A comparison of the effects of online synchronous versus online asynchronous versus traditional approaches on learner achievement via education of Mississippi child care providers

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A COMPARISON OF THE EFFECTS OF ONLINE SYNCHRONOUS VERSUS
ONLINE ASYNCHRONOUS VERSUS TRADITIONAL APPROACHES
ON LEARNER ACHIEVEMENT VIA EDUCATION OF
MISSISSIPPI CHILD CARE PROVIDERS

By
Carla Caldwell Stanford

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy in Agricultural Science
with a major in Agricultural Information Science and Education
in the School of Human Sciences

Mississippi State, Mississippi
August 2008
A COMPARISON OF THE EFFECTS OF ONLINE SYCHRONOUS VERSUS ONLINE
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By
Carla Caldwell Stanford

Approved:

__________________________________         _________________________________
Michael E. Newman                                               Barry Hunt
Professor, Agriculture Information Science           Professor, Food, Nutrition, Science,
and Education                                                   and Health Promotion
School of Human Sciences                                          College of Education
(Director of Dissertation)                                      (Minor Professor, Committee Member)

__________________________________           ________________________________
Jacquelyn P. Deeds                                                  Walter N. Taylor
Professor, Agricultural Information Science           Professor, Agricultural Information
and Education and Graduate Coordinator,           Science and Education and
School of Human Sciences                                          Asst. Dean,
(Committee Member)                                                  College of Agriculture and Life
                                                                              Sciences
(Committee Member)

__________________________________           ________________________________
Cathy Grace                                                             Melissa Mixon
Professor and Coordinator, Curriculum and            Interim Dean of the College of
Instruction; Director, Early Childhood               Agriculture and Life Sciences
Institute                                               (Committee Member)
(Committee Member)
The purpose of this quasi-experimental study was to compare three types of instruction: online synchronous, online asynchronous, and traditional, and assess which would yield more learner achievement. Participants for the online groups volunteered then were randomly assigned to either the online synchronous or the online asynchronous. Participants for the traditional group were also voluntary but were not randomly assigned; all that volunteered for the traditional group were accepted.

In the final sample, a total of 96 Mississippi child care professionals completed the course *Early Learning Guidelines: Lesson Plans and Thematic Units for Three Year Old Children*: 31 in the online synchronous group, 32 in the online asynchronous group, and 33 in the traditional group. The dependent variable was learner achievement and the independent variable was type of instruction. The design of the study was pretest-posttest control group.
Two hypotheses guided the study: (1) Participants in the synchronous online class will exhibit higher achievement than participants in the asynchronous class and (2) Participants in the asynchronous or the synchronous online class would exhibit achievement equal to or higher than the traditional group.

Synchronous participants provided with instruction did perform higher than did the traditional participants. The synchronous and asynchronous groups were not statistically different, nor were the asynchronous and the traditional group.
DEDICATION

Wholly believing in children’s need for love and support, I would be remiss if I did not acknowledge the interminable effect of the love of my own parents, Enoch and Toy Caldwell. To this day, I credit the early positive foundation of parental nurturing to the person I have become and the deep love I have for my own children.

Therefore, I dedicate this work to the memory of my parents, who, in the few years I had them with me, gave me more love and encouragement than some people receive in a long lifetime.
ACKNOWLEDGEMENTS

No one can accomplish the completion of a PhD. program without support. The love and support I received during this doctoral program have been amazing.

I thank my dissertation director, Dr. Michael Newman, for his patience, encouragement, and time. Also, I give a special thanks to my dissertation committee: Drs. Jacquelyn Deeds, Cathy Grace, Barry Hunt, and Walter Taylor.

To Dickie Rhea, at the MSU Center for Teaching and Learning, thank you for all of your assistance in setting up the WebCT© courses; your help was invaluable. I thank Dr. Joshua Watson, Statistics professor, for patiently answering many questions. To the cooperating entities: MSU Extension, MSU Early Childhood Institute, MS Office of Children and Youth, Penn State Better Kids Network, and the North MS Resource and Referral Network.

To my friends and co-workers who have listened to dissertation talk for the past few years, I thank you for your encouragement and your love.

Lastly and most importantly, I thank my family: my husband, Allen and my sons Will, Hunter, and Ryne. I thank you for understanding all the nights of takeout, for letting me sleep in whenever possible, and other acts of kindness and love throughout this entire process. How blessed I am to have the four of you!

Writer Allan Bloom said “Education is the movement from dark to light”. I learned through this educational process a little more patience, though I did not expect it; humility, though I did not previously notice its absence, and the fact that education itself is the merging of common and book sense. Thanks be to God for his blessings.
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CHAPTER I
INTRODUCTION

The alternative choices for delivery of information to learners has been greatly heightened through technological advancements by means of distance education, sometimes known as e-learning, and the evolution of the World Wide Web has been called the “new pedagogy of learning” (Muske, Goetting, & Vukonick, 2001). Noting the phenomena, Williamson and Smoak (2005) declared, “Electronic technology is revolutionizing how we learn, entertain ourselves, communicate, do our jobs, and much more” (Introduction section, ¶ 1). Revolutionize indeed, particularly in educational opportunities and training, changing the very way they are accomplished (Dobbs, 2000). According to Kinshuk and Yang (2003) “Most educational organizations are now using some sort of internet technologies in their distance education offerings” (p. 28). Dobbs (2000) stated that the Internet has changed people’s thinking about the way training can be carried out.

In its beginnings, e-learning faced denigration that it simply impersonated face-to-face classrooms (Pollack, 2005). Though the participation in and demand for e-learning continues to grow at remarkable speeds, no one has predicted that it will ever replace traditional education, for both have a place in learning (Britt, 2004; Dobbs, 2000). The Internet offers a new dimension in learning that meets with sociological shifts towards
addressing personal needs in a fast-paced society. It has eradicated confines of space and time, allowing for self-proclaimed preferences (Tennessen, PontTell, Romine, & Motheral, 1997). In so doing, the learner is empowered to more readily control his or her own learning environment (Britt, 2004) and hence, has caused a more proactive educational climate (Singh et al., 2004).

This research study employed both asynchronous and synchronous online learning environments and a traditional learning setting. Chen, Kinshuk, and Lin (2004) gave an explanation of asynchronous learning and synchronous learning: Asynchronous learning allows teachers and students to interact and participate in the educational process at different times irrespective of their locations; synchronous learning requires the teachers and students to interact at the same time though they may be dispersed geographically. In the recent years, Internet technologies have matured significantly, providing a uniform access media for both asynchronous and synchronous learning. This phenomenon has significantly increased the popularity of on-line learning (p. 24).

Child Care Practitioners and Professional Development

Child care professionals, in many cases, spend more waking hours with their young charges than do the children’s own family. This further illuminates the magnitude of the challenge put before those caring for and educating young children. As the need for child care arrangements continues to escalate (Boeckner, Hendricks, & Steffens, 1993), so does the acknowledgment that child care is more than just babysitting and needs qualified child care personnel. Several studies support the predictive power of a
correlation between children’s education and development and preschool teachers’
education and specialized trainings (Barnett, 2004).

In a research effort by the National Institute for Early Education Research
(NIEER), researchers examined state-funded pre-kindergarten programs in five states:
Michigan, New Jersey, Oklahoma, South Carolina, and West Virginia. It was observed
that the children in those programs exhibited the following gains as compared to children
of the same age not in early childhood education programs:

• approximately 31% in vocabulary scores,
• 44% in math, and
• 85% in print awareness.

Teachers with specialized training are more equipped to appropriately present learning
concepts to children to help them achieve such gains (Peisner-Feinburg et al., 2001).

A longitudinal study by Peisner-Feinburg et al. (2001) is following the long-term
effects of the child care setting on children’s development. The study is following
children from preschool age through the second grade and the study still continues. One
of the major findings of the study concerned professional preparation which included
specialized training. Researchers observed that specialized training of child care
professionals is a key to quality child care and that enhancing the professional’s
knowledge base can strengthen caregiver-child relationships.

One effort funded by the Mississippi Department of Human Services through the
Office of Children and Youth has implemented a pilot program to improve quality of
child care in Mississippi. The program is known as the Mississippi Child Care Quality
Step System (MCCQSS) and its developers support the belief that professional
development is so closely connected with quality that steps are partially based on the number of in-service training hours. Step two calls for weekly lesson plans, supporting the need for training of child care professionals, such as in the research of this dissertation (MS Pub. L. 43-1-65, 2006).

Writers of some state initiatives in early childhood education programs have reflected the need for knowledgeable, competent child care professionals and have called for programs to have in place plans that will promote development of proficiencies, allowing child care professionals to promote the early learning of young children for whom they care (Martinez-Beck & Zaslow, 2006).

In the state of Mississippi, most trainings for child care professionals are conducted by either the Child Licensing Bureau of the Mississippi Department of Health, the licensing agency for child care facilities in the state; the North Mississippi Resource and Referral Center; the Mississippi State University Extension Service; or other agencies through funding of the Mississippi Department of Human Services, Office for Children and Youth. As a primary training source, the Mississippi State University Extension Service (MSU-ES) strives to meet training needs and is constantly looking for innovative ways to offer quality training for child care professionals. Since there is strong research-based validation of the connection between children’s readiness for school and specialized early childhood training of classroom teachers (DeBord & Sawyers, 1995; Jacobson, 2002; Shonkoff & Phillips, 2000), it is, then, even more important to assure that ample trainings are being conducted.

According to Williamson and Smoak (2005), Extension can have a crucial role in online education by learning from those already utilizing technology as a teaching tool.
Williamson and Smoak stated that one advantage to online learning is that there are options not even conceivable as with print materials. Additionally, online learning opportunities can serve to improve Extension’s role without replacing traditional methods of delivery. “The choice is simple: either you accept e-learning and adopt it or risk becoming obsolete” (Williamson & Smoak, 2005, Keeping Pace with E-Competitors section, ¶ 2).

