidence from contemporary cognitive psychology indicates that all learning requires that the learner think and actively construct evolving mental models.

From today’s cognitive perspective, meaningful learning is reflective, constructive, and self-regulated. People are seen not as mere recorders of factual information but as creators of their own unique knowledge structures. To know something is not just to receive information but to interpret it and relate it to other knowledge one already has. In addition, we now recognize the importance of knowing not just how to perform but also when to perform and how to adapt that performance to new situations. Thus, the presence or absence of discrete bits of information—which is typically the focus of traditional multiple-choice tests—is not of primary importance in the assessment of meaningful learning. Rather, what is important is how and whether students organize, structure, and use that information in context to solve complex problems.

Constructivists believe that the learner generates or constructs a personal understanding of the environment through a process of interaction, reflection, and action (Dewey, 1938; Hausfather, 2001). A main tenet of constructivism is the belief that the learner builds knowledge in active response to sensory experiences (Saunders, 1992; Wood, 1995). During this interactive stage, cognitive structures are stimulated in the formation of “knowledge construction,” as students contemplate both their actions and the environment (Noddings, 1990; von Glaserfeld, 1995).

Piaget (1954), an early proponent of constructivism, proposed a developmental theory espousing universal forms or structures of knowledge that follow a developmental sequence of growth (preoperational, operational, concrete, and abstract operations). In reference to Piaget’s
work, Lincoln (2001) stated that the “individual constructs knowledge and makes meaning through interpretation of his own experiences and analysis of the environment” (p. 12). Piaget and Inhelder (1969) postulated that knowledge comes neither from the subject itself nor the object but from the unity or interaction of the two. Further, Vygotsky (1978) purported a sociocultural version of constructivism, believing that understanding is generated by the learner’s interaction with the social milieu. In both cases, constructivists propose that understanding is created when the learners are engaged in using their cognitive processes in relation to their bodies and within the context of the physical world of materials, symbolic tools, and nuances of their culture.

The role of the social context of learning in shaping higher-order cognitive abilities and dispositions has also received attention over the past several years. It has been noted that real-life problems often require people to work together as a group in problem-solving situations, yet most traditional instruction and assessment have involved independent rather than small group work. Now, however, it is postulated that groups facilitate learning in several ways: modeling effective thinking strategies, scaffolding complicated performances, providing mutual constructive feedback, and valuing the elements of critical thought.

Children need a rich language and conceptual knowledge base, a broad and deep vocabulary, and verbal reasoning abilities to understand messages that are conveyed through print. Children must also develop code-related skills and understand that spoken words are composed of smaller elements of speech (phonological awareness) – the idea that letters represent these sounds (the alphabetic principle), the many systematic correspondences between sounds and spellings, and a repertoire of highly familiar words that can be easily and automatically recognized (McCardle, Scarborough, & Catts, 2001).
However, to attain a high level of skill, young children need opportunities to develop these strands, not in isolation but interactively. Meaning, not sounds or letters, motivates children’s earliest experiences with print (Neuman, Copple, & Bredekamp, 2000). Consequently, although standards and indicators may identify a typology of skills that serve as important precursors to eventual literacy, it is important to recognize that in practice children acquire these skills described in coordination and interaction with meaningful experiences.

A new view of learning draws its strength from cognitive neuroscience, cognitive psychology, and artificial intelligence stimulated by research in cognitive science. This new conception has a direct bearing on the nature of how we develop curriculums and teach all subjects most effectively. The researchers express the new view according to the following: (a) learners construct understanding for themselves; (b) to understand is to know relationships; and (c) knowing relationships depends on having prior knowledge. These new consensuses on the nature of learning help educators understand what fosters learning and give us ideas for improving those aspects of teaching that are ineffective or detrimental to learning.

**Constructing Knowledge**

For the brain to construct knowledge and behaviors, it must take in data that it can use for the construction. The only way the brain takes in data is through the sensory perceptions that enter through the windows of the body’s five senses. The result is that human knowledge is stored in clusters and organized within the brain into systems that people use to interpret familiar situations and to reason about new ones. When language – words and sentence structures – become part of the interweaving, the totality forms the basis for abstract thinking and problems solving (Kotulak, 1996).
Perceiving Relationships

Although the individual constructs basic knowledge through experience, the quality of the construction depends on how well the brain organizes and stores the relationships. Students use prior knowledge to interpret the new material. Whenever bits of information are isolated from these systems, they are forgotten and become inaccessible to memory (Cowley & Underwood 1998). Constructions in a student’s brain depend on the interest and prior knowledge of the student and on the richness of the environment. Written formats, such as textbooks, give minimal help because symbols are not reality. They cannot be acted on or manipulated. Understanding what a symbol represents depends on prior experiential knowledge related to the symbol. New knowledge gained from reading is actually a rearrangement of prior knowledge into new connections. With something to work with, an author can help readers understand abstract ideas that they could never experience firsthand. But if readers have little in storage related to the content of what they read, they will gain little from reading.

Relationships and Prior Knowledge at Work

The new curriculums provide good examples of how to enable learners to construct their own ideas through an exploration of relationships among materials (objects and ideas) and through the use of the reinforcement of prior knowledge. Rehearsals as used in the new curriculums are different from practice. Practice takes place when someone does the same thing repeatedly to improve performance. Practice is useful in a limited context, but it has little transferability. Rehearsal, in contrast, takes place when people do something again in a similar but not identical way to reinforce what they have learned while adding something new. New additions increase the likelihood that the knowledge they are learning is not task-specific.
Sequential Activities

Compared with traditional textbook instruction, which covers many topics quickly and superficially (Valverde & Schmidt, 1997-1998), the new National Science Foundation-sponsored curriculums spend more time on fewer topics, but they are more powerful. The curriculums then strategically advance the topics throughout subsequent grade levels, guided by research on developmental capacities and content components. Flexible abstract reasoning is used extensively in advanced curriculums (Allen, 1967; Bruner & Kenny, 1966; Case, 1974; Hooper & Sipple, 1974; Lowery, 1998; Pascual-Leone, 1970; Piaget, 1969; Wright, 1997).

The fundamental underlying strategy of new curriculums rests in the way they sequence developmentally appropriate concepts that progressively link and web together toward a grand idea. Without such a strategy, the curriculum is a pseudocurriculum and eclectic collection of activities with weak, if any, linkages and no long-range goals or purpose. No grand ideas are ever learned in one lesson or in one course of instruction. Rather, their intent is to make what the student is capable of learning more useful, effective, relevant, and interesting and to enable the student to build progressively, from grade level to grade level, and understanding of the grand ideas of a subject by relating subsequent knowledge to prior knowledge. In addition, it is even more surprising that some educators see no need to change from overusing passive-learner instructional methods, such as show-and-tell teaching, to using methods that are more thoughtful. These more thoughtful methods enable students to construct meaning for themselves through exploring relationships and webbing those explorations to their prior knowledge. A basic precept of brain-based research states that learning is best achieved when linked with the learner’s previous knowledge, experience, or understanding of a given subject or concept (Perry, 2000).
Effects of Brain-Based Research on Models of Early Childhood Education

Brain-based research and the influence of the Vygotskian approach present an open framework of educational ideas and practices based on the natural development of young children. Based on the child development ideas of Vygotsky and what research supports in regards to best practices in the early childhood environment, the model views children as active learners, who learn best from activities that they themselves plan, carry out, and reflect upon.

Scientists and researchers are making exciting new discoveries related to how the brain processes and stores information (Sousa, 1998). This research discusses the potential these new discoveries have to unlock the mysteries of learning itself. Recent research highlights the differences in brain anatomy of students with learning disabilities and attention deficits that can shed light on their performance in the classroom (Semrud-Clikeman et al., 2000). Despite the enormous implications of the research, it has been found that it is not being effectively disseminated to education practitioners, who among all professionals need it most (Sousa, 1998).

Brain research adds additional pedagogical insight when combined with educational practices of developmental psychologists such as Vygotsky.

A basic precept of brain-based research states that learning is best achieved when linked with the learner’s previous knowledge, experience, or understanding of a given subject or concept (Perry, 2000). Therefore, we can assume that brain-based research would be most effective when combined with previously established frameworks for teaching and learning (Brandt, 1999). Education initiatives that link current practice with promising new research in neurological and cognitive sciences, however, offer real possibilities for improving teaching and learning, especially for students with diverse learning needs. One such framework is the Dimensions of Learning Model (Marzano, 1992). This model addresses the development of
higher order thinking skills. Marzano (1992) described the five dimensions as “loose metaphors for how the mind works during learning” (p. 2). Linking the five dimensions with the latest brain research suggests a number of best practices for teaching all children—especially students with learning disabilities.

Dimension One: Positive Attitudes

Dimension One explains that a student’s attitudes and perceptions serve as filters that enhance or inhibit natural learning. Although educators may have long suspected that attitudes affect learning, brain research clearly supports the link between emotions and cognition. Leamnson (2000) explained that neural pathways connect the limbic system, the brain’s emotional center, to the frontal lobes, which play a major role in learning. In addition, hormones alter the chemical makeup of the brain of a person under stress. When the person is threatened, chemicals are released that can impair memory and learning (Jensen, 1998).

Best Practices

☐ Provide a challenging yet supportive classroom environment by reducing the stress that may come from embarrassment because of academic difficulties or peer rejection.

☐ Teach peer acceptance and social behaviors explicitly. Use literature and history to provide instructional materials that demonstrate acceptance of diversity and model an attitude of acceptance and appreciation for those with different learning styles and needs.

☐ Teach to cement long-term memory, connect emotions to learning. Techniques such as dramatizations, humor, movement, or arts integration can arouse the emotional systems of the brain and stimulate peak performance.
Dimension Two: Acquiring and Integrating Knowledge

Dimension Two pertains to the acquisition and integration of knowledge. Marzano (1992) proposed that learning new information must occur within the context of what the learner already knows and must be adequately assimilated so that the information can be easily used in new situations.

Much of the brain-based research has focused on how the brain acquires, stores, and uses information (Valiant, 1998). Learning occurs through the growth of neural connections, stimulated by the passage of electrical current along nerve cells and enhanced by chemicals discharged into the synapses between neighboring cells. The more a student repeats a learning task, the greater the connectivity. Researchers also point out that different parts of the brain store particular parts of memory (Fishback, 1999). Further, Leamson (2000) explained that the brain must reconstruct a memory each time the person recalls the memory. When students are emotionally engaged with learning, certain neurotransmitters in the brain signal to the hippocampus, a vital brain structure involved with memory, to stamp this event with extra vividness (Cahill, 2000). Thus, learning requires both the acquisition of information and the ability to retrieve and reconstruct that information whenever necessary. Evidence from brain-mapping technology indicates that individual differences in learning styles affect this retrieval process. In a study that investigated the differences between normal and disabled readers in visual-perceptual tasks, Kruk and Willows (2001) found significant processing differences that affected the rate of visual processing for students with reading disabilities. Robertson (2000) suggested that the inability to shift control from the right to the left hemisphere of the brain may cause early reading disorders.
Best Practices

- Present new information within the context of prior knowledge and previously learned content (Perry, 2000).
- Allow students to repeat learning tasks to cement them in memory (Sprenger, 1998). This is especially important for activities that require an automatic response, such as blending phonemes into words (Shaywitz, 1998) or mastering math facts.
- Use mnemonics, which can significantly increase the memory of content (Carney & Levin, 2000), especially for students with special needs (Lombardi & Butera, 1998).
- Use visually stimulating material and manipulatives to activate the right hemisphere of the brain and text presentation to activate the left hemisphere (Robertson, 2000). The right brain's visual-spatial skills can be activated with features such as a balance scale to help visualize algebraic equations or pictures and graphs to enhance the meaning of text.
- Integrate art, music, and movement into learning activities to activate multiple parts of the brain and enhance learning (Rauscher et al., 1997; Vogel, 2000).

Dimension Three: Extending and Refining Knowledge

Extending and refining knowledge requires examining it in a deeper, more analytical way by doing such things as comparing, classifying, inducing, deducing, analyzing errors, constructing support, abstracting, and analyzing perspective (Marzano, 1992). The thinking skills involved in Dimension Three require that the brain use multiple and complex systems of retrieval and integration (Lowery, 1998). Brandt (2000) stated that brain research supports thinking-skills programs that have students compare and classify familiar concepts. He explained that neurons that often fire simultaneously use less brain energy when performing familiar functions than when learning new skills (p. 75). Rehearsal is important to learning.
Neuronal circuits that are continually activated together become stronger; they require less energy to activate as remembering becomes more automatic. Teachers must build into the learning context retrieval cues that will likely be present when students need to recall the concept (Squire & Kandel, 2000).

Best Practices

☐ Design tasks that allow students to use prior knowledge to learn new information.

☐ Offer students an opportunity to compare their performance with model responses and to analyze their error patterns. For example, when asking students to write an essay, provide a model paper that clearly identifies the main idea, supporting details, transition words, and conclusion. Let students use the model to organize their own writing.

☐ Teach students to identify general patterns that underlie concepts.

Dimension Four: Using Knowledge Meaningfully

Marzano (1992) stated that we learn best when we need information to accomplish a goal. Using Dimension Four thinking strategies, students apply information in activities that require them to make decisions, investigate, conduct experiments, and solve real-world problems. Brain research confirms that this type of experiential learning activates the area of the brain responsible for higher-order-thinking (Sousa, 1998). Moreover, enriched instruction has been shown to produce significant chemical changes in the brain of students with learning disabilities—changes that indicate less exertion of effort in learning (Richards et al., 2000). A similar study (Bower, 1999) indicated that reinforcement of active learning tasks improves brain efficiency.

Leamnson (2000) warned, however, that merely providing students with hands-on activities does not guarantee learning. Teachers must pair physical activities with problem-solving tasks to connect the “acting modules” of the brain—the motor cortex—with the “thinking
modules"—the frontal lobes. Such experiences increase memory and learning, thereby modifying brain structures (Kandel & Squire, 2000).

Development, experiences, and an understanding of how children learn showed educators how play-based center activities in kindergarten teach literacy, mathematics, science, social studies, and art. Kindergarten programs based on learning centers and interactive play activities teach basic academic skills. Teachers are discouraged from teaching in the same way as upper classes. The basic equipment and organization of the learning centers need to connect to the state's curriculum goals. Kindergarten programs organized around learning centers and interactive play activities do teach the "Three Rs" but in a way young children can understand at their appropriate developmental level. Five-year-olds learn best when allowed to actively explore their environment. The instruction, exploration, and discovery that take place in a play-centered classroom mean much more than many may realize. By focusing on developing the whole child—socially, emotionally, physically, and intellectually—it provides a nurturing, safe environment that helps children enter their first years of formal schooling with a love of learning, an ability to socialize well with others, and a desire to master all subjects.

Assessment plays an important role in helping to evaluate overall progress in relationship to educational goals. In kindergarten, appropriate assessments reflect the ongoing life of the classroom and typical activities of the children. A classroom built around activity centers provides an ideal setting for making assessment a natural and ongoing part of learning. Advocates of this approach point out that young children are more likely to perform at their best when engaged in interesting and meaningful classroom projects—for example, real reading and writing activities rather than only skills testing.
Through frequent and consistent observation of the work children do and how they go about doing it, the teacher gains a true picture of their progress relative to established expectations. Using this information, the teacher can focus instruction to meet each boy’s and girl’s individual needs.

The art of teaching is the art of assisting discovery. Play that involves the use of hands, muscles, and eyes help children develop coordination and problem-solving skills. If they cannot use their hands well, they will be afraid to try new things, and trying new things is an important way that children learn.