Distance education via satellite for child care professionals was instituted through MSU-ES in 2005 and has broadened the scope of services offered. However, there is still a genuine need for training opportunities that will conquer obstacles of time and space; so it is reasonable to consider online educational opportunities as a viable way to provide training for this target audience.

There is concern that there may be many child care professionals who do not readily have Internet access, which addresses equitable accessibility. However, according to Williamson and Smoak (2005) and Simeral (2001), people who do not have ready-access often go to the home of family or friends, work, a public library, school, community center, or another convenient place. The 2003 United States census states that 48.3% of Mississipians have at least one computer in their homes and 38.9% have Internet access in their homes (U.S. Census, 2003). With technological advancements, more user-friendly systems, and a wide variety of financial arrangement options, it is more logical to believe that these numbers have continued to rise (Simeral, 2001).

While online opportunities could cause some decreased rates of participation in the all-familiar face-to-face (traditional) method, this venue should not be abandoned. It would then seem rational that offering online training opportunities to those who can take
advantage of such a convenience would be a positive action (Williamson & Smoak, 2005). According to the 2003 United Census, Internet usage has more than tripled since 1997 and has increased 50% since 2001 (U.S. Census, 1997; U.S. Census, 2001, U.S. Census, 2003).

Research Specific to Child Care Professionals

There is little published research concerning online training of child care professionals which further justifies this research. One research effort in this area by Johnson, Fiene, Keat, and Darling (2000) possesses some similarities to the proposed research study at hand. The study explored online training among 20 child care center directors through a course sponsored by Pennsylvania State University. In the study, there were 3 groups: the first group participated in training in the traditional delivery method; the second group was taught in a computer lab through the Internet but had access to peer and instructor interaction; the third group participated in asynchronous Internet-only instruction.

Each of the 4 sessions lasted 50 minutes each. Participants were given out-of-class reading assignments, and also took a self-administered objective-item exam. Although the exam scores were not counted, these measures did provide an incentive for the participants to complete reading assignments and master course content.

The researchers wanted to discover whether or not the Internet was a viable option for staff training among human services clientele. The results revealed that the most effective delivery method in this effort was that of the computer lab with interaction with peers and the instructor. The researchers deduced that the findings supported the need for online training of child care professionals.
Statement of the Problem

Child care providers in Mississippi must annually complete at least 15 hours of in-service training, also referred to as “contact hours”. (MS Pub. L. 43-1-65,2006). Since the resources for child care practitioners in Mississippi are limited, there is a great need for additional services that could offer professional development opportunities in new ways. Mississippi is ranked low on child care quality standards (Annie E. Casey Foundation, 2004), but ranks second only to Georgia (7.50%) in the southeastern United States in regards to percentage of population of children under the age of 5. The national average is 6.9% while Mississippi’s population of children under the age of 5 is approximately 7.30%. With such a high percentage of young children, it is natural to question the quality of child care (Waits, Monaco, Beck, & Edwards, 2001).

According to Festus Simkins, Director, Bureau of Licensure and Regulations, Mississippi Department of Health, there are approximately 1,740 licensed child care centers in the state, 99,783 children enrolled in these centers, and 13,628 child care providers directly caring for enrolled children. Simkins said from 2004 until 2007, there was an increase in the number of centers from 1,650 centers to 1,740 (F. Simkins, personal communication, March 10, 2008). Increased number of centers would logically mean an increased need for professional development of staff of those centers. With somewhat limited training resources in the state, online learning opportunities could bring a new dimension to training options and stretch current resources to serve the professional needs of child care professionals. Schweinhart et al. (2004) contended that a return of more than $17 could be realized for every dollar invested by society in early education. Professional development of child care providers can help improve the quality
of early education. The findings of Schweinhart et al., coupled with Simkins’ statement regarding increase in number of Mississippi child care centers, could indicate that online learning opportunities for child care professionals are a viable training alternative.

According to Shonkoff and Phillips (2000), quality of care is important, whether the source be the grandmother, a non-relative sitter, or a center-based teacher. Further, the quality and consistency of experiences in child care deeply affect the very quality of a young child’s life. Shonkoff and Phillips (2000) further contended that there is a direct connection between teacher attributes, including professional development, and quality care. Online learning opportunities could offer meaningful training that could increase quality of care and help satisfy training needs by meeting demands of potential non-traditional students. Child care professionals are considered non-traditional students and often attempting to balance work, family, and other demands on time, and professional development (Miller & Lu, 2003).

Purpose of the Study

The purpose of this research was to ascertain the learner achievement of Mississippi child care professionals when taking part in an online learning opportunity. The researcher used three groups: one asynchronous online class, one synchronous online class, and a traditional group. Learner achievement was measured through participant completion of pretests and posttests.

Research Questions

1. Which type of instruction leads to greater student learning in a training course for child care professionals: synchronous, asynchronous or traditional?
2. Will the asynchronous and synchronous online participants perform at least as well as the traditional group?

Hypotheses

H1: Participants in a synchronous online class will exhibit higher achievement than participants in an asynchronous class.

H2: Participants in an asynchronous or synchronous online class will exhibit achievement equal to or than a traditional class.

Operational Definitions

The following terms have been defined to provide a simple explanation of the major terms that were used in this study:

1. Achievement – The quality and quantity of a student’s work; a result gained by effort (Mish, 2008).

2. Asynchronous learning – A type of computer-based learning where the instructor, teacher, or facilitator sets up the learning environment and through technological settings, the learner can access components at his own convenience and pace (Midkiff & DaSilva, 2000).


4. Distance education – A type of education that uses technology to connect facilitators, instructors, and/or teachers together though they are not physically at the same location (Sherry, 1996). In this research study, distance education
specifically refers to use of interactive video through satellite which connects teacher and learner. Also known as distance learning.

5. E-learning – A term referring to electronic learning such as online learning (Kurtus, 2004).

6. Lesson plan – A guide that directs the teacher through the day, week, or month. The lesson plan is used by teachers to plan educational activities for students.

7. Online learning – Learning enhanced by the use of a computer. Also termed e-learning and electronic learning (Schrock, 1995).

8. SPSS - Statistical Package for the Social Sciences. SPSS is a computer program used for predictive statistical analysis (¶ 1, “About SPSS”, n.d.).

9. Synchronous learning – A computer-based learning environment where the instructor, teacher, and/or facilitator are geographically separated but are logged onto a website where they interact with text, graphics, and/or sounds (Shotsberger, 2000).

10. Thematic units – In early childhood education, a thematic unit utilizes a central general theme and weaves it into the curriculum across different areas of learning such as math, literacy, and science. The thematic unit is broad or general in nature and is presented to children in age- and developmentally-appropriate context (¶ 1, “Thematic Instruction”, n.d.).

11. Traditional instruction – A learning environment where the learner and the facilitator, instructor, or teacher are physically in the same location during the learning process (Thorne, 2003).
12. WebCT© - The online virtual learning environment used by Mississippi State University and a number of other universities. WebCT© features such course tools as mail systems, live chat, and electronic bulletin boards (¶ 1, “Getting Started with WebCT”, n.d.).
CHAPTER II
REVIEW OF THE LITERATURE

There is a growing body of knowledge that supports the need for educational opportunities, resource recognition, and professional development for early childhood professionals and how that connects with child well-being. Barnett (2004) observed that some studies, highlighting the significance of high-quality, well-funded programs in improving children’s success, had proven important to the field. For example, findings of the Perry Preschool longitudinal study reported that every tax dollar invested by society in early childhood education yielded a return of more than $17, validating the economic impact of these investments (Schweinhart et al., 2004).

Brain Development

The early human development theory has notable implications for learning environments and the major role that child care professionals play. Through professional development involving curriculum planning (such as the training content in this research), child care professionals can learn about the importance of developmentally appropriate practices that lead to meaningful learning for young children. Drs. Craig and Sharon Ramey, co-directors of the National Health and Education Consortium, Georgetown University, have conducted much groundbreaking research on early brain development and its relevance to academic and other successes (including social-
emotional area). The Rameys contended that the human brain is, at birth, equipped with all provisions to accept and process information. This information is then transferred into knowledge and skills needed for everyday life. While there is no evidence that there exists one prescribed approach for raising a genius, Ramey and Ramey alleged that positive adult interventions can be made to the child from his birth and beyond which can promote and foster a love of lifelong learning (Ramey & Ramey, 1992). These early learning experiences include adults modeling reading, interacting positively with children, and taking full advantage of teachable moments. Teachable moments are those opportunities that emerge out of everyday life experiences that can be transformed into a gain of knowledge for, in this case, the child.

The Rameys’ deemed that humans have all necessary biological cache just waiting to be stimulated. Additionally, the Rameys believed, as did Dr. Jean Piaget, twentieth century scientist and child psychologist, that humans invariably progress through a series of stages as they mature (Rogers, 1977). Through electromagnetic imagining, brain scans show that a baby’s brain is indeed equipped with all it needs to survive and even thrive. The Rameys further deduce that positive learning experiences and interactions through their environment can prepare a child for academic situations as well as everyday life in more meaningful ways (Ramey & Ramey, 1992).

More recent work by the National Research Council Institute of Medicine (2000) has stated that even such seemingly common human experiences as light being received by the retina can trigger “a cascade of gene expression” that then causes neural development and growth. The neural development, which is genetically guided, is in turn, formatted to include experience in the design of the nervous system. Therefore, the
old controversial debate of nurture versus nature is obsolete since it takes a combination of the two to produce human responses, characteristics, and development. Experiences provided by child care professionals are important and a great significance lies in the existence of quality classroom context. Because development so heavily relies upon experiences, it is then easy to see how positive enriching experiences in the lives of children can in effect (at least partially) predestine their future (Shonkoff & Phillips, 2000).