Best Practices

- Assign students active hands-on tasks that require them to investigate, analyze, and solve problems using real-world applications (Green, 1999).
- Allow students to use multiple ways to demonstrate learning, such as inventions, experiments, dramatizations, visual displays, music, and oral presentations.

Dimension Five: Habits of Mind

Dimension Five describes the mental habits that enable students to facilitate their own learning. These habits include:

- Monitoring one’s own thinking (metacognitive thinking),
- Goal setting,
- Maintaining one’s own standards of evaluation,
- Self-regulating,
- And applying one’s unique learning style to future learning situations.
Best Practices

- Provide ways for students to engage in metacognitive reflection. Students benefit from the use of reflective journals and group discussions within a cooperative learning setting.

- Include reflective discussions of lessons to foster the habit of reflection on learning. Ask students to record one important concept that they learned from the lesson and several important facts.

Research in the field of neurology and cognitive sciences should play an important role in education reform, especially for students who demonstrate differences in their learning and thinking patterns. A new view of learning draws its strength from cognitive neuroscience, cognitive psychology, and artificial intelligence stimulated by research in cognitive science. This new conception has a direct bearing on the nature of how we develop curriculums and teach all subjects most effectively. The researchers express the new view according to the following: (a) learners construct understanding for themselves; (b) to understand is to know relationships; and (c) knowing relationships depends on having prior knowledge. These new consensuses on the nature of learning help educators understand what fosters learning and give us ideas for improving those aspects of teaching that are ineffective or detrimental to learning.

Three principles from brain research—emotional safety, appropriate challenge, and self-contrasted meaning—suggest that a one-size-fits-all approach to classroom teaching is ineffective for most students and harmful to some. Teachers do not modify for struggling learners or advance learners. Teachers often disregard student interest and learning profiles. Research supports the fact that teachers in the United States assume all kids are the same. This type of thinking is embedded in the educational system. Each brain needs to make its own meaning of ideas and skills. Teaching a class based on concepts and the principles that govern, in contrast to
teaching rooted largely in facts, is essential. Concept-based teaching increases the likelihood that the class can construct meaning and see the whole of what is being taught. In classrooms where teachers work consistently to develop learning experiences, interests, readiness levels, and learning profiles, the student is highly likely to feel emotionally safe experiencing appropriate challenges and able to make sense of powerful ideas. In these brain-friendly classrooms, teachers build on awareness, that to teach well you must teach my brain. Differentiated classrooms are responsive to students’ varying readiness levels, varying interests, and varying learning profiles.

Brian Cambourne (1988, 1995), an Australian educator, developed a theory of learning as it applies to literacy learning. After three years of observing and monitoring the language development of young children, he synthesized his works in what he refers to as *Conditions of Learning* (1988). Cambourne’s Conditions of Learning hold true to a constructivist perspective and suggest a concrete and viable means to enhance student development in literacy learning. He outlined a series of interactive processes teachers can use to facilitate students’ understanding of the learning process. Postulating eight interconnected and reciprocal conditions, Cambourne’s theory provides a dynamic and evolving model for literacy learning. The model revolves around the following concepts:

a) Immersion

b) Demonstration

c) Engagement

d) Expectations

e) Responsibility

f) Employment

g) Approximation
h) Response

Cambourne suggested that the eight conditions of learning create an interactive and dynamic experience between the learner and the content. Cambourne’s eight conditions of complex learning can be linked to the recent body of literature on brain research. Cognitive development and brain research-based teaching strategies complement both Cambourne’s (1999) Conditions of Learning Literacy and a constructivist philosophy. The past decade has seen a substantial increase in seminars, conferences, and published articles related to brain research and teaching strategies. Specific research in the areas of cognitive psychology (Gardner, 1993; Goldman, 1995), neuroscience (Diamond & Hopson, 1998; Sylwester, 1997), and education (Caine & Caine, 1997; Jensen, 2001; Rushton, 2001) has revealed new and exciting possibilities to aid teachers’ understanding of the learning process and to become more effective in the process. Professional educators are beginning to link these findings to classroom management and learning environments as well as developmentally appropriate practices for young children (Rushton & Larkin, 2001).

Recent findings are supporting teachers to better design classroom environments that encourage the child’s innate capacity to learn. Rushton and Larkin (2001) stated that brain research will “help provide educators with strategies that stimulate specific areas of the brain (i.e., the thalamus, amygdale, hippocampus, and the frontal cortex) in order to gain the learner’s attention, foster meaningful connections with prior understanding, and maximize both short and long-term memory” (p. 26). In their article, these authors compared developmentally appropriate practices to several brain-researched principles that they extracted from the literature. Rushton (2001) described a typical early childhood setting, one that is both developmentally appropriate and brain compatible. This setting helped create opportunities for the students to take
responsibility for their learning, encourage literature response activities, allow for open dialogue to take place between the students and the teacher, foster the integration of curriculum across all content areas, and provide opportunities for meaningful problem solving.

Using Cambourne’s framework, it is believed that all students need to first be immersed into the culture, knowledge, and curriculum in order to make sense of their own learning styles, behaviors, and content. The second Cambourne condition is to provide exciting and stimulating demonstrations to assist the learner in experiencing the desired outcome.

While being immersed in the learning environment and viewing demonstrations, the learner must be engaged in the learning process (i.e., experiencing, writing, creating their own guidelines, and formulating their own mission statements). The educators’ job is to set the expectations high enough to challenge the students yet without the risk of failure. In so doing, the students can master the content and take responsibility for their learning in a manner that is appropriate for their best learning styles. It is the job of educators to provide ample experiences and opportunities for the learner to employ or use the learning both individually and in a social setting. Providing opportunities for the learner to approximate the desired outcome without fear of criticism or chastisement is an important component in the learning process. Finally, as facilitators and guides in this process, one of the primary roles of teachers is to provide feedback and a response to the entire learning experience so the students can assess where they are in terms of desired outcomes. In the sections that follow, each of Cambourne’s conditions is paired with a finding from the brain research. This is followed by specific examples on how to create, organize, and/or implement a child-centered learning environment.
Condition of Learning: Immersion

Brain Principle One - An enriched learning environment increases cell weight, branching of dendrites, and synaptic responses within the brain.

A literature-based and print-rich classroom allows for different forms of texts that are created by the children and reflects the real world. The concept of immersion is not new, yet, it is often the first part of the learning process that is found missing in the traditional paradigm of instruction. Students of all ages often find themselves sitting for long periods of time listening to the teacher, followed by working on textbook handouts, that is, reading a narrative on a given topic and answering short essay questions.

A vastly different experience would be if the students were immersed in a theme, such as pollution, with numerous informational texts (websites, interviews, and trade books) and field trips to the waste/clean water treatment centers, a local landfill, and/or the city’s recycling center. Then students could experience the learning processes via both their senses (seeing, smelling, touching, and listening) and intellectual stimulation (reading, analyzing, and writing) and, thereby, become involved in the issues and solutions of dealing with limited planetary resources. These interactive classrooms reflect a shift in teaching paradigms from teacher-directed traditional classrooms to student-oriented, problem-solving learning environments that espouse a constructivist, brain research-based approach to learning.

Cambourne’s concept of immersion is closely linked to the importance and necessity of the brain being stimulated with a wide variety of impulses. The different regions of the brain or lobes are connected through a highly complex system of synaptic neurological networks and dendrites. Research suggests (Sylwester, 1997) that with each new learning experience, the cells of the dendrites branch out to connect with other dendrites, and with repeated exposure to a
learning task, the myelin sheath that surrounds the axon portion of the dendrites thickens; hence, the greater the difficulty or complexity of the learning taking place, the more the myelin sheath grows. The belief is the thicker the myelin sheath the more encapsulated the learning is and the faster the memory response time is in recalling information. Diamond (1998) stated that an enriched learning environment increased cell weight, branching of dendrites, and synaptic responses within the brain.

Brain theorists indicate that the brain is both hard-wired with basic survival networks such as breathing and circulation, and some argue instinct to recognize danger (Sylvester, 1997) and soft-wired in order to learn and be flexible to the environmental changes. Implicit in this principle is that impoverished environments generate fewer synaptic connections, less cell weight growth, and fewer connections between dendrites. The brain requires external stimulation. The more it receives, the more diverse the branching of the dendrite and the greater number of synaptic connections. This is particularly true during the first few years of life in which the brain is expanding and developing at a heightened rate. It is critical at this time that the child is exposed to developmentally appropriate practices (Bredekamp & Copple, 1997; Rushton & Larkin, 2001). Neurological development does not occur at the same rate using direct instruction.

Condition of Learning: Demonstration

Brain Principle Two - the brain changes as a result of experience.

This is the physical teaching of a lesson or a model example of what the teacher wants the students to learn. Learners of all ages require a model or, as he notes, an action or artifacts to help the learner observe or experience an intended outcome. Demonstrations need to be meaningful and relevant to a child’s life, not just abstract concepts beyond the student’s grasp. It
is the educator’s job to help connect for the students the various mental processes that they are experiencing throughout their day as they are exposed to these demonstrations.

The second brain principle indicates that the brain changes physiologically as a result of experience. The brain literally changes and grows with each experience. As the teacher performs new demonstrations, the child’s senses are activated, which in turn stimulates a specific portion of the brain. New dendrites are formed daily, hooking new information to prior experiences. The brain automatically searches out and attempts to place new stimuli to neurological pathways. Educators often refer to this as scaffolding (Applebee & Langer, 1983). When a child is experiencing something for the first time, for instance a 4-year-old seeing, touching, and experiencing a new animal, the brain attempts to connect the incoming sensory stimuli to existing neurological pathways. If none exist, new dendrites will need to be formed. Brain research indicates that certain windows of opportunity for learning do exist. The brain’s “plasticity” allows for greater amounts of information to be processed and absorbed at certain critical periods (Wolfe & Brandt, 1998).

_condition of learning:_ engagement

Brain Principle Three - Each brain is unique. Lockstep, assembly-line learning violates a critical discovery about the human brain.

Immersion and demonstration are important aspects of the learning process; however, it is when the students become actively engaged in the learning itself that learning is increased. Stimulating experiences help trigger a variety of neurons and create complex connections among the various regions of the brain.
Condition of Learning: Expectations and Responsibility

Brain Principle Four - Emotions, learning, and memory are closely linked as different parts of the brain are activated in the learning process. Positive emotions drive attention, which in turn drives both learning and memory.

Setting realistic expectations and creating opportunities for the children to become responsible for their education are two key elements in the overall learning process. Too little expectation and not enough responsibility given to the student can cause apathy toward learning. Conversely, too high an expectation can cause the student to become frustrated. Cambourne (1995) believed that expectation is a core component of any classroom.

The brain’s emotional center, the amagyada, is tied to the brain’s ability to learn. Emotions, learning, and memory are closely linked as different parts of the brain are activated in the learning process (Jensen, 1998). Caine and Caine (1997) believed that positive emotions drive attention, which in turn drives both learning and memory. They suggested that high levels of stress, or a perceived threat to a child, will inhibit learning. Various chemicals released into the body once the brain perceives a threatening situation can have a profound effect on the learning process. Responding to a feared signal (either real or perceived), the student’s body may release the hormone cortisol into the body. Too much cortisol short-circuits the cells in the hippocampus (the portion of the brain that deals with memory). Once this occurs, it may be difficult for the student to organize her thinking and memory. Hence, memories may lose their context and become fragmented (Wolfe & Brandt, 1998).

Setting realistic expectations for all children is an important component of the learning process. Rushton and Larkin (2001) suggested that “Teachers of all ages will want to foster a learning context that builds trust, promotes self-direction, and encourages students to freely
exchange their feelings and ideas so that the social/emotional realm is connected positively to
cognitive and physical experiences” (p. 29).

Cambourne’s Fifth Condition of Learning refers to the student’s innate ability to take
responsibility for his learning. When teachers provide opportunities that allow students to have
choices and make decisions about their learning, student learning is often increased. Again, the
release of serotonin and other chemicals in the body help stimulate a sense of well-being, which
indirectly increases the desire to want to learn. However, there is a fine line between “feeling too
good” and creating a sense of apathy. Although Cambourne applies the condition of
responsibility (having choice) to the acquisition and development of language, the researchers
believe that providing choice and giving responsibility to the student is a vital aspect of the
overall learning process. Cambourne (1995) stated, “Learners are able to exercise this choice
because of the consistency of the language demonstration occurring in the everyday ebb and flow
of the human discourse. Such demonstrations (a) are always in a context that supports the
meanings being transacted; (b) always serve a relevant purpose; and (c) are rarely (if ever)
arranged according to some predetermined sequence” (p. 185). Differentiated curriculum
requires teachers to know the individual needs of their children and to plan accordingly.

Caine and Caine (1994) stated that memory is affected by attention that is driven by emotion.
These researchers suggest that students who are emotionally invested in the learning process,
when provided reasonable choices and expectations and given important responsibilities in the
day-to-day routine, will move more information to long-term memory and build more dendrites
as they assimilate information that interests them. At a neurophysiological level, the brain
interprets external stimuli, which often trigger various electrochemical reactions throughout the
body. Various neurotransmitters, such as dopamine and serotonin as well as 60-100 others, will
create positive or negative emotional experiences. This, in turn, will have an impact on the child’s ability to focus and ultimately aid in long-term memory.

**Condition of Learning: Employment**

Brain Principle Five - When a child is engaged in a learning experience, a number of areas of the brain are simultaneously activated.

Cambourne (1995) suggested that as a consequence of discussion and personal reflection, children will construct new knowledge. Paired discussion, team brainstorming, individual reflection, and time for application all help mirror the classroom applications of the employment cycle.

Through the eyes of the brain, the employment condition echoes the need to see learners as unique individuals and to allow students to process information in a social setting. Both Vygotsky (1979) and Caine and Caine (1997) proposed that humans need to socialize and relate to others in order to enhance learning. Additionally, it is vital that teachers allow students process time to construct new knowledge based on meaningful experiences and discussions.

**Condition of Learning: Approximation**

Brain Principle Six - The brain is designed to perceive and generate patterns.

Cambourne’s Sixth Condition of Learning suggested that children need to take risks, test hypotheses, and make approximations as they discover the overall content. Each child’s brain is unique. Built upon their life experiences, they are patterned to accept and process the world differently. Cambourne’s (1995) concept of approximation allows for this uniqueness as the teacher provides feedback systems to guide, scaffold, and challenge a child’s attainment of a new skill. Word walls, sticky bins, editing process, peer editing, and conferencing all allow the child to receive feedback as needed to strengthen his understanding.
Condition of Learning: Response

Brain Principle Seven - "Every thought we think, every move we make, and every word we say is based in the electrical and chemical communication between neurons" (P. Wolfe interview by D'Arcangelo, 1998). Students are encouraged to respond with suggestions, compliments, and comments regarding the shared text.
CHAPTER 3: METHODOLOGY

This chapter presents the research methodology used in this study. The purpose of this study is to implement evaluations of preschool curricula that will provide information to support informed choices of classroom curricula for early childhood programs. After examining curricula used in a random sample of private preschool programs, empirical data will exist to support the lack of research-based teaching, assessment, and curricula that sequences developmentally appropriate concepts and links them to larger ideas. This study will investigate particular descriptive characteristics of preschool curricula with a focus on developmentally appropriate practices, with corresponding selection criteria that is supported by a body of research that supports a best practice approach to instruction. An outline of the approach to conducting this research study is presented below. The rationale for using the quantitative research design utilizing the survey method is described. Next, the role of the researcher, setting, and participants is clarified. The data collection and analysis procedures are explained.

Research Questions

- In developing curriculum or deciding whether a particular curriculum is appropriate, is the curriculum itself supported by a body of research that supports a “best practice” approach to instruction?
- Does the curriculum promote interactive learning and engagement and encourage the child’s construction of knowledge?
- Is the curriculum based on a set of quality standards?
- Is goal-oriented skill development ignored in the content?
- Is there a balance of developmentally appropriate practices with attention to academic content?
• Does the curriculum lead to conceptual understanding by helping children construct their own understanding in meaningful contexts?

• Are private Christian preschools harming the growth and development of children, thereby influencing school readiness by utilizing didactic instructional models?

Rationale

These instruments have been designed to accomplish three main goals:

1. obtain the opinions of the school stakeholders
2. gather recommendations for improving programs
3. provide data to guide decision making relative to program development, policy formulation, administration, implementation, organization, staff development, and expectations for students/staff.

The following surveys will be used to take into account the perspectives of the school stakeholders in decision-making and school improvement planning efforts: *Indicators of Organizational Effectiveness and Indicators of Teaching Effectiveness* web-based surveys. These surveys are built on the research-based practices and organizational conditions that contribute to improved student performance. Respondents will rate practices and conditions as strongly agree, agree, neutral, disagree, strongly disagree, or does not apply / do not know. This inventory contains items on the following topics:

*Research-Based Practices*

• Expect results

• Monitor performance

• Support student learning

• Maximize teachers’ effectiveness
- Develop a professional learning community
- Lead for improvement

_Organizational Conditions for Improving Schools_

- Quality teachers
- Effective leadership
- Quality information
- Policies and procedures
- Resources and support systems

Using a survey to collect information about stakeholders’ perspectives is a common method of collecting data. It is efficient and cost-effective and can provide a variety of viewpoints in a short amount of time. Some risks are also inherent in any data collection methodology. Biased items or poor response rates can lead to misinterpretation. In addition, the extent to which “perceptions” reflect reality is questioned. However, in combination with other information, surveys provide meaningful data to help generate conclusions (National Study of School Evaluation, 2005). The purpose of using the survey design is to generalize from a sample to a population so that inferences can be made about the characteristics and behaviors of this population (Babbie, 1990, 2001).

**Role of the Researcher**

The role of the individual administrator of the web-based surveys is to make sure that each participating early childhood center has Internet Explorer 5.5 or Netscape 7.0 or above. Other web browsers may be acceptable but should be tested prior to administration. The researcher will give each participant a unique access code that will allow him or her to complete the survey only one time. If the respondent does not complete the survey at one time, he or she
can use the access code to enter and complete it at a later time up until the stop date the administrator has set. Access codes will be distributed by the survey administrator via email. The survey administrator is also available to help respondents troubleshoot any difficulties they may encounter in utilizing their access codes in the completion of the survey. (Reference Sample E-mail Announcement – Web-based NSSE Surveys Appendix D).

Participants

The chosen population includes those early childhood preschool centers that are members of the Association of Christian Early Education through the Association of Christian School International (ACSI). There are approximately 3,000 member early education programs affiliated with ACSI. The corporate office will assist in contacting members in the early childhood centers represented in the 10 regions across the United States of America to encourage their participation in the research study. The 10 regions are Northern California and Hawaii, Southern California, Mid-America (IL, IN, IA, MI, MN, NE, ND, SD, WI), Florida, Southeast (AL, GA, MS, NC, SC, TN, VA), Mid-Atlantic (PA, NJ, DC, DE, MD), Rocky Mountain (NV, WY, AZ, UT, NM, CO), Northwest (MT, ID, OR, WA, AK), Ohio River Valley (OH, KY, WV), and South Central (TX, LA, AR, OK, MO, KS). The contact announcement will inform participants of the importance of their survey participation and provide instructions and the necessary web link to the researcher in order to secure their unique access code. The survey will ask respondents to select curriculum used in a random sample of private Christian preschool programs across the 10 regions of the United States. Empirical data collected will provide a measure of research-based teaching, curriculum implementation, and organizational effectiveness as compared to research-based principles of effective early childhood programs (NSSE, 2005).
Data and Analysis

Demographic data such as basic information regarding school size, number of students at each level of instruction, specific curriculum utilized, and organizational structure will be gathered. In order to minimize error, topic or subscale ratings will be used. A subscale is an aggregation of the responses across related items. The relationship between the items and their topic or subscale is very important. The extent to which items measure the same topic is the extent to which each subscale score is said to be reliable or internally consistent. The guide, *Validity and Reliability of NSSE Surveys*, contains "Cronbach Alpha" correlation coefficients for each subscale and total items for each NSSE survey. The alpha reliability coefficient is based on a series of correlations between item responses and the total score. It ranges from -1.0 to +1.0. Reliability of .90 to 1.00 is excellent, .80 to .89 is good, and .70 to .79 is fair. If lower than .70 or a negative coefficient, then the reliability is questionable. Statistical correlations will be conducted to see if there is a relationship between low involvement in research design and curricular selection and didactic pedagogical approach in the classroom.

Analysis of the data will consist of breaking the whole into parts, based on comparisons. A number of comparisons can be made with survey item responses. Two types of strategies will be used in the analysis of the survey responses:

1. Snapshot analysis – an analysis of the variation or distribution of responses on one survey at one administration.


These analyses will be used to help refine the overall direction in the private Christian preschool market by illuminating strengths, limitations, and/or changes that are needed.
Strategies that will be used to interpret the snapshot data include the following:

- Summarizing the data using frequency distributions, along with a review of central tendency and dispersion statistics;
- Establishment of baseline data or the current status of attitudes or behaviors, which is very important in developing a profile and also providing the basis of examining change;
- Developing a descriptive summary to create a portrait of common curricular practices in private Christian early childhood programs.

Descriptive statistics (e.g., mean, standard deviation, skewness, and kurtosis) of the scores from the questionnaires were examined to ensure accuracy of the data file (Tabachnick & Fidel, 1996). Before conducting each statistical analysis, the distributions of scores are checked to ensure assumptions (e.g., normal distribution) for statistic analyses were met (Hinkle, Wiersma, and Jurs, 1998).

Examinig Reliability and Validity

*Indicators of Schools of Quality Series Development*

The survey development process for NSSE’s *Survey of Goals for Student Learning* and the *Survey of Instructional and Organizational Effectiveness* began with a review of the literature related to the knowledge, skills, and attitudes that students need to be successful. Researchers, scholars, and educational leaders from across the United States in the field of education developed the indicators of schools of quality, which were focused on schoolwide learning goals. A more detailed description of the development of the indicators can be found in *Indicators of Schools of Quality* (NSSE, 1998). Both surveys are directly related to these indicators.
Validity

Researchers, scholars, and educational leaders from across the United States in the field of education developed the indicators of schoolwide goals for student learning. Researchers, scholars, and educational leaders from across the United States in the field of education developed the indicators of schools of quality, which were focused on the quality of the work of the school. Specific research related to each indicator can be found in Appendix F.

<table>
<thead>
<tr>
<th>Response Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part 1</strong></td>
</tr>
<tr>
<td>4 Exemplary Level of Achievement</td>
</tr>
<tr>
<td>3 Fully Competent Level of Achievement</td>
</tr>
<tr>
<td>2 Evidence of Progress, but Not Fully Competent</td>
</tr>
<tr>
<td>1 Low Level of Achievement</td>
</tr>
<tr>
<td>0 No Evidence of Achievement</td>
</tr>
</tbody>
</table>

Survey of Instructional and Organizational Effectiveness

The paper-based *Survey of Instructional and Organizational Effectiveness* contains seven topics:

Part A—Indicators of Quality Instructional Systems

- Curriculum (Items 1 to 3)
- Instructional Design (Items 4 to 7)
- Assessment (Items 8 to 12)

Part B—Indicators of Quality Organizational Systems

- Educational Agenda (Items 1 to 3)
- Leadership for School Improvement (Items 4 to 8)
- Community-Building (Items 9 to 10)
- Culture of Continuous Improvement and Learning (Items 11-12)
Response Category for all 7 topics

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Exemplary Level</td>
</tr>
<tr>
<td>3</td>
<td>Fully Functioning and Operational</td>
</tr>
<tr>
<td>2</td>
<td>Evidence of Progress but Not Fully Operational</td>
</tr>
<tr>
<td>1</td>
<td>Low Level of Development and/or Implementation</td>
</tr>
<tr>
<td>0</td>
<td>No Evidence of the Indicators of Quality</td>
</tr>
</tbody>
</table>

Reliability

The reliability analysis used to determine the extent to which individual items in each part of the survey relate to each other is alpha (Cronbach’s). This model of internal consistency is based on the average interitem correlation. The alpha reliability coefficient for each part is:

Part A—Indicators of Quality Instructional Systems (12 items, alpha= .91)

Part B—Indicators of Quality Organizational Systems (12 items, alpha= .93)

The reliability coefficient calculations are based on a sample of 750 respondents. An exploratory factor analysis (principal component analysis) was utilized to determine the extent to which the items in each part of the survey (A and B) and the entire survey were clustered together. The results of these analyses are:

- Part A—Indicators of Quality Instructional Systems (one component solution accounting for 52% of the variance).
- Part B—Indicators of Quality Organizational Systems (one component solution accounting for 58% of the variance).
Part A and Part B—Two-component solution using varimax rotation, the first component containing instructional systems items and the second component containing organizational systems items, together accounting for 55% of the variance.
CHAPTER 4: PRESENTATION OF THE RESULTS

As stated in Chapter 1, the purpose of this study is to implement evaluations of preschool curricula that will provide information to support informed choices of classroom curricula for early childhood programs. After examining curricula used in a random sample of private preschool programs, empirical data exists to support the lack of research-based teaching and assessment. Utilizing the survey method, this study investigated particular descriptive characteristics of preschool curricula with a focus on developmentally appropriate practices, with corresponding selection criteria that is supported by a body of research that supports a best practice approach to instruction.

Research has concluded that well-implemented preschool curriculum models regardless of their theoretical orientation had similar effects on children’s intellectual and academic performance. Scripted teacher-directed instruction, touted by some as the surest path to school readiness, seems to purchase a temporary improvement in academic performance at the cost of missed opportunity for long-term improvement. Within the past several years, an increasing number of professionals have noted that educational curriculum for young children lack a strong empirical research base. The research description of the knowledge on which early childhood education programs are developed is professional judgment and best opinion (White, 1985). This lack of empirical support has not hindered the development of programs; as White noted, “there is not a scarcity of programs, there is a scarcity of good data.” (p. 16)

As in other areas of early childhood education, various best practices in curriculum content have become controversial practices due to the lack of empirical support. Empirical data collected provided a measure of research-based teaching, curriculum implementation, and
organizational effectiveness as compared to research-based principles of effective early childhood programs. (NSSE, 2005)

Quality programs depend upon reliable data from a variety of sources for informed decisions. Among the most important are the school stakeholders. Students, teachers, parents, support staff, and community members hold a significant stake in the success of their schools, and it is important that their opinions be considered in developing, implementing, and sustaining quality programs.

To address these needs, the National Study of School Evaluation has designed a number of surveys and inventories. The following surveys provided information regarding stakeholders’ perspectives in decision-making and school improvement planning efforts: Indicators of Organizational Effectiveness and Indicators of Teaching Effectiveness web-based surveys. These surveys build on the research-based practices and organizational conditions that contribute to improved student performance. Respondents rated practices and conditions as strongly agree, agree, neutral, disagree, strongly disagree, and does not apply/do not know. Using a survey to collect information about stakeholder’s perspectives is a common method of collecting data. It is efficient, cost-effective, and can provide a variety of viewpoints in a short amount of time. Some risks are also inherent in any data collection methodology. Biased items or poor response rates can lead to misinterpretation. An additional question is the extent to which “perceptions” reflect reality. However, in combination with other information, surveys provide meaningful data to help generate conclusions (National Study of School Evaluation, 2005). The purpose of using the survey design is to generalize from a sample to a population to make inferences about the characteristics and behaviors of this population (Babbie, 1990, 2001).
Specific attention was given to the private, Christian preschool market and how it makes curriculum and assessment decisions for the students they serve. Data examined and analyzed to provide evidence of the need to strengthen and improve the quality of these schools’ selected curricula. The private, Christian preschool market historically utilizes the traditional didactic approach to pedagogy. The following questions research questions directed this study:

1. In developing curriculum or deciding whether a particular curriculum is appropriate, does a body of research that supports a “best practice” approach to instruction support the curriculum itself?

2. Is the curriculum based on a set of quality standards?

3. Is goal-oriented skill development ignored in the content?

4. Is there a balance of developmentally appropriate practices with attention to academic content?

5. Does the curriculum promote interactive learning and engagement, and encourage the child’s construction of knowledge?

6. Does the curriculum lead to conceptual understanding by helping children construct their own understanding in meaningful contexts?

This study will investigate particular descriptive characteristics of preschool curricula with a focus on developmentally appropriate practices, with corresponding selection criteria that is supported by a body of research that supports a best practice approach to instruction. The latest publication in the National Study of School Evaluation (NSSE’s) Indicators of School Quality series – focused on Infant and Early Childhood Programs – provides a comprehensive research-based and data-driven framework for continuous improvement. NSSE’s program evaluation framework places a dual focus on assessing children’s progress and on analyzing the quality of
the teaching and organizational effectiveness of the program (Fitzpatrick, 2002). The NSSE and the regional school accreditation commissions across the United States have recognized the need to support the work of educators, parents, and community leaders in evaluating the quality of early childhood programs. The NSSE and the regional school accreditation commissions across the United States have also made the commitment to providing tools and research-based resources to support the continuous improvement of infant and early childhood programs (Fitzpatrick, 2002).

Sample Descriptive

Three hundred surveys were available to the private, Christian preschools who were members of members of the Association of Christian Early Education through the Association of Christian School International (ACSI). There are approximately 3,000 member early education programs affiliated with ACSI. The corporate office assisted in contacting members in the early childhood centers represented in the ten regions across the United States of America, to encourage their participation in the research study. The ten regions are: Northern California and Hawaii, Southern California, Mid-America (IL, IN, IA, MI, MN, NE, ND, SD, WI), Florida, Southeast (AL, GA, MS, NC, SC, TN, VA), Mid-Atlantic (PA, NJ, DC, DE, MD), Rocky Mountain (NV, WY, AZ, UT, NM, CO), Northwest (MT, ID, OR, WA, AK), Ohio River Valley (OH, KY, WV), and South Central (TX, LA, AR, OK, MO, KS). The contact announcement informed participants of the importance of their survey involvement, provided instructions, and supplied the necessary web link to the researcher in order to secure their unique access code. The survey asked respondents to select curriculum used in a random sample of private Christian preschool programs across the four regions of the United States. Empirical data collected provided a measure of research-based teaching, curriculum implementation, and organizational
effectiveness as compared to research-based principles of effective early childhood programs. (NSSE, 2005) There was a 23% return rate on completed surveys. The online survey log provided the researcher the capability of viewing the complete and incomplete surveys. Directors and teachers were contacted with a reminder email and a telephone call asking them to complete the survey. Incomplete surveys were deleted from further analysis. Seven research questions were answered using the data collected and presented in this chapter.

The Survey of Infant and Early Childhood Analysis of Teaching and Organizational Effectiveness answered the following questions:

1. In developing curriculum or deciding whether a particular curriculum is appropriate, does a body of research that supports a “best practice” approach to instruction support the curriculum itself?