State Requirements

While there are competent early childhood education practitioners in the state of Mississippi, overall early education knowledge base requirements are inadequate as compared with that of other states in the southeast region of the United States. Mississippi only requires caregivers to be 18 years of age; a minimum of a General Education Diploma (GED); and 15 hours of in-service training annually (MS Pub. L. 43-20-5, 1972), while other states require more. For example, Florida requires a child care professional to have a minimum of 18 years of age with 40 hours of introductory training before that staff person may be directly responsible for children; he or she must pass competency tests related to training received; and he or she must participate in an approved minimum of ten hours of in-service training annually (Florida Department of Children and Families, 1988). Exemptions in Mississippi for years of experience may be given if the individual has received an Associate degree or beyond in a field related to child development or a Child Development Accreditation (CDA). At the time of this study, Mississippi child care professionals were not required to undergo any type of orientation training (MS Pub. L. 43-20-5, 1972). Due to lack of state funding support,
Mississippi was one of the poorest financial supporters of early childhood education (Adams & Poersch, 1994).

**Early Childhood Development and Teacher Professional Development**

The theory on early brain development (Ramey & Ramey, 1992) would support the need for a high quality educators and caregivers for young children. It is not just for the new educators and caregivers. One study measuring teacher attitudes about professional development found many times, teachers are unbendable and resistant to attempting new teaching strategies. The study also found that amount of experience does not mean better teaching and that training is important to professional growth (Cornell, 2003).

Teachers of young children, at all stages in their careers, need professional development. Early childhood educators may only be familiar with concrete activities for children and not familiar about sub-constructs concerning early development (Hyung-sook Cho, Chung-Ang, Kim, & Dong, 2003). Early childhood professionals need base knowledge to support the planning and development of curricula that address age-appropriate needs and educational experiences that produce optimum academic achievements.

**State Support for Early Childhood Education**

Early childhood education around the world, is supported by varying degrees, according to Schweinhart, Barnes, and Weikart (1993). In 1994, Mississippi legislators appropriated $5,770.00 in state funds independent of federal matching requirements to child care. This amount was second lowest in comparison to North Dakota and South
Dakota, who appropriated no funds and to the highest appropriations from California at $379,840,244.00 (Schweinhart, Barnes, & Weikart, 1993). More recent legislation showed an appropriation of $5,840,498.00 from the Mississippi legislature (National Conference of State Legislators, 2008).

According to Masse and Barnett (2002), every dollar spent on quality preschool, taxpayers are actually saved $4 in later special education, crime, welfare, and other costs. More recently, a Rand report (Karoly, Kilburn, Cannon, Bigelow, & Christina, 2005) contained information that returns to society on every dollar spent on early childhood interventions, including quality child care, ranged from $1.26 to $17.07, noting that programs targeting disadvantaged children would likely produce returns on the higher end of the scale. This follows the belief that support for children in their very young years benefits not only the child and his or her family, but further benefits society as a whole. Considering the low amount of appropriations for the cause of early childhood education in Mississippi, it is possible that offering method alternatives to training the state’s early childhood professionals to help supplement and improve the learning environment.

“The quality of the relationship between the child and the caregiver is the most important determinant of how well a child thrives in child care” (National Research Council Panel on Child Care Policy, 1991, p. 46). Therefore, teacher training and an increased knowledge base in early childhood education settings can influence the children for whom teachers care and educate (Shonkoff & Phillips, 2000).
Martinez-Beck and Zaslow (2006) observed that provider characteristics, such as specialized training, can mean more to child well-being than ratios, group sizes, and compensation.

Non-traditional students are acknowledged to be potential users for online educational opportunities and child care professionals would, for the most part, be considered non-traditional students. In Graham’s (2001) article in *Teaching of Psychology: Teaching Child Development Via the Internet*, she discussed her experiences in teaching a child development course online in an asynchronous format. For comparison’s sake, she investigated differences and similarities to the same course she had taught in a traditional setting. This particular online course was a five-week summer class with a final class size of fourteen. Using Blackboard CourseInfo©, she created eight folders online: announcements, course information (assignments, lecture notes, assignments, etc.), staff information, assignments, communication (bulletin board, email, virtual chat room in which small groups met weekly to discuss course materials, etc), external links (to related information), and student tools (how to use CourseInfo©, check their grades, etc.). This article contained no statistical data, but Graham’s observations included the following:

1. Students in the online learning group seemed to more readily process concepts taught than did the traditional class.

2. Ethical student behavior in the online setting was parallel with that of the traditional classroom.
3. Students commented positively regarding the online learning experience though they noted that they believed the online course took more time than a traditional class would have.

4. Some students expressed that they missed the social nature of the traditional classroom, though Graham commented that social interaction was offered in the online class.

5. Graham commented that she did not have to relinquish content and pedagogical goals at the expense of comfort or technology.

6. In comparing the posttest distributed in both settings, there were no significant differences in student satisfaction.

   Graham commented that she could not honestly compare scores of the two classes, because she felt the courses, though similar in content, were different.

Learning and the World Wide Web

While some educational experiences will always need to be conducted in traditional (face-to-face) settings, online learning offers a viable alternative in many instances (Dobbs, 2000). In this research effort, two such alternatives will be utilized in online learning: synchronous and asynchronous. Both settings overcome common obstacles of time and space that often prove a hindrance in the educational process.

Defining Effective Online Courses

According to Pollack (2005), online courses are effective when they:

1. promote faculty-student contact;

2. nurture active learning;
provide feedback in a prompt fashion;
4. stress time on task; and
5. communicate high expectations.

A synchronous online class, which involves “real-time learning”, can achieve all of the criteria mentioned above, but asynchronous settings might fall short in offering immediate feedback due to the very nature of the asynchronous design in general. Computer-mediated communication (CMC) can also increase participation from learners who might be more apprehensive to speak out in the traditional classroom by “masking social cues and cultural differences” (Heller & Kearsley; Ruberg, Moore, & Taylor, 1996).

**Research in the University Setting**

Day, Raven, and Newman (1998) conducted a study to compare online versus traditional education. The study was conducted with undergraduate (junior and senior) students of an Agricommunications in Technical Writing class (N = 58), a convenience sample. Students were randomly assigned to one of two sections: Group A: traditional instruction or Group B: online instruction with a laboratory, with each group having 29 students. One student withdrew from the university and was dropped from Group B, making a final sample size of 57. Per a posttest only design, students in Group B achieved at a higher level than Group A, including higher scores on the major class project and essay assignment. Researchers found their research effort consistent with other researchers in the field of education. Researchers concluded the Internet/laboratory combination was a better method of teaching technical writing than was the traditional approach.
Similarly, Liu (2006) carried out a quasi-experimental study in a ten-week Master’s level at a Midwestern state university. The research, like that of Day, Raven, and Newman (1998), was non-random selection (convenience sample), random assignment, and had two groups: one online group (experimental) and one traditional (control) group. The online group scored higher than did the control group in five of seven chapter quizzes, supporting the fact that online educational opportunities may be equal or superior to traditional instruction methods.

A study by Schulman and Sims (1999) compared scores of pretests and posttests of an online class versus traditional delivery methods and came to the conclusion that online learning is at least equivalent to learning experienced by students in the traditional classroom. Because of its real-time nature, synchronous communication is “more closely akin to a traditional classroom discussion” (Mabrito, 2006).

McCollum’s (1997) research comparing online versus traditional learning employed a sample of 43 students in a statistics class. The experimental group (online) outperformed the control group (traditional) by an average 20%, having scored higher on most quizzes and the final exam.

Online learning has also been found to be beneficial to the private sector as well for professional development as well as communication efforts. Capella University and the American Society for Training and Development conducted research regarding online learning and discovered that distance education is gradually gaining credibility among employers. (Carnevale, 2005). “The Internet doesn’t just change the way training can be delivered. It changes the way companies decide who gets trained to do what” (Dobbs, 2000, p. 27).
The Private Sector and Online Training

In the case of the Genzyme Corporation, a health care products manufacturer, distance education was implemented to overcome the obstacle of training over 3,000 employees nationwide. The technology of distance education enabled Genzyme to assemble sectors of its workforce at the company’s discretion and save time and money. In fact, this company so supported distance education that it actually encourages its employees to register for and participate in external online classes. Employees have been quite receptive of this concept, and as a result, within six months of the directive, over 400 employees had already begun some form of web-based educational opportunity (Dobbs, 2000).

Officials at universities across the United States have recognized the increase that distance education can bring in student enrollment and have embraced the alternative resource. At Drexel University, asynchronous learning opportunities have been offered since 1994. Lytle and Andriole (1995) investigated components of the asynchronous learning network (ALN) and found:

1. 80% of students who had taken an asynchronous online class would take another ALN class;
2. 80% felt they had more access to the instructor than in conventional course delivery; and
3. 70% felt they learned more in the ALN-based course than they would have expected to learn in a conventional course (Lytle & Andriole, 1995, p. 99).

Cisco Media Networks, a subsidiary of Cisco Systems, is a business that manages video on demand systems. The company reported an annual savings of more than $100
million due to e-learning utilization to educate employees as well as partners. As a result, Cisco has developed and implemented more than 3,000 video-based learning initiatives, and has continued to be an advocate for distance education.

In online synchronous classes, learners from different locations meet simultaneously in a self-contained environment that can include sharing of information and application, chat room gathering and discussion, and other interactivity (Pollack, 2005).

Advantages of Synchronous Learning

Paul Shotsberger, a researcher of synchronous online learning, found that students in a synchronous online setting were more likely to perform set tasks in less time and provide swifter responses with immediate feedback from the learning group. Immediate feedback, coupled with “larger sense of community” (p. 54), comprise two major strengths of synchronous learning. Another strength was the naturally-occurring informality that is not easily replicated in asynchronous experiences. Synchronous online learning achieved the goal of learner interaction, albeit not in the physical realm. To some degree, synchronous communication online reinstated the spontaneity that occurs in a traditional classroom environment (Shotsberger, 2000). Even when synchronous chat veered from relevance to the topic at hand, it can still be quite useful to community building in the online educational setting.