2. Is the curriculum based on a set of quality standards?

The results presented in Table 1 indicate clearly that the administrators/directors in this study experienced greatest difficulty in using an evaluation framework to assess children’s progress and analyze the quality of teaching and organizational effectiveness. A more detailed summary and discussion of the findings are presented in the next chapter.
# Infant and Early Childhood Analysis of Teaching and Organizational Effectiveness

<table>
<thead>
<tr>
<th>Strengths and Limitations</th>
<th>Yes</th>
<th>No</th>
<th>Number of Responses</th>
<th>Average</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did the staff and program improvement team review the principles of teaching and</td>
<td>22</td>
<td>17</td>
<td>39</td>
<td>1.44</td>
<td>0.5</td>
</tr>
<tr>
<td>organizational effectiveness as part of the program evaluation?</td>
<td>(56.4%)</td>
<td>(43.6%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Was a process used to ensure that all staff members understood the principles of</td>
<td>25</td>
<td>14</td>
<td>39</td>
<td>1.36</td>
<td>0.48</td>
</tr>
<tr>
<td>instructional and organizational effectiveness?</td>
<td>(64.1%)</td>
<td>(35.9%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Was the level of your early childhood program's teaching effectiveness identified using</td>
<td>3</td>
<td>36</td>
<td>39</td>
<td>1.92</td>
<td>0.27</td>
</tr>
<tr>
<td>the provided &quot;Rubrics for Infant and Early Childhood Programs-Indicators of Teaching</td>
<td>(7.7%)</td>
<td>(92.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness&quot;?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Were the &quot;Indicators of Teaching Effectiveness&quot; used to determine the degree to which</td>
<td>5</td>
<td>33</td>
<td>38</td>
<td>1.87</td>
<td>0.34</td>
</tr>
<tr>
<td>they are evident in your early childhood program?</td>
<td>(13.2%)</td>
<td>(86.8%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Was the level of your early childhood program's organizational effectiveness identified</td>
<td>3</td>
<td>35</td>
<td>38</td>
<td>1.52</td>
<td>0.27</td>
</tr>
<tr>
<td>using the provided &quot;Rubrics for Infant and Early Childhood Programs-Indicators of</td>
<td>(7.0%)</td>
<td>(92.1%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational Effectiveness&quot;?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Were the &quot;Indicators of Organizational Effectiveness&quot; assessed to determine the degree</td>
<td>4</td>
<td>33</td>
<td>37</td>
<td>1.89</td>
<td>0.31</td>
</tr>
<tr>
<td>to which they are evident in your early childhood program?</td>
<td>(11.0%)</td>
<td>(88.9%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Did the staff identify perceived strengths and limitations of your teaching program?</td>
<td>26</td>
<td>10</td>
<td>36</td>
<td>1.28</td>
<td>0.45</td>
</tr>
<tr>
<td>(72.2%)</td>
<td>(27.8%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Did the staff identify perceived strengths and limitations of your program's</td>
<td>23</td>
<td>13</td>
<td>36</td>
<td>1.36</td>
<td>0.48</td>
</tr>
<tr>
<td>organizational system?</td>
<td>(63.6%)</td>
<td>(36.4%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals:</td>
<td>36.80%</td>
<td>63.20%</td>
<td></td>
<td>1.63</td>
<td>0.48</td>
</tr>
</tbody>
</table>

### Table 1: Demographics

<table>
<thead>
<tr>
<th>Number of Responses</th>
<th>AB</th>
<th>ACS!</th>
<th>JU</th>
<th>CLP</th>
<th>AOP</th>
<th>O</th>
</tr>
</thead>
</table>

9. Select the current curriculum being used: 48

<table>
<thead>
<tr>
<th>Current Curriculum</th>
<th>AB</th>
<th>ACS!</th>
<th>JU</th>
<th>CLP</th>
<th>AOP</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLP</td>
<td>1 (17%)</td>
<td>4 (8.3%)</td>
<td>0 (0%)</td>
<td>1 (2.1%)</td>
<td>0 (0%)</td>
<td>35 (72.9%)</td>
</tr>
</tbody>
</table>
The Infant and Early Childhood Staff Questionnaire answered the following questions:

3. Is goal-oriented skill development ignored in the content?

4. Is there a balance of developmentally appropriate practices with attention to academic content?

The survey calls for an in-depth analysis of the effectiveness of the programs teaching practices and organizational conditions that support children's developmental progress. A set of research-based principles for the assessment of early childhood teaching provide the foundation for the construction of the survey questions.

Although children have benefited by attending quality prekindergarten programs (Carnegie Task Force on Learning in the Primary Grades, 1996), a number of factors have impeded the achievement of developing quality programs. According to Dodge (1995), low wages for teachers, high staff turnover, minimum state regulations for health and safety, the cost of appropriate teacher/child ratios, inadequate facilities, and inappropriate curricula have had an effect on the quality of some programs. Regarding teachers, Howes, Phillips, and Whitebook (1992) concluded that when teachers teach in programs meeting reasonably high standards of quality, they are more likely to provide appropriate care and developmentally appropriate activities than teachers who teach in programs that fail to meet quality standards.

Teachers indicated that they are goal-oriented in student skill development. As indicated in Table 2, teachers are using various instructional materials without relying on published textbook materials that have a strong philosophy toward didactic pedagogy. A more detailed summary and discussion are presented in the next chapter.
## Infant and Early Childhood Staff Questionnaire

**Early Childhood Program**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Does Not Apply or Do Not Know</th>
<th>Number of Responses</th>
<th>Average</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Regular feedback is provided to family members about their child's progress and program activity.</td>
<td>56 (56.3%)</td>
<td>44</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>103</td>
<td>4.56</td>
<td>0.5</td>
</tr>
<tr>
<td>2. The program's staff encourages and provides support for parent/teacher communication.</td>
<td>64 (62.5%)</td>
<td>39</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>133</td>
<td>4.63</td>
<td>1.48</td>
</tr>
<tr>
<td>3. The early childhood program is designed to support children's development in the areas of: Interest in Others</td>
<td>44 (43.8%)</td>
<td>59</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>103</td>
<td>4.44</td>
<td>0.5</td>
</tr>
<tr>
<td>4. The early childhood program is designed to support children's development in the areas of: Self-awareness</td>
<td>52 (50%)</td>
<td>45</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>103</td>
<td>4.44</td>
<td>0.61</td>
</tr>
<tr>
<td>5. The early childhood program is designed to support children's development in the areas of: Motor and Eye-Hand Skills</td>
<td>65 (62.5%)</td>
<td>38</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>103</td>
<td>4.63</td>
<td>0.48</td>
</tr>
<tr>
<td>6. The early childhood program is designed to support children's development in the areas of: Language Development/Communication</td>
<td>77 (75%)</td>
<td>26</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>103</td>
<td>4.75</td>
<td>0.43</td>
</tr>
<tr>
<td>7. The early childhood program is designed to support children's development in the areas of: Physical, Spatial, and Temporal Awareness</td>
<td>58 (56.2%)</td>
<td>45</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>103</td>
<td>4.56</td>
<td>0.5</td>
</tr>
<tr>
<td>8. The early childhood program is designed to support children's development in the areas of: Purposeful Action and Use of Tools</td>
<td>52 (50%)</td>
<td>39</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>103</td>
<td>4.25</td>
<td>0.57</td>
</tr>
<tr>
<td>9. The early childhood program is designed to support children's development in the areas of: Expression of Feelings</td>
<td>51.5 (50%)</td>
<td>51.5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>103</td>
<td>4.5</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>56.3%</td>
<td>41.7%</td>
<td>0.7%</td>
<td>1.4%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>4.53</td>
<td>0.59</td>
<td></td>
</tr>
<tr>
<td>Programs and Services</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Neutral</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
<td>Don't Apply</td>
<td>Do Not Know</td>
<td>Number of Responses</td>
<td>Average</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>-------</td>
<td>---------</td>
<td>----------</td>
<td>-------------------</td>
<td>-------------</td>
<td>-------------</td>
<td>---------------------</td>
<td>---------</td>
</tr>
<tr>
<td>10. Children are provided appropriate opportunities for both independent and group play/exploration</td>
<td>90 (87.5%)</td>
<td>12 (12.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.88</td>
<td>0.33</td>
</tr>
<tr>
<td>11. The program provides appropriate services for children with special needs (e.g., developmental delay, speech and language delay)</td>
<td>7 (6.3%)</td>
<td>12 (12.5%)</td>
<td>46 (43.8%)</td>
<td>26 (25%)</td>
<td>0 (0.0%)</td>
<td>12 (12.5%)</td>
<td>103</td>
<td>3.00</td>
<td>0.85</td>
</tr>
<tr>
<td>12. The program provides adequate materials and equipment to help me enhance learning opportunities in my classroom</td>
<td>58 (56.3%)</td>
<td>38 (37.5%)</td>
<td>7 (6.3%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.50</td>
<td>0.61</td>
</tr>
<tr>
<td>13. The facilities are clean, safe and inviting.</td>
<td>91 (87.5%)</td>
<td>6 (6.3%)</td>
<td>0 (0.0%)</td>
<td>6 (6.3%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.75</td>
<td>0.75</td>
</tr>
<tr>
<td>14. The program ensures the safety of all children.</td>
<td>91 (87.5%)</td>
<td>12 (12.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.88</td>
<td>0.33</td>
</tr>
<tr>
<td>15. The program administrator and teachers treat all children with respect and kindness.</td>
<td>91 (87.5%)</td>
<td>12 (12.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.88</td>
<td>0.33</td>
</tr>
<tr>
<td>16. I was provided with a written copy of this program's beliefs, mission, and policies.</td>
<td>91 (87.5%)</td>
<td>12 (12.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.88</td>
<td>0.33</td>
</tr>
<tr>
<td>17. I feel valued and important as a staff member.</td>
<td>77 (75%)</td>
<td>12 (12.5%)</td>
<td>7 (6.3%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.56</td>
<td>0.86</td>
</tr>
<tr>
<td>18. The program administrator treats all staff members with respect and kindness.</td>
<td>84 (81.3%)</td>
<td>19 (18.8%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.81</td>
<td>0.39</td>
</tr>
<tr>
<td>19. Parents are welcome in the early childhood program.</td>
<td>91 (87.5%)</td>
<td>12 (12.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.88</td>
<td>0.30</td>
</tr>
<tr>
<td>20. I am provided with regular, paid professional development opportunities.</td>
<td>51 (50%)</td>
<td>26 (25.0%)</td>
<td>19 (18.8%)</td>
<td>7 (6.3%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.19</td>
<td>0.95</td>
</tr>
<tr>
<td>21. I can adequately work with and appropriately care for the number of children assigned to me.</td>
<td>63 (62.5%)</td>
<td>34 (31.3%)</td>
<td>6 (6.3%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.56</td>
<td>0.61</td>
</tr>
<tr>
<td>22. If I were a child, I would like to spend a day in this program.</td>
<td>84 (81.3%)</td>
<td>19 (18.8%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>103</td>
<td>4.81</td>
<td>0.39</td>
</tr>
</tbody>
</table>

Totals: 72.1%  17.3%  6.3%  3.4%  0.0%  0.0%  4.68  0.76
### Staff Involvement

<table>
<thead>
<tr>
<th>23. Formal meetings are offered between teachers and the children's families.</th>
<th>More than once a year</th>
<th>Once a Year</th>
<th>As needed</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>65</td>
<td>19</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(62.5%)</td>
<td>(18.8%)</td>
<td>(18.8%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Number of Responses</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>3.44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Opportunities

<table>
<thead>
<tr>
<th>24. Questionnaires</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>75</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>(73.3%)</td>
<td>(26.7%)</td>
</tr>
<tr>
<td>Number of Responses</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>1.27</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>25. Staff meetings</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>97</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>(93.8%)</td>
<td>(6.2%)</td>
</tr>
<tr>
<td>Number of Responses</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>1.06</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.24</td>
<td></td>
</tr>
<tr>
<td>26. Serving on Committees</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>84</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>(81.3%)</td>
<td>(18.8%)</td>
</tr>
<tr>
<td>Number of Responses</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>1.19</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.39</td>
<td></td>
</tr>
<tr>
<td>27. Meeting with the Board of Directors</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>61</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>(60.0%)</td>
<td>(40.0%)</td>
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<tr>
<td>Number of Responses</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>.4</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.49</td>
<td></td>
</tr>
<tr>
<td>28. Focus group meetings</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>62</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>(60.0%)</td>
<td>(40.0%)</td>
</tr>
<tr>
<td>Number of Responses</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>1.44</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>29. Other</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>51.5</td>
<td>51.5</td>
</tr>
<tr>
<td></td>
<td>(50%)</td>
<td>(50%)</td>
</tr>
<tr>
<td>Number of Responses</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>30. None</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>(0.0%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>Number of Responses</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Totals: 63.4%</td>
<td>36.6%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.37</td>
<td>0.48</td>
</tr>
</tbody>
</table>

### Staff Input

<table>
<thead>
<tr>
<th>31. I have the opportunity to provide input regarding the early childhood program.</th>
<th>At least monthly</th>
<th>More than once a year</th>
<th>Once a Year</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>77</td>
<td>20</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(75%)</td>
<td>(18.8%)</td>
<td>(6.3%)</td>
<td>(0%)</td>
</tr>
<tr>
<td>Number of Responses</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>3.69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.58</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Infant and Early Childhood Staff Questionnaire answered the following questions:

5. Does the curriculum promote interactive learning, engagement, and encourage the child’s construction of knowledge?

6. Does the curriculum lead to conceptual understanding by helping the children construct their own knowledge in meaningful contexts?

The results presented in Table 3 indicate that teachers in the study provide children with opportunities for both independent and group play/exploration. The assumption is that children are involved in real-life, meaningful explorations that stem from their interests and build upon their abilities. The results also point out that the programs provide adequate materials and equipment to help the teachers enhance learning opportunities in the classroom. The materials and equipment improve conceptual understanding by helping the children construct their own knowledge in meaningful contexts.

A set of rubrics provided a self-assessment tool used by the directors and teachers. The rubrics described the continuum of extent to which research-based principles and indicators are evident in the early childhood program. The results presented signify that the directors and teachers experienced the greatest difficulty in using a performance rubric to evaluate research-based teaching, curriculum implementation, and organizational effectiveness as compared to research-based principles of effective early childhood programs. A more detailed summary and discussion of the findings are presented in the next chapter.
CHAPTER 5: SUMMARY AND DISCUSSION

This final chapter of the dissertation restates the research problem and reviews the major methods used in this study. The major sections of this chapter summarize the results and discuss their implications (Glatthorn, 1998).

Statement of the Problem

This research is intended to address the lack of rigorous, systematic evaluation of preschool curricula in use. Specific attention will be given to the private Christian preschool market and how it makes curriculum and assessment choices for the students they serve. The study will provide rigorous evidence of the need to strengthen and improve the quality of these school's selected curricula and produce educationally meaningful changes in a traditionally didactic approach to pedagogy.

Overview of Methodology/Research Design

This study investigated particular descriptive characteristics of preschool curricula with a focus on developmentally appropriate practices, with corresponding selection criteria that is supported by a body of research that supports a best practice approach to instruction that utilized the survey method. The following survey was used to take into account the perspectives of the school stakeholders in decision-making and school improvement planning efforts: Indicators of Organizational and Teaching Effectiveness web-based surveys. This survey builds on the research-based practices and organizational conditions that contribute to improved student performance. Respondents rated practices and conditions as strongly agree, agree, neutral, disagree, strongly disagree, and does not apply/do not know. This inventory contains items on the following topics:
Research-Based Practices

- Expect results
- Monitor performance
- Support student learning
- Maximize teachers’ effectiveness
- Develop a professional learning community
- Lead for improvement

Organizational Conditions for Improving Schools

- Quality teachers
- Effective leadership
- Quality information
- Policies and procedures
- Resources and support systems

Using a survey to collect information about stakeholders’ perspectives is a common method of collecting data. It is efficient and cost-effective and can provide a variety of viewpoints in a short amount of time. Some risks are also inherent in any data collection methodology. Biased items or poor response rates can lead to misinterpretation. Also, the extent to which “perceptions” reflect reality is often questioned. The corporate office of Christian Early Education through the Association of Christian School International (ACSI) assisted in contacting member early childhood centers to encourage their participation in the research study. The contact announcement informed participants of the importance of their survey participation, provided instructions, and provided the necessary web link to the researcher in order to secure their unique access code. The survey asked respondents to select curriculum used in a random sample of
private Christian preschool programs across the four regions of the United States. Empirical data collected provided a measure of research-based teaching, curriculum implementation, and organizational effectiveness as compared to research-based principles of effective early childhood programs (NSSE, 2005).

Summary and Discussion of Results

Research has concluded that well-implemented preschool curriculum models, regardless of their theoretical orientation, had similar effects on children’s intellectual and academic performance. Scripted teacher-directed instruction, touted by some as the surest path to school readiness, seems to purchase a temporary improvement in academic performance at the cost of missed opportunity for long-term improvement. Within the past several years, an increasing number of professionals have noted that educational curriculum for young children lack a strong empirical research base. Knowledge on which early childhood education programs are developed has been described as professional judgment and best opinion (White, 1985). This lack of empirical support has not hindered the development of programs; as White noted, “there is not a scarcity of programs, there is a scarcity of good data” (p. 16).

As in other areas of early childhood education, various best practices in curriculum content have become controversial due to the lack of empirical support. Empirical data collected provided a measure of research-based teaching, curriculum implementation, and organizational effectiveness as compared to research-based principles of effective early childhood programs (NSSE, 2005).

Quality programs depend upon reliable data from a variety of sources for informed decisions. Among the most important are the school stakeholders. Students, teachers, parents, support staff, and community members hold a significant stake in the success of their schools,
and it is important that their opinions be considered in developing, implementing, and sustaining quality programs. Using a survey to collect information about stakeholders’ perspectives is a common method of collecting data. It is efficient and cost-effective and can provide a variety of viewpoints in a short amount of time. Some risks are also inherent in any data collection methodology. Biased items or poor response rates can lead to misinterpretation. In addition, the extent to which “perceptions” reflect reality is questioned. However, in combination with other information, surveys provide meaningful data to help generate conclusions (National Study of School Evaluation, 2005). The purpose of using the survey design is to generalize from a sample to a population so that inferences can be made about the characteristics and behaviors of this population (Babbie, 1990, 2001).

Conclusions

The key findings as they relate to each of the research questions are:

*Question One – Is the curriculum based on a set of quality standards?*

The Infant and Early childhood Analysis of Teaching and Organizational Effectiveness survey revealed a positive trend toward staff involvement. Approximately 49% of the preschool directors surveyed indicated that the staff was part of the improvement process and participated in the evaluation of the strengths and limitations of the teaching program. A negative trend that became evident is of the 68% that answered the open-ended question of how they identified strengths and limitations, only 17% used some type of assessment tool. The primary method of identification was parent surveys and staff meetings. There appears to be a lack of knowledge and training related to quality assessment tools that are linked to quality standards.

Although relatively new to the field of early childhood, virtually every state in the nation now has K-12 standards, largely through the impetus of two education summits: Goals 2000 and
the Improving America’s School Act. Review of the literature, as well as position papers by organizations on criteria for quality standards (Kendall & Marzano, 1997; NAEYC/NAESC/SDE, 2002) and content learning (Bredekamp & Rosegrant, 1992, 1995; Neuman et al., 2000), reveal application to early learning content standards for language, early literacy, and mathematics. Also examining guidance documents from the Child Care Block Grant (2002) and policies and materials related to the Good Start Grow Smart (2002) initiative highlighted five critical factors that seem particular to developing quality early childhood standards (Neuman & Roskos, 2005):

- **Big ideas.** Standards and indicators should focus on the big ideas that young children should know and be able to do (Clements et al., 2004; Roskos, Vukelich, & Clements, 2001). These skills should be grounded in the core discipline and represent foundational understandings of important key ideas. Indicators that attempt to prescribe how these big ideas are taught but should be avoided (NAEYC/NAESC/SDE, 2002).

- **Research-based.** Standards and indicators should be research-based (IRA/NAEYC, 1998; NAEYC/NAESC/SDE, 2002; NCTM, 2000). Indicators that are built on a solid foundation of research are reasonably achievable for all Pre-K children, age-appropriate, and necessary for school readiness.

- **Clearly written.** Standards and indicators must be written clearly enough for teachers, parents, policymakers, and the general public to understand. Educational jargon can be off-putting, alienating the very public from which educators seek support. A clear indicator, for example, should be measurable, focus on a particular targeted skill (instead of many skills) and send an unambiguous message as to what the preschooler will know and be able to do.
- **Comprehensive.** Standards and indicators should be comprehensive representing the knowledge and skills essential for achievement. Indicators need to be balanced, to adequately cover the domain, and to not emphasize one set of skills over another.

- **Manageable.** Standards should be manageable and realistic given the constraints of time (NAEYC/NAESC/SDE, 2002). Given the competing demands and limited hours (many programs are still only 2½ hours long), states should be parsimonious in the number of indicators required. Too many indicators put undue demands on teachers and place impossible expectations on children.

- **Applicable to multiple early childhood settings.** Standards and indicators should be appropriate for learning in multiple early childhood settings (Child Care Block Grant Guidance, 2002). Learning in the early years occurs in many different educational settings—some children are in family day care arrangements, others in center-based care, still others with family members. Standards and indicators should be consistent across settings, helping to eliminate the fragmentation that has traditionally plagued the early childhood field.

Although children have benefited by attending quality prekindergarten programs (Carnegie Task Force on Learning in the Primary Grades, 1996), a number of factors have impeded the achievement of developing quality programs. According to Dodge (1995), low wages for teachers, high staff turnover, minimum state regulations for health and safety, the cost of appropriate teacher/child ratios, inadequate facilities, and inappropriate curricula have had an effect on the quality of some programs. Regarding teachers, Howes, Phillips, and Whitebook (1992) concluded that when teachers teach in programs meeting reasonably high standards of
quality, they are more likely to provide appropriate care and developmentally appropriate activities than teachers who teach in programs that fail to meet quality standards.

*Question Two – In developing a curriculum or deciding whether a particular curriculum is appropriate, is the curriculum backed by a body of research that supports a best-practice approach to instruction?*

A demographic assessment was part of the survey process in order to identify the current curriculum being used in an attempt to make a statistical determination if the curriculum is backed by a body of research that supports a best-practice approach to curriculum. The survey revealed the following: approximately 17% of those surveyed utilize the A Beka curriculum, 8% use ACSI’s Early Childhood Curriculum, 2% use Christian Light Publications, and approximately 73% indicated their centers use something other than those listed. A research assumption was that the majority of the participants would indicate they used A Beka Book publications in their preschool programs. Staff responses on the Infant and Early Childhood Staff Questionnaire indicate that 50% to 75% strongly agree that their instructional program is designed to support the child’s development. Approximately 88% of the staff surveyed indicated that they strongly agree that children are provided appropriate opportunities for both independent and group play and exploration. When asked how teachers evaluate the strengths and weaknesses of their existing curriculum for possible change, 94% indicated staff meetings. The teachers indicated in their open-ended responses that they do not use any type of rubric to assess the appropriateness of a curriculum. The trend evident in the survey results is that there is a positive trend toward providing a warm, loving, and nurturing environment, but there is not an indication that a best-practice approach to instructional design and the evaluation of appropriateness is utilized.
From today's cognitive perspective, meaningful learning is reflective, constructive, and self-regulated. People are seen not as mere recorders of information but as creators of their own unique knowledge structures. To know something is not just to receive information but also to interpret it and relate it to other knowledge one already has. In addition, we now recognize the importance of knowing not just how to perform but also when to perform and how to adapt that performance to new situations. Thus, the presence or absence of discrete bits of information, which is typically the focus of traditional multiple-choice tests, is not of primary importance in the assessment of meaningful learning. Rather, what is important is how and whether students organize, structure, and use that information in context to solve complex problems.

Quality instruction depends on attention given to a sensitive period that exists in all subjects that can be explained in biological, social, and cultural terms. Quality instruction leads to development. The goal of an instructor should be to lead a student from their current skill level to their potential level. Instructors must be knowledgeable in certain subjects and share their knowledge, but they also need to know how to carry students to higher levels of problem solving. It is critical to instruction that students go beyond their current skill and knowledge levels. Conflict-generating problem solving is a part of everyday learning. Teachers should provide instruction that provides opportunities for students to resolve problems. The ideas of teaching and learning that began in the 1930s with Vygotsky are now supported by what researchers are discovering in regards to brain research and educational practices.

Question Three – Is goal oriented skill development ignored in the curriculum?

A set of research-based principles for the assessment of effective early childhood teaching provides the foundation for the construction of the survey questions. Of the total number of respondents, 56% indicated they are goal-oriented in their instructional practices for
student skill development. The research data reflects that 56% of the participants strongly agree, and 44% of the participants agree (100% of the population) that regular feedback is provided to family members about their children’s progress and program activities by staff members. The survey did not measure the degree to which teaching strategies and learning experiences match the goals and expectations for each child, including children with special needs. Survey calculations regarding the questions targeted toward appropriate services for children with special needs report 43% are neutral in their program service structure for these children. Almost 50% of the teachers surveyed had no position on the need of program development for children with special needs.

Scientists and researchers are making exciting new discoveries related to how the brain processes and stores information (Sousa, 1998). This research discusses the potential these new discoveries have to unlock the mysteries of learning itself. Recent research highlights the differences in brain anatomy of students with learning disabilities and attention deficits that can shed light on their performance in the classroom (Semrud-Clikeman et al., 2000). Despite the enormous implications of the research, it has been found that it is not being effectively disseminated to education practitioners, who among all professionals need it most (Sousa, 1998). Brain research adds additional pedagogical insight when combined with educational practices of developmental psychologists such as Vygotsky.

A basic precept of brain-based research states that learning is best achieved when linked with the learner’s previous knowledge, experience, or understanding of a given subject or concept (Perry, 2000). Therefore, we can assume that brain-based research would be most effective when combined with previously established frameworks for teaching and learning (Brandt, 1999). Education initiatives that link current practice with promising new research in
neurological and cognitive sciences, however, offer real possibilities for improving teaching and learning, especially for students with diverse learning needs.

Professional growth opportunities should be provided to staff members in order to assist them in knowledge acquisition of current pedagogical practices. Teachers surveyed indicated that only 25% agree that they receive regular, paid professional development opportunities. Goal-oriented skill development for students that is closely linked with assessment practices was associated with parent-teacher conferences. There was no indication that this process had been defined for the participants, so, therefore, it was not in use. It is difficult to apply current pedagogical practices if goal-oriented skill development is not part of the center’s quality standards.

*Question Four* – *Is there a balance of developmentally appropriate practices with attention to academic content?*

*Question Five* – *Does the curriculum promote interactive learning and engagement and encourage the child’s construction of knowledge?*

The teachers surveyed indicated that 87% strongly agree that children are provided appropriate opportunities for both independent and group play/exploration. The assumption is that children are involved in real-life, meaningful explorations that stem from their interests and build upon their abilities. Respondents surveyed indicated they strongly agree (56%) that the program provides adequate materials and equipment to help the teachers enhance learning opportunities in their classroom. The survey does not indicate whether these same respondents match children’s learning needs and interests with varied resources. Survey questions were specifically designed to assess the degree of instructional attention given to such developmental factors as self-awareness; motor and eye-hand skills; physical, spatial, and temporal awareness;
expression of feelings; and purposeful action and use of tools. More than 50% of those surveyed indicated they strongly agree that their early childhood programs are designed to support these developmental characteristics.

Developmentally appropriate curricula have also been found to be a critical factor in providing high-quality prekindergarten experiences for young children (Dodge, 1995; NAEYC, 1986). Frede and Barnett (1992) reported that young children who were exposed to developmentally appropriate curricula had increased academic skills in first grade. Moreover, developmentally appropriate experiences were well suited for diverse backgrounds of students (Schweinhart & Hohmann, 1992). Researchers and educators have noted other components for high-quality prekindergarten programs. Adams and Sandfort (1994) and Mitchell (1989) considered a comprehensive family service program to be a necessary component of a high-quality program.

Constructivists believe that the learner generates or constructs a personal understanding of the environment through a process of interaction, reflection, and action (Dewey, 1938; Hausfather, 2001). A main tenet of constructivism is the belief that the learner builds knowledge in active response to sensory experiences (Saunders, 1992; Wood, 1995). During this interactive stage, cognitive structures are stimulated in the formation of “knowledge construction,” as students contemplate both their actions and the environment (Noddings, 1990; von Glaserfeld, 1995).

Piaget (1954), an early proponent of constructivism, proposed a developmental theory espousing universal forms or structures of knowledge that follow a developmental sequence of growth (preoperational, operational, concrete, and abstract operations). In reference to Piaget’s work, Lincoln (2001) stated that the “individual constructs knowledge and makes meaning
through interpretation of his own experiences and analysis of the environment” (p. 12). Piaget and Inhelder (1969) postulated that knowledge comes neither from the subject itself nor the object but from the unity or interaction of the two. Further, Vygotsky (1978) purported a sociocultural version of constructivism, believing that understanding is generated by the learner’s interaction with the social milieu. In both cases, constructivists propose that understanding is created when the learners are engaged in using their cognitive processes in relation to their bodies and within the context of the physical world of materials, symbolic tools, and nuances of their culture.

The role of the social context of learning in shaping higher-order cognitive abilities and dispositions has also received attention over the past several years. It has been noted that real-life problems often require people to work together as a group in problem-solving situations, yet most traditional instruction and assessment have involved independent rather than small group work. Now, however, it is postulated that groups facilitate learning in several ways: modeling effective thinking strategies, scaffolding complicated performances, providing mutual constructive feedback, and valuing the elements of critical thought. The degree to which this is being accomplished was not evaluated using the survey instruments.

It was evident based on survey responses that understanding of current literature that supports best practices in education provides a solid foundation for program development and evaluation. It was also shown that using a standard-driven rubric as a basis for evaluation and assessment helps minimize perceptual responses, which can override reality. Understanding the nature of how perceptions develop and the underlying causes of perceptual development can be used as a vehicle of change.
Assumptions and Limitations

There were two primary assumptions made in this study. The first assumption was that the members of the Association of Christian Schools International Early Education Program, selected at random from the ACSI corporate office, were representative of the private Christian early childhood education constituency. While the survey participants represented the wide variety of early childhood centers associated with ACSI, there was no way to assure that all members of the represented group were being heard.

The second assumption of the study included the following: survey participants may not have had a clear understanding of definitional descriptions and terminology; program selection was varied and carried with it the administrative bias toward particular program selection and content; and subjective judgment was used to categorize data.

Limitations of the study included:

1. The survey was dependent upon direct communication with persons having characteristics, behaviors, attitudes, and other relevant information appropriate for this investigation. This made them reactive in nature; that is, the survey directly involved the respondents in the assessments by eliciting a reaction.

2. The survey only involved respondents who were accessible and cooperative.

3. The surveys were vulnerable to over-rater or under-rater bias, which is the tendency for respondents to give consistently high or low ratings.