Shotsberger (2000) surveyed a group of 27 teachers and found positive responses in the participant-to-participant interaction afforded by the online synchronous learning experience. He stated that 100% of participants rated the learning experience as “very effective” or “effective” and further, went on to say that a chat-format among educators
“can accomplish in one hour what it takes a week to accomplish using an asynchronous discussion group” (p. 55).

The online synchronous classroom is logically more democratic than the asynchronous setting. Students have equal opportunities to review, reflect, and respond, the teacher does not dominate the discussion, and students who would otherwise (in traditional learning settings) contribute less in a traditional setting “seem to dramatically increase their participation in the electronic mode” (Cooper & Selfe, 1990, pg. 850). A descriptive study by Chun in two semesters of a German class investigated learner and instructor dialogue and found that the synchronous setting equalized the interaction rates of the teacher, making the learners more actively engaged and partners of dialogue rather than just respondents (Chun, 1994). Computer-mediated communication (CMC) may be useful in promoting critical thinking skills while asynchronous environments may be more valuable for learners regarding idea-generation and other activities that balance learner contribution and offer social support structures and immediate feedback. Offering social support and immediate feedback were more important to student learning than class consensus or argument construction (Pena-Shaff, Martin, & Gay, 2001). Research has supported that CMC in the teaching-learning process creates more flexible communication patterns (Berge & Collins, 1996; Heller & Kearsley, 1996; Ruberg, Moore, & Taylor, 1996; Pena-Shaff, Martin, & Gay, 2001).

Asynchronous Learning

Asynchronous online learning is less interactive than is synchronous, even when participants were allowed to contact the teacher and fellow learners. Asynchronous can have learner-to-learner interaction or not, at the discretion of the instructor/facilitator.
Questions about asynchronous online learning have been raised regarding human contact, the “ah-ha” factor, and real-time brainstorming actuated by group presence (Shotsberger, 2000). Ahern and Repman (1994) declared that electronic bulletin boards, which are the contemporary version of a town hall meeting, are emerging on a wide variety of topics.

The popularity of bulletin board discussion still continues to grow today, both in the field of education and elsewhere (i.e. public forum discussions on the World Wide Web in a social setting of sorts). In a study conducted by Pena-Shaff, Martin, and Gay (2001), postings in the synchronous setting were similar to private arguments and analyses about topics posted to a public bulletin board while the asynchronous discussions showed more collaboration, social interaction, and conflict.

Asynchronous online learning allows the learner to work at his or her own time period, time duration, and pace. In this educational setting, the learners and the instructor communicate in different time, different place learning, as opposed to real-time learning opportunities allowed through the synchronous online educational opportunity (Midkiff & DaSilva, 2000). This type learning opportunity requires more self-discipline on the part of the learner. Because of the very nature of this type of learning, there is no mode for immediate feedback; some see this as a drawback. Asynchronous online learning offers the convenience afforded by synchronous online learning but adds to the attraction the convenience of working in an online educational setting at the discretion of the learner and for the duration of time he or she so chooses. According to Burns (2004), 32 students in a post-baccalaureate, pre-service teacher training opportunity were asked their preferences at the beginning of a blended-methods online class, using a combination of both synchronous and asynchronous learning. The results were that 33 of 36 students
preferred asynchronous learning due to, in this case: (1) previous negative experiences with synchronous communication, (2) comfort and confidence with utilizing and participating in threaded discussions, and/or (3) relative lack of experience with synchronous communication. After the class was completed, the response was: 17 students said they preferred synchronous learning while 15 learners indicated a preference for asynchronous.

Heckman and Annabi (2005) conducted a descriptive study of 120 seniors in a large university in the Northeastern United States. They analyzed transcripts to assess senior students’ discussions and learning process patterns. In the 2 class sections, students were enrolled in an undergraduate information management degree program. Each student participated in synchronous online discussion and traditional classes. The results of the study were that the synchronous online experiences of the students produced high levels of cognition activities at least equal to, and in some cases superior to, cognitive processes in the face-to-face class setting. This study suggests that the asynchronous setting can offer opportunities for high-order cognitive thought processes.

In another research effort, Singh, et. al. (2004) evaluated online learning efforts in an engineering course at Clemson University. Researchers compared knowledge gain between synchronous, asynchronous, and traditional learning avenues. Knowledge gain was measured through the administration of course quizzes. The higher performance scores came from the asynchronous learning group who had unlimited access to learning materials (in modules), but had no interaction with fellow learners. The researchers duly noted that while this particular study was specific to the course in industrial engineering, results could also have important implications for other subject matter.
Online Training Efforts by Other State Extension Services

With the growing number of online opportunities for educational purposes, some Extension Services are offering such trainings for child care professionals. For example, the University of Arkansas Cooperative Extension Service (UACES) began training child care professionals through asynchronous online learning in 2002. This educational opportunity was funded through the Arkansas Division of Child Care and Early Childhood Education.

According to Traci Johnston, Child Care Program Associate, UACES has found several advantages to the online training, which is offered once each spring and once each fall:

1. Rural Accessibility: “Arkansas is a very rural state. Many early childhood professionals are unable to participate in on-site training. Online training is readily accessible, whereas they may not have other training in their area.”

2. No time/place constraints: Child care professionals often work long hours and often find it difficult to attend on-site training. They are able to complete the twelve-week training at their own pace without worries concerning transportation, time, child care arrangements for their own children, and other personal concerns.

3. Convenience: Participants can work on educational materials at their convenience and when are the most non-distractive for them personally.

4. Engaged learning: Many participants specify that they are actually more engaged in asynchronous learning than in other learning approaches. Some have indicated that their thoughts drift while listening to a speaker, while the asynchronous approach allows them to become focused on the material. Participants have also
indicated that an added feature was being able to go back and review all material, unlike with the traditional approach.

5. Increased awareness of and participation in trainings: There was a fear that online trainings would “take away” from traditional training but actually, the UAES trainings for child caregivers (all methods of delivery) have increased in the past five years, since beginning the online trainings (T. A. Johnston, personal communication, March 20, 2007).

The University of Tennessee Extension Service (UTES), at the time of this study, had a two-hour online training opportunity for child care professionals. This food safety training was synchronous. Further, Dr. Matthew Devereaux, UTES Child Development Specialist was developing an online training course that will offer up to 20 hours of in-service training and would be offered to child care professionals nationwide. This training was designed for child care center directors and potential directors. Covering issues such as leadership in the child care setting, problem-solving skills, and communication skills. This program would combine asynchronous and synchronous approaches (M. Devereaux, personal communication, March 21, 2007).

**Theoretical Underpinnings**

Research is built on the empirical data and theories in the designated field. In this research effort, four theories serve as foundations: knowledge building, community of learners, the computer-supported collaborative learning approach, and the adult learning theory.
**Knowledge Building**

Knowledge building, also termed knowledge construction, is the phenomenon that postulates that the learner comes to every learning experience with an information base accumulated from past experiences and uses that base to build new knowledge, or as Scardamalia, Bereiter, and Lamon (1994) refer to it, “a new cultural product” which considers that the learner depends upon reflective awareness. It is the consumption and synthesizing of multi-source information for personal and practical use. According to Marchionini (1995) and Downing, Moore, and Brown (2005), each individual has infrastructural “mental structures and other skills, experiences, and resources. However, technology’s worth in education is questionable unless it can be conveyed to the learner and be utilized in practical and meaningful ways, creating tangible benefits (Risdon, 1994). Learner-centered educational environments (such as is supported by knowledge building) allows for learners to claim ownership in ways that are personally relevant (Shea, Li, & Pickett, 2006).

**Community of Learners**

The personal aspects highlighted in the knowledge building theory can still be maintained while using that accumulation to unite with other learners. This collaborative dimension of the knowledge-building theory draws on the community of learners theory (Brown & Campione, 1990) whereby learners create a synergy which benefits both individual and group. “Synergy: the working together of two or more things, people, or organizations, especially when the result is greater than the sum of their individual effects or capabilities” (Herrington, Reeves, & Oliver, 2006, p. 234).
According to Zhu, “instruction is most effective when it is in the form of discussions or dialogues wherein learners can interact with peers, and adults or mentors who challenge, support, and scaffold their learning.” (Zhu, 1996, p. 842)

**Computer-Supported Collaborative Learning**

Moving from knowledge building to a community of learners is an avenue to benefit one and all, which is the third and final underpinning, the computer-supported collaborative learning approach, further builds upon.

Computer-supported collaborative learning, also known as computer-mediated communication or CMC, can also use streaming video which, according to Midkiff and DaSilva (2000) could do away with the need for classrooms because students could participate in lectures in real-time from home or work though this would decrease interaction. Additionally, it is believed that additional support for the learner is necessary to create an effective learning community (Midkiff & DaSilva, 2000).

Yang and Liu (2004) conducted a study concerning learning with 128 participants. The researchers found significant results in teachers’ professional growth in the computer-supported learning experience. Further, participants said they both valued and enjoyed the learning experience.

In recent years, there has been a paradigm shift from learning as an accrual of concepts and continuous evolution to “a process of becoming a member of a certain community” (Shea, Li, & Pickett, 2006; Koschmann, 1996). Important in collaborative learning such as the community of learners is the learner’s ability to shift from assimilation to construction of knowledge, validating that knowledge building and the community of learners theory, though distinct, are interconnected to a degree. In the
social setting of a learning community, the individual must progress from apparent
divergent perspectives to collaborative knowledge building. Learners not only respond to
the teacher or facilitator, but often comment or elaborate on textual contributions of
learning peers (Puntambekar, 2005).