Recommendations for Further Research

The findings from the surveys did not significantly predict administrator and teacher practices due to a marginal response rate. It is recommended that:
1. An ongoing evaluation of the private, Christian preschool market utilize the surveys with a structured in-service plan to increase participation and understanding,

2. This research study includes administrative and staff survey participants in other cultures in the future.

3. States consider the importance of including all developmental domains in their early learning standards and work toward including domains that may not currently be addressed, particularly social-emotional and approaches toward learning.

4. States devote significant resources to studying the relationship between universal standards and the unique needs of limited numbers of young children. A national task force or other group should be convened to address the content and application of standards for children with disabilities and English-language learners, in particular, with the goal of advancing the expectations and learning outcomes for all children.

5. Funding is needed for empirical studies that examine the use of standards and the nature of changes in child outcomes.

6. States provide ongoing and substantial support to frontline staff as they implement standards in the form of mentoring, workshops, and preservice and inservice training to ensure that the standards are clearly understood and can be implemented effectively and to ensure that standards are linked appropriately to assessment and curriculum. This support should include the importance of effective communication of standards to parents.

7. States should carefully examine the purposes for developing early learning standards and the opportunities they bring for promoting dialogue across settings and strengthening the early care and education system.
8. ACSI examine the possibility of developing an assessment system as part of the preschool accreditation process that incorporates standards from ACSI as well as regional accreditation commissions. A standards-based approach that is consistent with developmentally appropriate practices will help to ensure consistency in program alignment for entry into formal elementary school.

Expected Results

Learning and development are so individualized; it is neither possible nor desirable to establish uniform age-appropriate expectations. However, it is possible to identify parameters to guide decisions about the appropriateness of curriculum expectations. The researcher expected and identified data that supports the idea that the development of early childhood curriculum selection is based on professional judgment and best opinion versus good data. The researcher expected to find a scarcity of research based teaching and curricula that sequences developmentally appropriate concepts and links them to larger ideas. This was evident in the survey responses from the administrators as well as the staff members.
References


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Green, F. E. (1999). Brain and learning research: Implications for meeting the needs of diverse learners. Education, 199, 682-687.


*Indicators of Organizational Effectiveness and Indicators of Teaching Effectiveness* web-based surveys. These surveys are built on the research-based practices and organizational conditions that contribute to improved.


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Semrud-Clikeman, M., Steingard, R. J., Filipeck, P., Biederman, J., Bekken, K., & Renshaw, P.


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APPENDIX A

INDICATORS OF ORGANIZATIONAL AND TEACHING EFFECTIVENESS SURVEY
Infant and Early Childhood Analysis of Teaching and Organizational Effectiveness

Purpose: This questionnaire is designed to gather information that will assist in your early childhood program directors and staff improving the teaching and organizational structure of the program. You do not need to identify yourself unless you want to be contacted for further information. Your insights and ideas are extremely important. Thank you for taking the time to complete your questionnaire.

Instructions: This survey should take you about 10 minutes to complete. There is a bar on the top of each page which will tell you how much of the survey you have finished. If you need to stop taking the survey before you have finished it, you can complete the survey at a later time by referring back to your original survey invitation.

Information About You

I am a:

<table>
<thead>
<tr>
<th>Teacher's Aide</th>
<th>Teacher</th>
<th>Administrator</th>
<th>Other</th>
</tr>
</thead>
</table>

Strengths and Limitations

1. Did the staff and program improvement team review the principles of teaching and organizational effectiveness as part of the program evaluation?

2. Was a process used to ensure that all staff members understood the principles of instructional and organizational effectiveness?

3. Was the level of your early childhood program's teaching effectiveness identified using the provided "Rubrics for Infant and Early Childhood Programs-Indicators of Teaching Effectiveness"?

4. Were the "Indicators of Teaching Effectiveness" used to determine the degree to which they are evident in your early childhood program?

5. Was the level of your early childhood program's organizational effectiveness identified using the provided "Rubrics for Infant and Early Childhood Programs-Indicators of Organizational Effectiveness"?

6. Were the "Indicators of Organizational Effectiveness" assessed to determine the degree to which they are evident in your early childhood program?

7. Did the staff identify perceived strengths and limitations of your teaching program?

8. Did the staff identify perceived strengths and limitations of your program's organizational system?

Open Ended Question

9. Describe how you identified your program's strengths and limitations.
Rubric booklet for use with Survey of Instructional and Organizational Effectiveness based on the Indicators of Schools of Quality

A comprehensive survey for all professional staff and school improvement team members to support data-driven and research-based school improvement planning.

Directions: Please duplicate this booklet and distribute to each survey participant along with the survey.

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Survey of Instructional and Organizational Effectiveness

Overview

This survey provides a tool to help schools identify the strengths and limitations of the effectiveness of the instructional practices and organizational conditions of their school. The survey is not designed for staff evaluation. Instead, the focus is placed on assessing the overall effectiveness of the school for the purpose of school improvement.

This survey is based on the NSSE's Indicators of Schools of Quality, which includes a comprehensive set of research-based principles and indicators that consistently distinguish the work of top performing schools. The principles are defined within the following seven categories of instructional and organizational effectiveness:

- Curriculum Development
- Instructional Strategies
- Assessment of Student Learning
- Educational Agenda: Vision, Beliefs, Mission and Goals
- Leadership for School Improvement
- Community-building
- Culture of Continuous Improvement and Learning

Directions

- Read each of the statements of the research-based principles within the seven categories of instructional and organizational effectiveness contained on the survey answer sheet (see separate answer sheet).

- Refer to the rubrics contained on the following pages of this booklet that correspond with the statements listed on the survey answer sheet. The rubrics describe a continuum of levels of implementation of each of the research-based principles. They have been designed to help you determine the extent to which these research-based principles are reflected in the work of your school in behalf of student learning.

- Begin your review of the rubrics by reading level 3 - "Fully Functioning and Operational Level" (see bold-face type section in the column under level 3).

- If you believe that your school is not fully implementing the principles, as described in level 3, read the descriptions for levels 2, 1 and 0 to determine which of these levels most accurately describes your school.

- If you believe the effectiveness of your school exceeds the description in level 3, read the description for level 4 ("Exemplary Level") and determine whether level 3 or level 4 most accurately describes your school.

- Mark your response for each statement in the appropriate space on the answer sheet to indicate the extent to which the research-based principles are reflected in the work of your school. Be sure to use a No. 1 or No. 2 lead pencil.

- Keep in mind that this survey has been designed to help promote a thoughtful analysis of the current levels of your school's instructional and organizational effectiveness, and that responses are collected on a confidential basis. The more accurate and honest the appraisal of the school's instructional and organizational practices, the more effectively the school can strengthen the quality of its work in behalf of student learning. Please be candid.
# Curriculum Development

<table>
<thead>
<tr>
<th>Principles</th>
<th>Exemplary level of development and implementation</th>
<th>Fully functioning and operational level of implementation</th>
</tr>
</thead>
</table>
| **Develops a Quality Curriculum** | - Standards for learning are clearly defined, rigorous and appropriately challenging. Results of research and the contributions of content area scholars are taken into account in defining the standards for student learning.  
- Essential knowledge and skills are identified and given priority. The curriculum includes a balanced and comprehensive set of essential knowledge and skills in each content area.  
- The development of the curriculum reflects a commitment to equity and the belief that all students can learn.  
- The diverse learning needs of students are addressed, without compromising the essential knowledge and skills that all students are expected to achieve. Students have opportunities to explore additional applications of their learning, once they have achieved the essential knowledge and skills. | - The curriculum is based on clearly defined standards that reflect worthwhile expectations for student learning.  
- Essential knowledge and skills are identified and given priority in the development of the curriculum.  
- The development of the curriculum is focused on supporting and challenging all students to excel in their learning.  
- The development of the curriculum addresses the diverse learning needs of students, without compromising the essential knowledge and skills that all students are expected to achieve. |
| **Ensures Effective Implementation and Articulation of the Curriculum** | - There is a comprehensive plan to support the effective implementation of the curriculum that facilitates the alignment of teaching practices, instructional support and resources, and assessments of student learning with the curriculum.  
- Extensive and ongoing support is provided for the effective use of research-based instructional practices in implementing the curriculum through staff development programs, collegial planning sessions, coaching, etc.  
- Research-based criteria are used to select instructional support materials. Instructional materials recommended for adoption are proven to be effective and aligned with content standards.  
- The curriculum is coordinated across grade levels through ongoing dialogue among teachers to establish a shared vision for student learning.  
- Essential knowledge and skills for student learning are effectively communicated to parents and community members through a variety of media. | - The curriculum implementation plan is focused on ensuring the alignment of teaching strategies and learning activities, instructional support and resources and assessments of student learning with the curriculum.  
- Support is provided for the effective use of research-based instructional practices in implementing the curriculum.  
- The selection of instructional support materials and resources is based on the essential knowledge and skills for student learning.  
- The coordination and articulation of the curriculum leads to a shared vision for student learning held by teachers at each grade level, and parents and community members. |
| **Evaluates and Renews the Curriculum** | - There is a comprehensive process for evaluating the curriculum that employs multiple means of evaluation, including ongoing action research.  
- The chief criteria for the evaluation of the curriculum is student achievement. Assessment data are disaggregated to examine the effectiveness of the curriculum in addressing the learning needs of all students.  
- The curriculum is updated and modified as needed. Any additions to the curriculum reflect research-based practices and are thoroughly piloted and refined before final adoption. Dated, irrelevant, ineffective, and non-research based aspects of the curriculum are eliminated. | - There is an ongoing process in place for evaluating the curriculum.  
- The curriculum is evaluated based on the extent to which it supports students' achievement of the goals for their learning. Student performance data is used to evaluate the curriculum.  
- The curriculum is updated and modified as needed. Dated, irrelevant, ineffective, and/or non-research based aspects of the curriculum are eliminated. |

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## Schoolwide Indicators of Quality:

### Focusing on the Quality of the Work of the School

<table>
<thead>
<tr>
<th>Levels</th>
<th>Performance</th>
<th>2</th>
<th>Low level of development and implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>- The development of the curriculum is based in part on established standards for student learning. Other factors, such as the selection of textbooks or instructional programs, or the need to respond to external mandates which may or may not be related to the expectations for student learning, play a significant role in the development of the curriculum.</td>
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<tr>
<td></td>
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<td></td>
<td>- Essential knowledge and skills in most content areas are identified and are usually given priority in the development of the curriculum.</td>
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<tr>
<td></td>
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<td></td>
<td>- The development of the curriculum does not fully take into account the need to support and challenge all students to excel in their learning.</td>
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<tr>
<td></td>
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<td></td>
<td>- The plan for supporting the implementation of the curriculum is not fully developed. Some efforts are made to align teaching practices, instructional support and resources, and the assessments of student learning with the curriculum.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>- Limited support is provided for the effective use of research-based instructional practices in implementing the curriculum.</td>
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<tr>
<td></td>
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<td></td>
<td>- The selection of instructional support materials and resources is based in part on the essential knowledge and skills for student learning.</td>
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<td></td>
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<td></td>
<td>- Efforts are made to coordinate the curriculum across grade levels, but do not lead to a shared vision for student learning in each subject area.</td>
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<tr>
<td></td>
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<td>- Communication with parents and community members about the curriculum includes some references to the goals and expectations for student learning.</td>
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<td>- Periodic evaluations of the curriculum are conducted.</td>
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<td></td>
<td>- The evaluation of the curriculum includes a limited review of student performance data.</td>
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<tr>
<td></td>
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<td></td>
<td>- The curriculum is updated and/or modified on an inconsistent basis. New developments in the disciplines and/or instructional goals of the school are not fully taken into account. Some dated, irrelevant or ineffective aspects of the curriculum are eliminated, but most of the changes to the curriculum are additions.</td>
</tr>
</tbody>
</table>

|        |             |   | - The curriculum is evaluated infrequently. |
|        |             |   | - The evaluation of the curriculum does not take into account student performance data. |
|        |             |   | - The results of the evaluation of the curriculum and any new developments to the disciplines or instructional goals are not considered in any efforts to update or modify the curriculum. Changes to the curriculum are primarily additions. It is rare when any aspects of the curriculum are eliminated. |

|        |             |   | - There is no evidence of a plan to support the effective implementation of the curriculum. |
|        |             |   | - No efforts are made to coordinate the curriculum across grade levels. |
|        |             |   | - There is no evidence of efforts to communicate with parents and community members about the goals and expectations for student learning. |

|        |             |   | - There is no evidence of any effort to develop the curriculum based on standards or to identify essential knowledge and skills. |
|        |             |   | - The development of the curriculum does not take into account the learning needs of students. |
### Quality Instructional Design

<table>
<thead>
<tr>
<th>Principles</th>
<th>Levels</th>
<th>of</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aligns instruction with the goals and expectations for student learning</td>
<td><strong>4</strong> Exemplary level of development and implementation</td>
<td><strong>3</strong> Fully functioning and operational level of implementation</td>
<td></td>
</tr>
<tr>
<td><strong>Instructional strategies and learning activities are strongly aligned with the goals and performance standards for student learning.</strong></td>
<td></td>
<td><strong>The design and selection of instructional strategies and learning activities is based on the essential knowledge and skills for student learning.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>The school consistently reviews and aligns instructional practices with the essential goals and performance standards for student learning on an ongoing basis.</strong></td>
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<tr>
<td>Employs data-driven instructional decision making</td>
<td></td>
<td><strong>The results of assessments of student learning are reviewed for the purpose of improving instructional effectiveness.</strong></td>
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</tr>
<tr>
<td><strong>Instruction includes frequent and timely assessments of students’ learning progress and feedback that informs both teachers and students when additional time or alternative learning strategies are needed to improve student learning.</strong></td>
<td></td>
<td><strong>Adjustments or modifications to the instructional process are made based on the analysis of the results of assessments of student learning.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Adjustments or modifications to the instructional process are made and alternative strategies and/or learning activities are provided based on the review of assessment data. Systematic reviews of the assessments of student learning are conducted for the purpose of analyzing the assessment data to determine if patterns of students’ misunderstandings emerged that could be avoided in the future and to seek solutions for improving students’ achievement.</strong></td>
<td></td>
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</tr>
<tr>
<td>Actively engages students in their learning</td>
<td></td>
<td><strong>Instructional time is protected and appropriately allocated to support student learning.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Instructional time is well-protected and appropriately allocated to support student learning.</strong></td>
<td></td>
<td><strong>Effective classroom management and organizational strategies are used to maximize students’ academic engaged time.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Effective classroom management and organizational strategies are consistently used to maximize students’ academic engaged time.</strong></td>
<td></td>
<td></td>
<td><strong>A positive academic learning climate is established.</strong></td>
</tr>
<tr>
<td><strong>A positive academic learning climate is established. Students are encouraged to assume greater responsibility for their own productivity as learners, to take pride in their work, to initiate improvement, and to help build and sustain a positive classroom environment that promotes active learning. An emphasis is placed on both essential knowledge and skills and high order thinking skills that require students to apply their learning in meaningful contexts. Students are provided with opportunities to apply their learning in tasks that call for decision-making, investigation, and problem solving.</strong></td>
<td></td>
<td><strong>An emphasis is placed on both students’ achievement of essential knowledge and skills, and higher order thinking skills that require students to apply their learning in meaningful contexts.</strong></td>
<td></td>
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<tr>
<td>Expands instructional support for student learning</td>
<td></td>
<td><strong>Students are provided on a consistent basis with a variety of opportunities to receive additional assistance to improve their learning.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Students are provided on a consistent basis with a variety of opportunities to receive additional assistance to improve their learning.</strong></td>
<td></td>
<td><strong>Students are provided on a consistent basis with a variety of opportunities to receive additional assistance to improve their learning (e.g., additional assistance provided by teachers, classroom aides, peer tutors, cooperative learning groups, instructional resources, a stimulating learning environment at home, etc.).</strong></td>
<td></td>
</tr>
<tr>
<td><strong>The school provides opportunities for students to improve and enrich their learning through expanded uses of time, facilities, instructional resources, and through collaborative networks of support within the school, at home, and across the community.</strong></td>
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<td></td>
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</tbody>
</table>
### Schoolwide Indicators of Quality:

**Focusing on the Quality of the Work of the School**

<table>
<thead>
<tr>
<th>Levels of Performance</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Limited development and/or partial implementation</td>
</tr>
<tr>
<td>1</td>
<td>Low level of development and implementation</td>
</tr>
<tr>
<td>0</td>
<td>No evidence of development or implementation</td>
</tr>
</tbody>
</table>

- **Instructional strategies and learning activities are aligned with most of the instructional goals, but do not fully support students' achievement of the expectations for their learning.**
- **Instructional strategies and learning activities are loosely connected and/or incorrectly aligned with the essential knowledge and skills for student learning.**
- **Instructional strategies and learning activities are not aligned with the essential knowledge and skills for student learning.**

- **The results of assessments of student learning are reviewed periodically and in some instances lead to adjustments or modifications of the instructional process to help students improve their learning.**
- **The results of assessments of student learning are occasionally reviewed for the purpose of adjusting or modifying the instructional process to help students improve their learning. Any modifications that are made are minimal.**
- **The instructional process does not take into account the results of assessments of student learning.**

- **Instructional time is valued, but not always well-protected from disruption. In most cases the allocations of instructional time to support student learning are appropriate.**
- **Instructional time is not valued and is not protected from disruption. Allocations of instructional time to support student learning are inappropriate.**
- **There is no evidence of efforts to support students' active engagement in their learning.**

- **Classroom management and organizational strategies are employed inconsistently.**
- **Little or no efforts are made to employ classroom management and organizational strategies, to establish a positive academic learning climate, or to provide engaging and thought-provoking learning activities.**

- **Efforts are made to establish a positive academic climate, however, the school environment does not fully support student learning.**
- **There are limited opportunities for students to apply their learning in meaningful, real-life contexts or to participate in thought-provoking learning activities.**

- **Students receive additional assistance to improve their learning on an inconsistent basis.**
- **Inadequate support is provided to students to improve their learning beyond initial classroom instruction.**
- **Students are not provided with any additional assistance, beyond classroom instruction, to improve their learning.**

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## Quality Assessment Systems

<table>
<thead>
<tr>
<th>Principles</th>
<th>Exemplary level of development and implementation</th>
<th>Fully functioning and operational level of implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessments of student learning are based on clearly articulated and appropriate expectations for student achievement.</td>
<td>• The development of assessments of student learning is based on a clear definition of the type of achievement to be assessed and the performance standards for evaluating the level of the quality of students' achievement.</td>
<td>• The development of assessments of student learning is based on a clear definition of the type of achievement to be assessed and the performance standards for evaluating the quality of students’ achievement.</td>
</tr>
<tr>
<td>Assessments of student learning are developed to serve clearly articulated purposes and the information needs of specific users.</td>
<td>• The school has identified and analyzed the information needs of various decision makers who use assessment results. • The purpose of assessments of student learning is clearly defined and effectively communicated in a variety of ways to stakeholders prior to the assessment. • Assessments are directly linked to specific instructional uses that promote students' achievement and continuous improvement. Students can describe in their own words the purpose of the assessment and how the results can be used to help them improve their learning. • The interpretation of assessment results is consistent with the purpose for the assessment. Any other interpretations are ignored or discarded.</td>
<td>• The school has identified the information needs of various decision makers who use assessment results. • The purpose of assessments of student learning is clearly defined and effectively communicated to stakeholders prior to the assessment. • Assessments are directly linked to specific instructional uses that promote students’ achievement and continuous improvement of their learning. • The interpretation of assessment results is consistent with the purpose for the assessment.</td>
</tr>
<tr>
<td>Assessments of student learning are developed using a method that can accurately reflect the intended performance standards and serve the intended purpose.</td>
<td>• The selection of the method of assessing student learning is consistently based on the type of learning to be assessed, the specific performance standards for evaluating student achievement, and the purpose of the assessment. • The selected methods are aligned with the instructional approach used in the classroom, and are administratively feasible and cost effective.</td>
<td>• The selection of the method of assessing student learning is based on the type of learning to be assessed, the specific performance standards for evaluating student achievement, and the purpose of the assessment.</td>
</tr>
</tbody>
</table>
### Quality Assessment Systems (cont.)

#### Levels of Performance

<table>
<thead>
<tr>
<th>Principles</th>
<th>4</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student learning assessment system provides for the collection of a comprehensive and representative sample of student performance that is sufficient in scope to permit confident conclusions about student achievement and yield generalizable results.</td>
<td>- The assessment thoroughly covers the full range of essential knowledge and skills to be assessed.</td>
<td>- The assessment adequately covers the intended range of essential knowledge and skills to be assessed.</td>
</tr>
<tr>
<td>Assessments are designed, developed and used in a fair and equitable manner that eliminates any sources of bias or distortion which might interfere with the accuracy of results.</td>
<td>- The assessment of student learning includes a comprehensive sample of performance that is representative of what students can do, and provides strong evidence that results are generalizable.</td>
<td>- The assessment of student learning includes an adequate sample of performance that is representative of what students can do, and provides sufficient evidence that results are generalizable.</td>
</tr>
<tr>
<td>Students are provided with multiple opportunities to demonstrate their learning on a variety of high quality assessments.</td>
<td>- Students are provided with additional opportunities to demonstrate their learning beyond the initial assessment.</td>
<td>- Students are provided with additional opportunities to demonstrate their learning beyond the initial assessment.</td>
</tr>
<tr>
<td>Assessments are systematically reviewed on an ongoing basis to determine any sources of mismeasurement.</td>
<td>- All of the assessments of student learning and grading practices are fair, from the initial planning for and gathering of assessment data, to the interpretation, use and communication of assessment results.</td>
<td>- Assessments of student learning and grading practices are fair.</td>
</tr>
<tr>
<td>Performance standards and criteria for judging student performance are established and shared with students in advance of the assessment and are consistently applied on an equitable basis.</td>
<td>- Performance standards and criteria for judging student performance are established and shared with students in advance of the assessment and are consistently applied on an equitable basis.</td>
<td>- Performance standards and criteria for judging student performance are established and shared with students in advance of the assessment and are consistently applied on an equitable basis.</td>
</tr>
<tr>
<td>Sources of bias or distortion that would interfere with the accuracy of results are eliminated.</td>
<td>- Sources of bias or distortion that would interfere with the accuracy of results are eliminated.</td>
<td>- Sources of bias or distortion that would interfere with the accuracy of results are eliminated.</td>
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## Educational Agenda: Shared Vision, Beliefs, Mission and Goals

### Levels of Performance

<table>
<thead>
<tr>
<th>Principles</th>
<th>4: Exemplary level of development and implementation</th>
<th>5: Fully functioning and operational level of implementation</th>
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</thead>
</table>
| Facilitates a collaborative process to build a shared vision |  - A comprehensive consensus-building process is established that involves representatives of each stakeholder group working together as a learning community in defining the school's beliefs, mission and goals.  
  - To assist the school in developing the school's beliefs, mission and goals, study teams composed of representatives of each stakeholder group actively work together to produce executive summaries from important information sources, such as the latest findings of research and future trends that have implications for student learning, as well as the school's profile data. |  - A consensus-building process is established that involves the school community in defining the school's beliefs, mission and goals.  
  - Study teams are appointed to work together to examine important information sources, such as the latest findings of research and future trends that have implications for student learning, as well as to review the school's profile data (e.g., student achievement data, demographic data, stakeholders' perspectives on the quality of education). |
| Develops and effectively communicates a shared vision, beliefs, and mission that define a compelling purpose and direction for the school |  - The statements of the school's beliefs are comprehensive and clearly define the core values of the school. The beliefs address the major issues pertinent to effective decision-making and policy development.  
  - The mission statement describes a compelling purpose and direction for the school, serves as a call to action for the school's stakeholders, and reflects a clear and strong focus on student learning as the chief priority for the school. |  - The school's belief statements are comprehensive and address key issues pertinent to effective decision-making and policy development in the school.  
  - The mission statement describes the purpose and direction for the school, and reflects a focus on student learning as the top priority for the school. |
| Defines measurable goals focused on student learning |  - The school's goals directly address the priorities for improving student learning and for improving instructional and organizational effectiveness.  
  - The goals are focused on improving student learning and are clearly articulated in the rationale for all decisions impacting the work of the school in behalf of student learning.  
  - The school's goals are measurable and performance indicators for each goal have been clearly specified. The goals are significantly challenging and require the school to stretch to achieve them, yet the goals are attainable within a reasonable time frame. |  - The selection of goals is based on the school's priorities for improving student learning and for improving instructional and organizational effectiveness.  
  - The goals are focused on improving student learning.  
  - The school's goals are measurable, sufficiently challenging, and attainable within a reasonable time frame. |
## Leadership for School Improvement

<table>
<thead>
<tr>
<th>Principles</th>
<th>Levels of Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Promotes quality instruction by fostering an academic learning climate and actively supporting teaching and learning</strong></td>
<td><strong>Exemplary level of development and implementation</strong></td>
</tr>
<tr>
<td>• The school has established a strong and positive academic learning climate in which teaching and learning are actively supported. There is a culture of high expectations for student and staff.</td>
<td>• The school has established an academic learning climate in which teaching and learning are supported.</td>
</tr>
<tr>
<td></td>
<td>• There is a clear and strong focus on instructional goals.</td>
</tr>
<tr>
<td></td>
<td>• Students feel valued and important.</td>
</tr>
<tr>
<td></td>
<td>• Students' and staff accomplishments are recognized and celebrated. Rewarded systems provide public acknowledgment of outstanding performance.</td>
</tr>
<tr>
<td><strong>Develops schoolwide plans for improvement focused on student learning</strong></td>
<td><strong>Fully functioning and operational level of implementation</strong></td>
</tr>
<tr>
<td>• Comprehensive action steps for achieving the goals for the school improvement plan are established.</td>
<td>• The action steps of the school's improvement plan are aligned with the school's goals for improving student learning.</td>
</tr>
<tr>
<td>• The strategies for improvement are directly aligned with the goals for improvement and are based on validated, research-based principles of high-performing systems of teaching and learning.</td>
<td>• Research-based, validated strategies that address the goals for improvement are selected as action steps.</td>
</tr>
<tr>
<td>• The school's resources are fully dedicated to achieving the goals of the school improvement plan. Clear and reasonable timelines have been established and the assignment of accountability responsibilities for implementing the plan is clear.</td>
<td>• The school has determined the resources, timelines, and responsibilities for implementing the action steps of the school improvement plan.</td>
</tr>
<tr>
<td>• A systematic and comprehensive plan is established for documenting student growth on the selected target goals for improvement and to assess the extent of implementation and effectiveness of the action steps.</td>
<td>• A plan for documenting student growth on the selected target goals for school improvement and to assess the extent of implementation and effectiveness of the action steps is established.</td>
</tr>
<tr>
<td><strong>Employs effective decision making that is data-driven, research-based, and collaborative</strong></td>
<td></td>
</tr>
<tr>
<td>• Decisions are directly aligned with the school's beliefs and mission, and advance the achievement of the school's goals.</td>
<td>• The decision making process ensures consistency with the school's beliefs, mission and goals.</td>
</tr>
<tr>
<td>• Decisions related to the instructional process are based on validated, research-based practices, and evidence of their effectiveness in schools with comparable demographics.</td>
<td>• Decisions impacting the instructional process are based on validated, research-based practices of high-performing schools.</td>
</tr>
<tr>
<td>• An in-depth and comprehensive analysis of pertinent data and information is conducted as part of the decision making process. The set of data and information are integrated and analyzed to determine potential cause and affect relationships.</td>
<td>• The analysis of pertinent data related to the specific issue(s) under consideration informs the decision making process.</td>
</tr>
<tr>
<td>• There is extensive use of effective, collaborative decision making processes that provide significant and meaningful opportunities for stakeholder involvement.</td>
<td>• The decision making process is collaborative and provides opportunities for the meaningful involvement of the school's stakeholders.</td>
</tr>
</tbody>
</table>

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### Leadership for School Improvement (cont.)

<table>
<thead>
<tr>
<th>Principles</th>
<th>Levels of Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Monitors</strong> progress in improving student achievement and instructional effectiveness through a comprehensive assessment system and continuous reflection</td>
<td><strong>Levels</strong></td>
</tr>
<tr>
<td>• A systematic and comprehensive assessment system is established for monitoring student progress and evaluating the effectiveness of instructional practices and organizational conditions.</td>
<td></td>
</tr>
<tr>
<td>• The assessment system includes a highly effective and efficient data collection process that provides a record of baseline measures and tracks longitudinal analyses of performance.</td>
<td></td>
</tr>
<tr>
<td>• The school thoroughly reviews assessment and evaluation data, and engages in continuous reflection to identify and develop appropriate interventions to improve student learning and to strengthen instructional effectiveness.</td>
<td></td>
</tr>
</tbody>
</table>

| **Provides skillful stewardship by ensuring management of the organization, operations and resources of the school for a safe, efficient and effective learning environment** | | | |
| • Schoolwide policies and operational procedures are consistent with the school's beliefs and mission, and are intentionally designed for the purpose of maximizing student learning. The school is organized for student and staff outcomes in achieving the school's goals. | | • Schoolwide policies and operational procedures are consistent with the school's beliefs and mission, and are designed to maximize opportunities for successful learning. |
| • The decisions related to the allocation and use of resources are systematically aligned with the school's goals. Existing resources are recast in the service of advancing the school's mission, goals, and school improvement initiatives. | | • The allocation and use of resources (e.g., human resources, time as a resource for learning, physical resources, instructional resources, financial resources) are aligned with the school's goals. |

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**Culture of Continuous Improvement and Learning**

<table>
<thead>
<tr>
<th>Levels of Performance</th>
<th>Principles of Exemplary Development and Implementation</th>
<th>Principles of Partial Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4</strong> Exemplary level of development and implementation</td>
<td>- The school's organizational system and culture stress the commitment to continuous improvement and provide strong support for school improvement and professional development.</td>
<td>- The school's organizational system and culture is supportive of school improvement and professional development.</td>
</tr>
<tr>
<td></td>
<td>- Professional development programs for staff focus directly on the knowledge and skills required to fulfill the performance expectations of their roles and to contribute to the achievement of the school's goals for improvement. Validated, research-based principles of high-performing schools serve as the primary focus of the content of professional development programs.</td>
<td>- Professional development programs for administrators, teachers and support staff focus on the knowledge and skills required to fulfill the performance expectations of their roles and to contribute to the achievement of the school's goals for improvement.</td>
</tr>
<tr>
<td></td>
<td>- Professional development programs are designed to facilitate the acquisition of new knowledge and skills by all staff. Extensive follow-up support, coaching and collegial planning time is provided.</td>
<td>- Professional development programs are designed to facilitate the acquisition of new knowledge and skills by all staff.</td>
</tr>
<tr>
<td><strong>3</strong> Fully functioning and operational level of implementation</td>
<td>- The school provides extensive training and support for the school's stakeholders to develop a deep understanding of the change process and its implications for the work of the school in its commitment to continuous improvement.</td>
<td>- The school fosters an understanding of the change process among all those who have a stake in the work of the school.</td>
</tr>
<tr>
<td></td>
<td>- The school provides comprehensive and ongoing support for the work of individuals and groups responsible for implementing school improvement initiatives.</td>
<td>- The school supports the work of individuals and groups responsible for implementing school improvement initiatives.</td>
</tr>
<tr>
<td></td>
<td>- The school sustains the commitment to continuous improvement and renewal. There is significant evidence of the school's perseverance in &quot;staying the course&quot; despite obstacles and/or setbacks in the school improvement process.</td>
<td>- The school sustains the commitment to continuous improvement and renewal.</td>
</tr>
</tbody>
</table>
### Community-building

<table>
<thead>
<tr>
<th>Levels of Performance</th>
<th>Exemplary level of development and implementation</th>
<th>Fully functioning and operational level of implementation</th>
</tr>
</thead>
</table>
| **Principles**        | - Positive and productive working relationships are established among students, teachers, support staff, and administrators. There is strong evidence of the effectiveness of the work of the school's stakeholders as a learning community.  
- The school's dedication to creating and supporting a learning environment for students that nurtures a sense of caring and belonging is evident in every facet of the work of the school.  
- Extensive support is provided to establish collaborative and interdependent teams to achieve the school's goals. | - Positive and productive working relationships are established among students, teachers, support staff, and administrators.  
- The school creates and sustains a learning environment for students that nurtures a sense of caring and belonging.  
- Collaborative and interdependent teams are established to achieve goals. |

**Fosters community-building conditions and working relationships within the school**

- The school actively engages parents and families as partners in the learning process through a variety of programs, resources, and instructional materials.  
- The school forges productive links with the larger academic community and supports collegial working relationships across K-16 levels of education to create a coherent and seamless instructional program for students.  
- The school builds collaborative networks of support with community members and groups, youth-serving agencies, clergy and government leaders, and leaders of higher education and business. Meaningful partnerships are established that extend learning opportunities for students and provide resources to support their achievement.

- The school engages parents and families as partners in the learning process.  
- The school supports collegial working relationships across K-16 levels of education.  
- The school builds collaborative networks of support with community members and groups, youth-serving agencies, clergy and government leaders, and leaders of higher education and business.
APPENDIX C

CONDUCTING THE EVALUATION

RUBRIC FOR ANALYZING TEACHING AND ORGANIZATIONAL EFFECTIVENESS
### CONDUCTING THE EVALUATION

#### Analyzing Teaching and Organizational Effectiveness

**Step 1: Identify Strengths and Limitations**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has an analysis of teaching and organizational effectiveness been conducted based on research-based principles of effective early childhood programs?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Has each member of the staff and administration been involved in the review and analysis of the program's teaching and organizational effectiveness?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you identified the perceived strengths and limitations of the teaching practices and organizational conditions of the early childhood program?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have opportunities been provided for all to discuss the perceived strengths and limitations of the program and to explore the reasons for any differences in opinion?</td>
<td></td>
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</tr>
</tbody>
</table>

**Step 2: Collect Data and Evidence of Teaching and Organizational Effectiveness**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have data/evidence been collected that verify the early childhood program's perceived strengths?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have data/evidence been collected related to the perceived limitations of the program's teaching practices and organizational conditions?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have baseline data been collected on the limitations so improvements can be monitored over time?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the curriculum, teaching strategies, learning activities/opportunities, and assessment system interrelated, and do they support the desired goals or children's growth and learning?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the different aspects of the organizational system (e.g. leadership, professional development support, resources) connected? (For example, do actual staff and community relationships reinforce the program's stated beliefs?)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the early childhood program's organizational system and teaching program interrelated? (For example, are they assessment and evaluation procedures consistent with the program's policies?)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Step 3: Identify Priorities for Improving the Quality of the Early Childhood Program**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the priorities for improvement based on the analysis of the early childhood program's strengths and limitations?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the priorities for improvement stated in terms of clear, concise, measurable goals?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do the priorities for improvement include strategies that build on the early childhood program's strengths or address the limitations of teaching and organizational effectiveness?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Standards Based Evaluation

Have you taken into account the following *Program Evaluation and Standards* in conducting the evaluation?

<table>
<thead>
<tr>
<th>Standards Based Evaluation</th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information Scope and Selection</strong></td>
<td>Information collected should be broadly selected to address pertinent questions about the program and be responsive to the needs and interests of the program staff and other specified stakeholders.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Values Identification</strong></td>
<td>The perspectives, procedures, and rationale used to interpret the finding should be carefully described so that the bases for value judgments are clear.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Complete and Fair Assessment</strong></td>
<td>The evaluation should be complete and fair in its examination and recording of strengths and weaknesses of the program being evaluated so that strengths can be built upon and problem areas addressed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Program Documentation</strong></td>
<td>The program being evaluated should be described and documented clearly and accurately so that it is clearly identified.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Context Analysis</strong></td>
<td>The context in which the program exists should be examined in enough detail so that likely influences can be identified.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Defensible Information Sources</strong></td>
<td>The sources of information used in a program evaluation should be described in enough detail so that the adequacy of the information can be assessed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Valid Information</strong></td>
<td>The information-gathering procedures should be chosen or developed and then implemented so that they will ensure that the information obtained is sufficiently valid for the intended use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reliable Information</strong></td>
<td>The information-gathering procedures should be chosen or developed and then implemented so that they will ensure that the information obtained is sufficiently reliable for the intended use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Analysis of Quantitative Information</strong></td>
<td>Quantitative information in an evaluation should be appropriately and systematically analyzed so that the evaluation questions are effectively answered.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Justified Conclusions</strong></td>
<td>The conclusions reached in an evaluation should be explicitly justified so that stakeholders can assess them.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Evaluation Impact</strong></td>
<td>Evaluations should be planned, conducted, and reported in ways that encourage follow-through by stakeholders so that the likelihood that the evaluation will be used is increased.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Meta-evaluation</strong></td>
<td>The evaluation itself should be formatively and summatively evaluated against these and other pertinent standards so that its conduct is appropriately guided and, on completing, stakeholders can closely examine its strengths and weaknesses.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX D

INFANT AND EARLY CHILDHOOD STAFF QUESTIONNAIRE
Infant and Early Childhood Staff Questionnaire

Purpose: This questionnaire is designed to gather information that will assist in development of a plan to improve our early childhood program. You do not need to identify yourself unless you want to be contacted for further information. Your insights and ideas are extremely important. Thank you for taking the time to complete this questionnaire.

Instructions: This survey should take you about 20 minutes to complete. There is a bar on the top of each page which will tell you how much of the survey you have finished. If you need to stop taking the survey before you have finished it, you can complete the survey at a later time by referring back to your original survey invitation.

<table>
<thead>
<tr>
<th>Information About You</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool only</td>
</tr>
<tr>
<td>Preschool and Child Care Center</td>
</tr>
<tr>
<td>Early Childhood Facility</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Type of Facility</td>
</tr>
<tr>
<td>Teacher's Aide</td>
</tr>
<tr>
<td>Teacher</td>
</tr>
<tr>
<td>Administrator</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Role</td>
</tr>
<tr>
<td>Less than 1 year</td>
</tr>
<tr>
<td>1 to 3 years</td>
</tr>
<tr>
<td>4 to 6 years</td>
</tr>
<tr>
<td>7 or more years</td>
</tr>
<tr>
<td>Years at this facility</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Early Childhood Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Regular feedback is provided to family members about their child's progress and program activity.</td>
</tr>
<tr>
<td>2. The program's staff encourages and provides support for parent/teacher communication.</td>
</tr>
<tr>
<td>3. The early childhood program is designed to support children's development in the areas of: Interest in Others</td>
</tr>
<tr>
<td>4. The early childhood program is designed to support children's development in the areas of: Self-awareness</td>
</tr>
<tr>
<td>5. The early childhood program is designed to support children's development in the areas of: Motor and Eye-Hand Skills</td>
</tr>
<tr>
<td>6. The early childhood program is designed to support children's development in the areas of: Language Development/ Communication</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Does Not Apply or Do Not Know</th>
</tr>
</thead>
</table>
7. The early childhood program is designed to support children's development in the areas of: Physical, Spatial, and Temporal Awareness

8. The early childhood program is designed to support children's development in the areas of: Purposeful Action and Use of Tools

9. The early childhood program is designed to support children's development in the areas of: Expression of Feelings

<table>
<thead>
<tr>
<th>Programs and Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Children are provided appropriate opportunities for both independent and group play/exploration</td>
</tr>
<tr>
<td>11. The program provides appropriate services for children with special needs (e.g., developmental delay, speech and language delay)</td>
</tr>
<tr>
<td>12. The program provides adequate materials and equipment to help me enhance learning opportunities in my classroom.</td>
</tr>
<tr>
<td>13. The facilities are clean, safe and inviting.</td>
</tr>
<tr>
<td>14. The program ensures the safety of all children.</td>
</tr>
<tr>
<td>15. The program administrator and teachers treat all children with respect and kindness.</td>
</tr>
<tr>
<td>16. I was provided with a written copy of this program's beliefs, mission, and policies.</td>
</tr>
<tr>
<td>17. I feel valued and important as a staff member.</td>
</tr>
<tr>
<td>18. The program administrator treats all staff members with respect and kindness.</td>
</tr>
<tr>
<td>19. Parents are welcome in the early childhood program.</td>
</tr>
<tr>
<td>20. I am provided with regular, paid professional development opportunities.</td>
</tr>
<tr>
<td>21. I can adequately work with and appropriately care for the number of children assigned to me.</td>
</tr>
<tr>
<td>22. If I were a child, I would like to spend a day in this program.</td>
</tr>
</tbody>
</table>
23. Formal meetings are offered between teachers and the children's families.
APPENDIX E

SAMPLE E-MAIL ANNOUNCEMENT FOR WEB-BASED NSSE SURVEYS
February 2, 2006

Dear ACSI Early Education Member,

I would like to introduce to you Alisa Dyson who is currently working on completing her dissertation in early childhood education. The purpose of the research study is to implement evaluations of preschool curricula that provide information to support administrators and directors of preschool programs. The research data gathered will provide information on how decisions are made in regards to the instructional program selections made for the students they serve. Specifically, the research will attempt to link how curriculum decisions are made to teaching and learning, and quality assessment standards.

This is an exciting opportunity to have many stakeholders (i.e. administrators/directors, staff/faculty, and parents) participate in a survey process, so that collectively we can share in the practice of gathering much needed research data in the field of Christian early education. To participate in the survey process:

- Contact Alisa Dyson at asdyson@gcagators.org communicating your willingness to participate.
- Identify in your email communication if you are a parent, staff/faculty member, or an administrator/director. There is no need to give your name, only a return email address to send an access code in order to take the survey. Three separate surveys have been developed based on your particular area of service: Infant and Early childhood parent questionnaire; Infant and Early Childhood Staff/Faculty Questionnaire; and Infant and Early Childhood Analysis of Teaching and Organizational Effectiveness.
- You will also be sent communication directing you to the survey link with NSSE (National Study of School Evaluation).
- It will take less than 10 minutes to complete to the survey.
- If you are a parent as well as a staff member you will be sent two separate access codes in order to take the two different surveys.

The results of the research project will be published in an upcoming edition of ACSI’s Christian Early Education magazine. Your willingness to participate in this endeavor is greatly appreciated.

Robin Stephenson
Director, Early Education Services

Thanking You in Advance While in the Service of His Children,  Alisa Dyson
**ADMINISTRATOR TASK LIST**

<table>
<thead>
<tr>
<th>ITEMS TO BE COMPLETED-for each survey administration</th>
<th>CHECK OFF WHEN COMPLETED</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designate one individual to act as Survey Administrator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review total number of access codes available to allocate across surveys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select which surveys to administer (i.e. Elementary Student, Teacher, Parent, Student, Community)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine if you are adding additional demographics fields or additional survey items to this survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select start/stop dates for each survey administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decide appropriate method of distributing access codes (via email or printed letter or export list)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choose date for reminder emails/letters to be sent to respondents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manually close the survey after stop date has been reached (Step 5. Review)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine the date that survey reports are needed. This should be aligned with the close date. (Level 1-included)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine sub-groups for disaggregated analysis reports. (Level 2-Optional)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Quick Start Guide

Logging In

1. Enter the username that has been e-mailed to you.
2. Enter the password that been e-mailed to you.
3. Click the Login button.

TIP

NSSE Surveys create PDF tables and reports. Check if you have the latest version of Adobe Acrobat Reader or you may download it from http://www.adobe.com

NSSE Survey Administrator

Welcome to NSSE Web-based Surveys

- Take a Sample Web-based Survey
- Information about NSSE's Surveys
- Purchase Information
- Quick Start Guide: NSSE Web-based Survey Series (PDF)
- Survey Administrator Task List (PDF)
- Guide to Validity and Reliability of NSSE Surveys (PDF)
- Guide to Administering Your Survey (PDF)
- Transition Survey Series (PDF)

Note: Reports require Adobe Acrobat Reader.

Reviewing Your Info

1. Review the survey administrator's info.
2. To review the overall process, click View the Six-Step Survey Process.
3. Click Preview or Begin a New Survey.

TIP

If any of the information is incorrect, please contact the NSSE at 1-800-843-6773 or e-mail surveys@nsse.org.

Welcome Survey Administrator

Please verify the following information:
Your Name: Susan Perez
Your Title: Coordinator, Data and Survey Services
Your Email: surveys@nsse.org
Your School / District Name: Sample School

This information will be used in survey correspondence. If the information is not correct, please fill out the form at access@nsse.org.

Number of Survey Access Codes Available: 1,200
Number of Survey Access Codes Assigned: 157
Number of Survey Access Codes Used: 448
Level of Reporting: 2

Do not use the back and forward buttons of your browser to refresh this application.
Step 1.
Set up Survey

1. Click on the name of the survey you wish to administer. Do this only once for each survey. Each selection begins a new survey administration.

**TIP**
Before selecting a survey, preview it and view the sample reports.

You may also customize the survey by adding additional disaggregation groups and survey questions. Use the on-screen Help guide to find out how.

Step 2.
Preview the Survey

1. Click on the second tab to preview the entire survey. Click Continue at the bottom of each screen.

2. When finished, click Close Window.

**TIP**
Preview the survey, especially if you have made any customized changes.

Taking the preview survey will give you the same experience that your respondents will have.
Step 3. Administer the Survey

1. Enter the date you wish to start the survey. Click Update.
2. Enter the date you wish to stop the survey. Click Update.
3. Click Continue to proceed to the next step.

TIP
You can change the start and stop date until those dates have passed and/or until you have closed the survey. This step needs to be completed before you can continue with the process.

Step 4. Distribute Survey Access Codes

1. Distribute the survey access codes by any combination of e-mail, printed letter, or access code export. Announcement and reminder letters are provided for you, which you can edit.
2. Import, enter, or select the number of respondents' names or e-mail addresses.
3. Click Send Announcement or Print Announcement.

TIP
Click on Help for more detailed information on how to distribute access codes.
Step 5.
Review Survey Administration

1. Use this review screen to keep track of the survey in progress.
2. When the survey is completed, click Close this survey. Note: This function cannot be undone. Your reports are now ready.

**TIP**

Enter notes about this survey to give background information about the survey. You may print this information about your survey for your files.

Step 6.
Create Reports

1. Click on any preformatted report to view or print your survey results.
2. You may wish to export the survey results to be analyzed or reported using other applications, such as DataPoint® or Excel®.
3. Compare your results to the National Pattern of User Responses.

**TIP**

If you don’t already have Level 2 Reporting, ask about purchasing it. Level 2 Reporting allows you to disaggregate your survey results and produce a wide variety of reports that can be saved, printed or exported.