In a distance education environment, the community of learners model calls on
participants to learn from one another and disseminate portions or the whole of what is
gathered (Ligorio, 2001). Based on group dynamic perspective, the resulting group
analysis, debate, and shared perspectives help to develop conceptual learning and higher
order thinking skills as well as promoting self-understanding and generating an
experiential base for learning (McDonald, 2002).

Pena-Shaff, Martin, and Gay (2001) conducted a case study to examine
communication and learning processes of students. The sample was comprised of 24
students in an elective course in Social Design of Communication Systems at Cornell
University, 6 of which were baccalaureate and 18, undergraduates. Data was collected
over a 14-week semester. Students were exposed to learning opportunities in the
conventional classroom, asynchronous bulletin board discussion, and synchronous lab
exercises. Two levels of coding were used, one concentrating on interaction patterns
while the other concentrated on the learning process. The researchers found that
students, while engaged in synchronous chat, frequently were found to drift off-task, with
only 3.3% of discussions staying on the main topic at hand. Additionally, they
discovered that while the synchronous environment appeared to be “great for brainstorm
but not for consensus building” (p. 48). Further, the study found the asynchronous
environment to be useful for providing a method for students’ initiation of discussion
topics and argument construction in response to postings from peers. However, Pena-Shaff, Martin, and Gay (2001) found undergraduates less likely to engage in discussion to their potential, suggesting that instructor support (e.g., feedback) could help motivate learners to play a greater role in that particular learning situation. They cited the research work of Ruberg, Moore, and Taylor (1996) that supported the need to offer alternate discussion communication modes that serve various learning styles and assimilate knowledge gained from online discussions into future class activities. Researchers found that both online learning settings for their sample (undergraduates) increased developing cognitive tasks (i.e. critical thinking, reflection, etc.); this finding coincides with the theory of knowledge construction.

This theory corroborates computer use as cognitive artifacts to foster knowledge construction through active and collaborative settings (Lehtinen, Hakkarainen, Lipponen, Rahikainen, & Muukkonen, 1999). According to Rogoff (1990), learners form a community through social context. Learning, he said, should take place in a social environment, in which learners use socially mediated and intellectual tools to achieve cognitive development.

Online communities supply an environment for participants to interrelate in personal, social, and professional ways by giving input; all this while not being confined by physical space (Caggiano, Audet, & Abegg, 1995).
Adult Learning Theory

Knowles’ adult learning theory postulates that adult learners have unique learning needs that differ from that of children. According to Knowles (1980), some of the characteristics of the adult learner are:

1. Adults are autonomous and self-directed
2. Adults draw upon their experiences as a resource in learning efforts
3. Adults are goal-oriented
4. Adults are relevancy-oriented
5. Adults are practical in their learning habits
6. As with all learners, adults need to be shown respect
7. Expounding on #3, adults are more apt to learn from a problem-based reference than subject-based, as do youth (Knowles, 1980, p. 27)

In agreement with Knowles, Britt (2004) further supported need for this type of study in his statement that that the online learning experience affords the adult learner to control her/her own learning environment.

All four theories: knowledge building, community of learners, computer-supported collaborative learning approach, and the adult learning theory), are supported by Pena-Shaff, Martin, and Gay’s (2001) assessment that computer-mediated communication offers participants the chance to acquire new knowledge by seeing different outlooks.

By understanding at least the basic premise of these four different, yet interdependent, theories, one can be better positioned to design a research project that more readily achieves research goals.
Summary

Empirical data suggests that there is a connection between a child care professional's training and quality of care. Children need a safe, positive learning environment with competent and caring child care professionals who can nurture them and prepare them for school and for life. Brain development research has shown that a child's brain is wired for learning and that stimulating the child's environment is appropriate ways is crucial in the early years. To most efficiently do this, child care professionals need quality training.

Officials of state licensing agencies vary in the ways professional development is approached and Mississippi's requirements, which include 15 hours of in-service training per child care professional per year, needs to be offered in a variety of methods, including online training opportunities. Other states such as Arkansas and Tennessee have found great success with online opportunities. As computer usage continues to rise, it is incumbent upon educators, such as MSU-ES, to offer quality training that meets the needs of many people across the state. Advantages include convenience as well as removal of time and space barriers. Traditional methods should always be offered and the researcher hypothesized that online delivery methods can at least be as good as traditional methods. The findings of this study may support the need to broaden the scope of services that MSU-ES can offer.
CHAPTER III:

METHODOLGY

Introduction

The researcher wanted to learn, through a quasi-experimental study, which type of instruction would yield higher learner achievement among Mississippi child care professionals: online synchronous, online asynchronous, or traditional. This was achieved through a pretest-posttest control group design. The curriculum was derived from: *Early Learning Guidelines: Developing Lesson Plans and Thematic Units for Three Year Old Children*, Pennsylvania State University Better Kid Care Series, and the Mississippi State University Early Childhood Institute. The online learning opportunities, both synchronous and asynchronous, were implemented through WebCT©, an online learning forum at Mississippi State University. The incentive for each participant to attend and complete the training course was six hours of in-service training approved by the Mississippi State Department of Health Child Care Licensure Bureau.

There were a number of agencies who had to give permission for use of information for the training and subsequent research to continue. Those who granted permission included: Ms. Julia Todd, MS Office of Children and Youth; Dr. Louise Davis, MSU-ES State Specialist in Child and Family Development; Mr. Festus Simpkins, MS Department of Public Health, Child Care Licensure Bureau; Dr. Lynn Darling, MSU
Research Questions

1. Which type of instruction leads to greater student learning in a training course for child care professionals: synchronous, asynchronous or traditional?

2. Will the asynchronous and synchronous online participants perform at least as well as the traditional group?

Hypotheses

H₁: Participants in a synchronous online class will exhibit higher achievement than participants in an asynchronous class.

H₂: Participants in an asynchronous or synchronous online class will exhibit achievement equal to or higher than a traditional class.

Population

The research population was comprised of child care professionals in Mississippi. The term child care professional, for the purposes of this study, refers to individuals either working in a child care facility or a home-based child care center. This distinction is made without regard to educational background or work experience as it cannot be assumed that only a certain sector of this population is capable of participation in an online class. Individuals from this population were given the opportunity to volunteer for the study. The incentive for participation for this research project was 6 approved hours of in-service training credit which would satisfy 6 of the 15 hours required annually of
Mississippi child care professionals by the Mississippi Department of Health, the licensing agency for child care centers and professionals.

Sampling

The study was conducted with child care professionals in Mississippi, including three groups. The goal of the researcher was to have at least 30 participants per group for a minimum total of 90. Actual sample size in the final population was 96 with 31 in the synchronous group, 32 in the asynchronous group, and 33 in the traditional group. This research employed a convenience sample since participants volunteered for the course.

Research Design

This research design was a pretest-posttest control group design for hypothesis 1 and non-equivalent pretest posttest design for hypothesis 2. The dependent variable was learner achievement while the independent variable was type of instruction. The method of instruction consisted of three levels: synchronous, asynchronous, and traditional. Participants from the synchronous and asynchronous groups were randomly assigned.

Instrumentation

The pretests and posttests that were administered to both the synchronous and the asynchronous groups as well as a traditional group were derived from the Early Learning Guidelines curriculum: *Developing Lessons and Thematic Units for Three Year Olds*. The pretest was an instrument used to measure baseline knowledge of each participant of which 25 was the highest possible score. Other resources for the curriculum are the MS Department of Education, *Pennsylvania State University Better Kid Care Series*, and the Mississippi State University Early Childhood Institute.
Reliability and Validity

Prior to the research and to establish reliability, a pilot study was implemented in a traditional-approach training of the Early Learning Guidelines training on *Developing Lessons and Thematic Units for Three Year Olds* with 32 participants. A Cronbach’s Alpha test was used to analyze the results of learner achievement on the traditional group. The pretest and posttest were used to establish instrument reliability. Data analysis revealed a reliability of .90 which established instrument reliability. It should be noted that .70 and higher are acceptable scores for reliability (Nunnaly, 1978). “Computation of alpha is based on the reliability of a test relative to other tests with same number of items, and measuring the same construct of interest” (Hatcher, 1994).

A panel of experts reviewed the curriculum for content validity. This panel was comprised of two Child Development instructors from Mississippi community colleges and two staff members of the Mississippi State University Early Childhood Institute. In addition to the panel of experts used, Dr. Cathy Grace reviewed and approved all portions of the curriculum before it was presented to participants. Dr. Jacquelyn Deeds also reviewed the section of the curriculum that addressed lesson plans.

Pilot Study

The pilot study was held at a Northeast Mississippi Head Start Center. Thirty two Head Start teachers participated in and completed the six hour training course, taught by the researcher. Included in the training was the presentation of all three PowerPoint© sessions of *Developing Lessons and Thematic Units for Three Year Olds*. 
Prior to training, the Educational Coordinator for the Head Start Center showed the video *Planning the Day* and reviewed the handouts on learning centers with participants. To open the training session, the researcher/instructor welcomed the group and read the statement (see Appendix A). Next, the pretest was administered to each participant. The same script that was used for the traditional and synchronous groups was used in the pilot study. At the conclusion of the training for this group, the instructor/researcher administered the posttest, after which the participants were dismissed.

Recruitment, Population, and Sample

Potential participants were recruited through a variety of ways including email newsletter *Who Cares* that is distributed monthly by the researcher. Those interested in participating contacted the researcher and expressed an interest. Because the nature of this research effort is online-driven, communication was primarily conducted through email though some communication, mostly answering questions about the training, was conducted via telephone.

An email was sent to participants explaining that the course information was being used in a doctoral research effort and further explaining course procedures. Participants were then emailed a statement of acceptance of terms (consent) to participate and informed that to register for the course was considered consent. They were informed that individual responses will be kept confidential to protect identities and that participation was voluntary; could refuse to answer any questions if any made them feel uncomfortable; could elect to withdraw from the training at any time, and that only group response will be reported. The Institutional Review Board (IRB) of Mississippi State
University regulates these conditions to guard against the potential harming of human subjects in research. This same information was reinforced on the online synchronous and the online asynchronous WebCT websites in the form of an audio recording. By registering for the course, participants were informed that they had agreed that they understood the information according to IRB standards and, as mentioned above, consented to participate. In the traditional group, the researcher read the same acceptance of terms as was used with the online groups. Members of the traditional and pilot groups were informed that if they did not agree with terms of participation, they were free to leave and not participate. No participants from either group left the training, and the training proceeded as planned.

Description of Treatment

In accordance with protocol of the Mississippi State University Department of Information Technology Services, who manages WebCT© online learning, each participant was required to supply his or her name, email address, and date of birth in order to get a username with which he or she could log on to the WebCT© and participate in the class. With the username given, online participants were to go online to the WebCT© website and set up an account using their assigned username. Failure to do so automatically disqualified the individual for participation in the course. Setting a personal password was part of this process. Since online education for child care provider training was, at the time of the study, relatively new in Mississippi, many participants required assistance in setting up an account. The researcher further explained the process through email and in some instances, by telephone. Time spent assisting online participants with setting up an account and answering questions about the course
itself once participants had started the course was approximately 35 hours. Members of the traditional group did not have to supply an email address and date of birth as they did not be access the WebCT© system.

After the information was submitted to the researcher and usernames for WebCT© were assigned, the synchronous group received an email giving the date and time for the class. Synchronous participants were instructed through email to do the following WebCT©-related activities before the first day of class: (1) listen to the “Welcome” message, (2) log into Chat Room 1 under “Communication Tools” on the website to acquaint themselves with the process, (3) review contents of the “Handouts” folder concerning learning centers and room arrangement, (4) go to the link marked “Video” and watch the 30-minute Penn State Better Kid Care Network “Planning the Day” video, and (5) take the pretest. The email also contained a Cheat Sheet that gave tips so that participants would receive the most beneficial online learning experience possible (See Appendix B).

Participants in the synchronous group met on Saturday, January 26, 2008, for the training. Since it was difficult to know exactly how long any synchronous session would last due to different rates of interaction and response times, participants were told by email that the synchronous training would last three to four hours.

Prior to participants entering Chat Room 1 on the morning of class, the researcher had checked to see who had and had not taken the pretest since it was a prerequisite to participating in the synchronous class. When participants entered Chat Room 1 early, those who had not taken the pretest then had time to take the test. There were 2 participants who entered the chat room that had not taken the pretest, so the researcher
sent them a private message asking each to take the test. Both of these participants had entered approximately 20 minutes before class start time, so there was ample time for them to take the pretest, which they did.

At the conclusion of the class, each participant was required to take the posttest. Of the 31 synchronous participants, 30 took the posttest so the 31st participant was emailed a reminder and she took the posttest the day after class, January 27, 2008. Dates were preset in WebCT© by the researcher who, with the assistance of the Mississippi State University Center for Teaching and Learning, designed the particulars of the training course.

In the interest of the credibility of the research, participants were not able to view their pretest scores before completing the course and taking the posttest. Likewise, participants in both the asynchronous and the synchronous groups were locked out of the PowerPoint© sessions until they had taken the pretest. Once a participant had taken the pretest, the PowerPoint© sessions were automatically released for viewing. Participants in the asynchronous group were then allowed to proceed on through the training course at their own pace. These participants were notified of their acceptance to the asynchronous training by email and were given ten days to complete the course, from January 17, 2008 to January 27, 2008. This was a reasonable amount of time considering those in the asynchronous group were informed on January 5, 2008 that they would be notified within a week, would be given access to the course, and that they would have 10 days to complete the course.

In the asynchronous setting, participants were not able to interact online. There were no bulletin board posting opportunities with the exception of a board where
questions could be posed to the instructor. Through WebCT© features, comparison of the pretests and posttests were recorded. The pretests and posttests were identical to those given to the synchronous and traditional groups. Participants from both groups were allowed to email the instructor with questions, concerns, etc. This congenial access to the instructor served to support the instructor-student relationship necessary as prescribed by the theory-based computer-supported collaborative learning approach. Participants from the synchronous group made more contact with the researcher, who was also the instructor for all three groups.

The Traditional Group

The traditional group was a Head Start Center in Northeast Mississippi though it is important to note that they were not one in the same. The traditional group had 33 participants. As with the pilot study group, an administrator of the Head Start Center made arrangements to show the “Planning the Day” video, review the Learning Center handouts, and administer the pretest to participants the day before the training took place. The training took place on February 2, 2008.

At the beginning of the training, the researcher, who was also the teacher for this training, welcomed participants as they entered. The same script used for the synchronous groups was used with the traditional group. The training lasted 3 hours and 15 minutes. At the conclusion of the training, the researcher administered the posttest to each participant. Upon completing the posttest, each participant was free to leave. Participants were given up to 30 minutes to complete the posttest, as with the synchronous and asynchronous groups, but the longest time taken on the posttest by a participant was 18 minutes.
The WebCT© Websites

The WebCT© website for the asynchronous group was labeled *ELG: Lesson Plans and Thematic Units*. ELG is the abbreviation for Early Learning Guidelines. The WebCT© website for the synchronous group was labeled *Lesson Plans and Thematic Units*. The procedure for entering class was to go to http://www.webct.msstate.edu and then enter user identification number and password. Then, the participant was automatically taken to the appropriate site, asynchronous or synchronous. An example of the student view of the Home Page can be seen in Figure 1 below. By clicking on the course title, the participant was taken to his/her assigned site. Each website consisted of 12 folders:

1. **Welcome**: A brief recorded audio message welcoming the participant to the course (See Appendix C).

2. **Video**: A 30-minute portion of the video *Planning the Day* produced by Penn State Better Kids Care.

3. **Pretest**, as shown in Appendix D.

4. **Handouts**: Information on learning centers for children and room arrangement for the child care setting. Use of this information was granted by the designer, Dr. Lynn Darling, Mississippi State University Early Childhood Institute and Dr. Cathy Grace, director of the Mississippi State University Early Childhood Institute. Handouts are shown in Appendix E.

5. **Session 1**: How Children Learn: This session served as an introductory session for the course and covered brain development, Mississippi Department of
Education benchmarks for three year old children, and how children learn, as shown in Appendix F.

6. Session 2: Developing a Thematic Unit: This session addressed extended discussion from “learning center” handouts, definitions of thematic unit & webbing, building a thematic unit through the use of webbing, examples of activities that include the teaching of specific benchmarks, as shown in Appendix F.

7. Session 3: Tying it All Together: This was the final session of the course and included the following information: definition of a lesson plan, the difference between lesson plans & daily schedules, what should be included in a lesson plan, and writing a learning objective as shown in Appendix F.

8. Use of information in Sessions 1, 2, and 3 was granted by Julia Todd, Director of the Mississippi Office of Children and Youth, who oversees the grant of Mississippi State University Extension Service and the Resource and Referral Network.

9. Posttest, as shown in Appendix D.

10. Communication Tools: For the asynchronous group, this folder included two links: one to email the instructor and the other to post questions for the instructor. For the synchronous group, this folder included two links: one to post questions for the instructor and the other that participants utilized to enter the Chat Room, where class occurred.

11. WebCT© Student Support: online support for participants developed by Mississippi State University Center for Teaching and Learning. Information
contained in this folder included the following in the form of fact sheets and audio tutorials: Getting Started, Course Functionality Communication, Course Functionality Assessment, Troubleshooting, Student Support, and Frequently Asked Questions (FAQ).

12. “Finish Here to Receive Credit”: A link where each participants entered the address where he or she wanted the certificate of completion mailed and where they were to complete a short survey to provide demographic information for the research effort.

Figure 1: Screen Shot of Home Page
Since this would be the first online class for many participants, lines of communication were kept open. Documenting the number of contacts revealed that participants in the traditional group contacted the researcher/instructor the least, as seen in Table 1, whereas participants in the synchronous contacted the researcher/instructor most frequently, with a total of 56. The asynchronous group was in the middle, with a total of 40 contacts, or 14% fewer contacts than the synchronous group.

Table 1
Documented Contacts by Group

<table>
<thead>
<tr>
<th>Type of Contact</th>
<th>Synchronous</th>
<th>Asynchronous</th>
<th>Traditional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>48</td>
<td>36</td>
<td>1</td>
</tr>
<tr>
<td>Phone</td>
<td>8</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

All coursework and tests administered were related to the Early Learning Guidelines training on “Developing Lessons and Thematic Units for Three Year Olds”. This training was offered through the Mississippi State University Extension Service and the North Mississippi Resource and Referral Center, who partner in an effort to provide quality training opportunities in traditional and interactive video educational offerings for child care professionals in Mississippi. The Mississippi Department of Public Health Child Care Licensing Bureau sanctioned six approved training hours of in-service credit for this course.
Data Analysis

Using SPSS 15.0, the ANCOVA test was run with learner achievement as the dependent variable and type of instruction as the independent variable. Levels of the independent variable were: traditional, online synchronous, and online asynchronous. This analysis showed the average regression slope within each group and guarded against any misleading impression of differences.

To determine differences between groups, a Bonferroni post hoc test was used. Because hypothesis 2 was tested using a quasi-experimental design, it was necessary to analyze possible effects of extraneous variables. Analysis of variance and bivariate correlations were used to determine the influence of possible extraneous variables.
CHAPTER IV

FINDINGS

Findings of this study were based on statistical analysis of pretests and posttests of participants (n = 96). The purpose of the study was to discover which instruction method yielded the highest learner achievement among Mississippi child care providers: online synchronous, online asynchronous, or traditional approach. The researcher also wanted to know if the asynchronous and synchronous online participants would perform at least as well as participants in the traditional group. Two hypotheses were proposed: (1) Participants in the synchronous online class will exhibit higher achievement than participants in the asynchronous class and (2) Participants in the asynchronous or the synchronous online class would exhibit achievement equal to or higher than the traditional group.

Initial Registrants and Final Sample

Following recruitment efforts, a total of 81 child care providers signed up for online classes. Due to conflict with date of class, 18 did not participate in the online classes. After 31 synchronous, 32 asynchronous, and 33 traditional participants began the course, there was 100% participation with no dropout rate.
Demographics

In order to establish a profile of the sample group, participants were asked to give demographic information. They were asked for the following information: age range, race, gender, highest educational level attained, years of experience in a child care setting, level of computer skill, and desire to attend future online training opportunities.

The age group with the largest number of participants was the “20-49 years old” group with 74, or 77.1%. From the “50-69 years” group, there were 22 or 22.9%. There were no participants from the “19 years or under” or the “70 years or older” groups. (See Table 2 for age ranges by experimental group.)

Table 2
Frequency Table: Age

<table>
<thead>
<tr>
<th>Age</th>
<th>19 and under</th>
<th>20-49</th>
<th>50-69</th>
<th>70+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>P</td>
<td>f</td>
<td>P</td>
<td>f</td>
</tr>
<tr>
<td>Method</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synchronous</td>
<td>0</td>
<td>0</td>
<td>23</td>
<td>74.2</td>
<td>8</td>
</tr>
<tr>
<td>Asynchronous</td>
<td>0</td>
<td>0</td>
<td>24</td>
<td>75.0</td>
<td>8</td>
</tr>
<tr>
<td>Traditional</td>
<td>0</td>
<td>0</td>
<td>27</td>
<td>81.8</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>0</td>
<td>84</td>
<td>100.0</td>
<td>22</td>
</tr>
</tbody>
</table>

Since all child care providers in Mississippi are required to have a high school diploma or GED, the question concerning education began at that point. Participants from the “High School Diploma or GED” category numbered 22 in the synchronous group, 16 in the asynchronous, and 21 in the traditional. In the “some college” category, 7 were from the synchronous, 10 from the asynchronous, and 10 from the traditional. In
the “Associate Degree” category, there were 2 from the synchronous, 4 from the asynchronous, and 1 from the traditional. In the “Bachelor’s Degree or Above” category, there were none from the synchronous group, 2 from the asynchronous group, and 1 from the traditional group. In regards to highest educational level attained, the largest response group was “High School Diploma or GED” at 59 or 61.4%, followed by “some college” at 27 or 28.1%, then “Associate Degree” at 7 or 7.2%, and finally, “Bachelor’s Degree” at the lowest frequency rate of 3 or 3.1%, as shown in Table 3.

Table 3
Educational Level by Method of Instruction

<table>
<thead>
<tr>
<th>Method</th>
<th>High School or GED</th>
<th>Some College</th>
<th>Associate Degree</th>
<th>Bachelor or Above</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( f ) ( P )</td>
<td>( f ) ( P )</td>
<td>( f ) ( P )</td>
<td>( f ) ( P )</td>
<td>( f ) ( P )</td>
</tr>
<tr>
<td>Synchronous</td>
<td>22 71.0</td>
<td>7 22.6</td>
<td>2 6.5</td>
<td>0 0</td>
<td>31 100.0</td>
</tr>
<tr>
<td>Asynchronous</td>
<td>16 50.0</td>
<td>10 31.3</td>
<td>4 12.5</td>
<td>2 6.3</td>
<td>32 100.0</td>
</tr>
<tr>
<td>Traditional</td>
<td>21 63.6</td>
<td>10 30.3</td>
<td>1 3.0</td>
<td>1 3.0</td>
<td>33 100.0</td>
</tr>
<tr>
<td>Total</td>
<td>59 61.5</td>
<td>27 28.1</td>
<td>7 7.3</td>
<td>3 3.1</td>
<td>96 100.0</td>
</tr>
</tbody>
</table>

In terms of race, the largest group, 23 or 71.9%, came from the Black Asynchronous group while the lowest numbers were from the Hispanic Synchronous and the Hispanic Asynchronous, both of which had no participants. There were 36 white participants (37.5%), 58 black participants (60.4%), and 2 Hispanic participants (2.1%) (see Table 4). Participants included 92 females (96%) and 4 males (4%), as shown in Table 5.
Table 4
Frequency Table: Race

<table>
<thead>
<tr>
<th>Method</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$f$</td>
<td>$P$</td>
<td>$f$</td>
<td>$P$</td>
</tr>
<tr>
<td>Synchronous</td>
<td>19</td>
<td>61.3</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Asynchronous</td>
<td>23</td>
<td>71.9</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Traditional</td>
<td>16</td>
<td>48.5</td>
<td>2</td>
<td>6.1</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>60.4</td>
<td>2</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Table 5
Frequency Table: Gender

<table>
<thead>
<tr>
<th>Method</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$f$</td>
<td>$P$</td>
<td>$f$</td>
</tr>
<tr>
<td>Synchronous</td>
<td>0</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td>Asynchronous</td>
<td>1</td>
<td>3.13</td>
<td>31</td>
</tr>
<tr>
<td>Traditional</td>
<td>3</td>
<td>9.10</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>4.17</td>
<td>92</td>
</tr>
</tbody>
</table>

The years of experience of participants varied greatly, ranging from one year to 33 years, but the mean was 11.51 years. Within groups, the mean of the synchronous group was 11.80, the mean of the asynchronous group was 8.71, and the mean of the traditional group was 13.93.
Participants were asked about their computer skill levels, whether beginner, some skills, or expert level. The majority of the participants, 54 or 56.25%, responded that they were skilled but not expert in computer competence. Forty one participants responded that they were on a beginner level. Only one of 96 of the participants self-reported to have had expert-level computer skills.

Table 6
Frequency Table: Computer Skills

<table>
<thead>
<tr>
<th>Method</th>
<th>Beginner</th>
<th>Skilled but not Expert</th>
<th>Expert</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>P</td>
<td>F</td>
<td>P</td>
</tr>
<tr>
<td>Synchronous</td>
<td>10</td>
<td>32.32</td>
<td>21</td>
<td>67.7</td>
</tr>
<tr>
<td>Asynchronous</td>
<td>13</td>
<td>40.61</td>
<td>18</td>
<td>56.3</td>
</tr>
<tr>
<td>Traditional</td>
<td>18</td>
<td>54.50</td>
<td>15</td>
<td>45.5</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>42.70</td>
<td>54</td>
<td>56.25</td>
</tr>
</tbody>
</table>

Finally, when online participants were asked whether or not they would consider attending another online training if one were to be offered in the future, 57 or 90.4% responded that they would attend future online trainings. Within that group, 28 from the synchronous and 29 from the asynchronous responded “yes” while 3 from the synchronous and 3 the asynchronous responded “no”. 63 participants were asked about future online trainings (see table 7). The 33 participants from the traditional group were not asked about future trainings since the focus of the research was online learning.
Table 7

Frequency Table: Future Trainings

<table>
<thead>
<tr>
<th>Method</th>
<th>Yes</th>
<th></th>
<th></th>
<th>No</th>
<th></th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>P</td>
<td></td>
<td>f</td>
<td>P</td>
<td></td>
<td>f</td>
<td>P</td>
</tr>
<tr>
<td>Synchronous</td>
<td>28</td>
<td>90.3</td>
<td>3</td>
<td>9.7</td>
<td>31</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asynchronous</td>
<td>29</td>
<td>90.6</td>
<td>3</td>
<td>9.4</td>
<td>32</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>6</td>
<td></td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Findings by Research Question

Research questions had guided the course of this research study and answers to research questions bear explanation to understand results and implications of the research itself. Initially, participant scores on the pretest and posttest were determined using SPSS 15.0. These results are presented in Table 8.

An analysis of covariance (ANCOVA) test was run with learner achievement as the dependent variable and type of instruction as the independent variable. Levels of the independent variable were: traditional, online synchronous, and online asynchronous. This analysis showed the average regression slope within each group and guarded against any misleading impression of differences. The Between-Subjects Effects test revealed that there was a significant difference in type of instruction or method, with a significance value of .018. The ANCOVA results are presented in Table 9. A Levene’s Test of Equality of Error Variances had a significance value of .759, which showed that scores were homogenous.
Table 8
Means: Pretest and Posttest by Group

<table>
<thead>
<tr>
<th>Method</th>
<th>Pretest</th>
<th></th>
<th>Posttest</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Stand. Dev.</td>
<td>Mean</td>
<td>Stand. Dev.</td>
</tr>
<tr>
<td>Synchronous (n = 31)</td>
<td>11.48</td>
<td>5.39</td>
<td>19.39</td>
<td>3.83</td>
</tr>
<tr>
<td>Asynchronous (n = 32)</td>
<td>15.28</td>
<td>4.50</td>
<td>18.75</td>
<td>3.18</td>
</tr>
<tr>
<td>Traditional (n = 33)</td>
<td>14.58</td>
<td>3.50</td>
<td>17.54</td>
<td>3.81</td>
</tr>
<tr>
<td>Total (n = 96)</td>
<td>13.81</td>
<td>4.76</td>
<td>18.54</td>
<td>3.66</td>
</tr>
</tbody>
</table>

Table 9
Analysis of Covariance for Learner Achievement

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>172.58</td>
<td>3</td>
<td>57.53</td>
<td>4.806</td>
<td>.004</td>
</tr>
<tr>
<td>Pretest</td>
<td>116.28</td>
<td>1</td>
<td>116.28</td>
<td>9.714</td>
<td>.002</td>
</tr>
<tr>
<td>Method</td>
<td>100.79</td>
<td>2</td>
<td>50.39</td>
<td>4.210</td>
<td>.018</td>
</tr>
<tr>
<td>Error</td>
<td>1101.26</td>
<td>92</td>
<td>11.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Model</td>
<td>1273.83</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The ANCOVA analysis used adjusted posttest means to determine group differences. Adjusted means revealed that for the synchronous group, the mean was 19.96; for the asynchronous group, the adjusted mean was 18.39; and for the traditional group, the adjusted mean was 17.36 (see Table 10).
Table 10

<table>
<thead>
<tr>
<th>Method</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synchronous</td>
<td>19.964</td>
<td>.648</td>
<td>18.677</td>
<td>21.252</td>
</tr>
<tr>
<td>Asynchronous</td>
<td>18.386</td>
<td>.623</td>
<td>17.149</td>
<td>19.623</td>
</tr>
<tr>
<td>Traditional</td>
<td>17.356</td>
<td>.605</td>
<td>16.154</td>
<td>18.558</td>
</tr>
</tbody>
</table>

Note: Lower Bound and Upper Bound are at the 95% Confidence Interval

A Bonferroni test of pairwise comparisons was run to reveal specific differences among the three groups. This test showed that comparing synchronous to asynchronous, the significance value was .272, which was not statistically significant, but comparing synchronous to traditional was significant at .014. Comparing asynchronous to traditional, the significance value was .703, which was not significant.

Therefore, the answer to research question 1: *Which type of instruction leads to greater student learning in a training course for child care professionals: synchronous, asynchronous or traditional?* was that the synchronous and asynchronous groups were not different, and the asynchronous and traditional groups were not different, but the synchronous group did perform higher than the traditional group (see Table 11).

Table 11

<table>
<thead>
<tr>
<th>(I) Method</th>
<th>(J) Method</th>
<th>Mean Difference</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synchronous</td>
<td>Asynchronous</td>
<td>1.58</td>
<td>.92</td>
<td>.272</td>
</tr>
<tr>
<td></td>
<td>Traditional</td>
<td>2.61</td>
<td>.90</td>
<td>.014</td>
</tr>
<tr>
<td>Asynchronous</td>
<td>Synchronous</td>
<td>-1.58</td>
<td>.92</td>
<td>.272</td>
</tr>
<tr>
<td></td>
<td>Traditional</td>
<td>1.03</td>
<td>.86</td>
<td>.703</td>
</tr>
<tr>
<td>Traditional</td>
<td>Synchronous</td>
<td>-2.61</td>
<td>.90</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>Asynchronous</td>
<td>-1.03</td>
<td>.86</td>
<td>.703</td>
</tr>
</tbody>
</table>
SPSS data analysis, then, showed that the synchronous did perform higher than did the traditional; the synchronous and asynchronous groups were essentially equivalent, as were the asynchronous and traditional groups. Therefore, the answer to research question 2: *Will the asynchronous and synchronous online participants perform at least as well as the traditional group?* was yes.

**Hypotheses**

\(H_1\): Participants in a synchronous online class will exhibit higher achievement than participants in an asynchronous class.

Hypothesis 1 was not found to be true and was not accepted. Participants from the asynchronous group had a posttest mean score of 19.38 while the synchronous group had a posttest mean of 18.75. These scores supported that the fact that the scores were not significant. The Bonferroni probability was .272. Therefore, the null hypothesis was not rejected and there was not enough difference to accept the research hypothesis.

\(H_2\): Participants in an asynchronous or synchronous online class will exhibit achievement equal to or higher than a traditional class.

Hypothesis 2 was found to be true and was accepted. Participants in the synchronous group as compared to the traditional group were shown in a Pairwise Comparisons test (Bonferroni) to have a significance level of .014, showing a difference (see Table 11). Participants in the asynchronous group as compared to the traditional group revealed no significant difference with a significance level of .703. Both the synchronous and the asynchronous group, did exhibit achievement equal to or higher than a traditional class.
Analysis of Possible Effects of Extraneous Variables

Because research question 2 used a quasi-experimental design, control of possible extraneous variables was necessary. For example, in a study of online students from a Midwestern university, Anderson & Haddad (2005) employed a sample of 109 participants. They found that females experienced greater “deep” learning in online courses than in the traditional learning environment. For this study, the relationships between the dependent variable of achievement will be compare with these possible extraneous variables: race, gender, years of experience, computer skill, and level of education.

Of the 3 races included in the study, blacks had a posttest mean of 18.52 and a standard deviation of 3.69, Hispanics had a posttest mean of 13.0 with a standard deviation of 1.41, and whites had a posttest mean of 18.89 with a standard deviation of 3.51. An analysis of variance for race and learner achievement yielded a .085 significance level, which indicated no effect on the posttest due to race (see Table 12).

Table 12

Analysis of Variance on Learner Achievement by Race

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest * Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>65.795</td>
<td>2</td>
<td>32.898</td>
<td>2.533</td>
<td>.085</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1208.038</td>
<td>93</td>
<td>12.990</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1273.833</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the possible extraneous variable of gender, there was no significant difference in performance between males and females. Males had a posttest mean of 17.75 with a
standard deviation of 2.87 while females had a posttest mean of 18.58 with a standard
deviation of 3.70. An ANOVA determined a significance level of .661 (see Table 13).

Table 13

<table>
<thead>
<tr>
<th>Analysis of Variance on Learner Achievement by Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of Squares</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Posttest *</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Between Groups</td>
</tr>
<tr>
<td>Within Groups</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

There was a significant difference of .033 that showed up in years of experience
and method as shown in the ANOVA summary in Table 14. In years of experience for
the synchronous group, the mean was 11.81 with a standard deviation of 8.13. For the
asynchronous group, the mean for years of experience was 8.72 with a standard deviation
of 7.31. For the traditional group, the mean for years of experience was 13.94 with a
standard deviation of 8.39. However, a Pearson correlation revealed no significant
correlation between years of experience and performance ($r = -.187$).

Table 14

<table>
<thead>
<tr>
<th>Analysis of Variance on Years of Experience by Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of Squares</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Years of Experience * Method</td>
</tr>
<tr>
<td>Between Groups</td>
</tr>
<tr>
<td>Within Groups</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
There was a significant difference on the effect of computer skill on learner achievement with a significance value of .043. This was caused by a slight interaction effect between method and computer skills. Especially in the traditional group, the skilled participants outperformed the beginners.

With a value of .397, there was no significant effect of educational level on learner achievement. High school or GED had a mean of 18.25 with a standard deviation of 3.66; some college had a mean of 12.48 and also had a standard deviation of 3.66; associate’s degree had a mean of 20.57 with a standard deviation of 4.12; and bachelor’s degree or above had a mean of 20.00 with a standard deviation of 2.00.

Table 15
Analysis of Variance on Learner Achievement by Computer Skill

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>83.219</td>
<td>2</td>
<td>41.610</td>
<td>3.250</td>
<td>.043</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1190.614</td>
<td>93</td>
<td>12.802</td>
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<tr>
<td>Total</td>
<td>1273.833</td>
<td>95</td>
<td></td>
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</table>

Table 16
Analysis of Variance on Learner Achievement by Educational Level

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<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
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<td>Posttest *</td>
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<tr>
<td>Between Groups</td>
<td>40.192</td>
<td>3</td>
<td>13.397</td>
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<td>13.409</td>
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<tr>
<td>Total</td>
<td>1273.833</td>
<td>95</td>
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CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Based on the data analysis, this final chapter will summarize the research effort, draw conclusions from the findings of the research, and offer recommendations.

Summary

The purpose of this research was to ascertain the learner achievement of Mississippi child care professionals when taking part in an online learning opportunity. This study was of particular interest since much of the scope of services of MSU-ES is also considered within the human services arena. Furthermore, MSU-ES is constantly examining innovative and meaningful ways to deliver services to its clientele.

The researcher used three groups: one asynchronous online class, one synchronous online class, and a traditional group. Learner achievement was measured through participant completion of pretests and posttests.

Research questions were: (1) Which type of instruction leads to greater student learning in a training course for child care professionals: synchronous, asynchronous or traditional? and (2) Will the asynchronous online participants perform at least as well as the traditional group?

The following research hypotheses guided the study: H₁: Participants in the synchronous online class will exhibit higher achievement than participants in the
asynchronous class, and H₂: Participants in the asynchronous or the synchronous online class will exhibit achievement equal to or higher than the traditional group.

For H₁, the design of the study was pretest-posttest control group quasi-experimental with a convenience sample. For H₂, the design was a non-equivalent pretest-posttest control group design. In this research effort, participants volunteered for the study, which was a training opportunity on *Lesson Plans and Thematic Units* which was derived from *Early Learning Guidelines: Developing Lesson Plans and Thematic Units for Three Year Old Children*, Pennsylvania State University Better Kid Care Series, and the Mississippi State University Early Childhood Institute. Power Point sessions, the central focus of the training, were reviewed and approved by an expert panel and dissertation committee members Dr. Cathy Grace and Dr. Jacquelyn Deeds. Scripts were used for the synchronous and traditional groups to assure consistency for the research effort (See Appendix G).

The research instruments, the pretest and the posttest, were developed by the researcher and taken directly from PowerPoint© sessions. The pretest and the posttest were identical and were developed by the researcher and again, reviewed and approved by Dr. Cathy Grace.

A pilot study was held at a Northeast Mississippi Head Start Center. Thirty two Head Start teachers participated in and completed the training course, taught by the researcher. Included in the training was the presentation of all three PowerPoint© sessions of *Developing Lessons and Thematic Units for Three Year Olds*.

Prior to training, the Educational Coordinator for the Head Start Center showed the video *Planning the Day* and reviewed the handouts on learning centers with
participants. To open the training session, the researcher/instructor welcomed the group and read the consent statement. Next, the pretest was administered to each participant. The same script and PowerPoint® slides that were used for the traditional and synchronous groups was used in the pilot study (See Appendix G). At the conclusion of the training for this group, the instructor/researcher administered the posttest, after which the participants were dismissed.

After participants for an online learning opportunity registered, they were randomly assigned to either the synchronous or the asynchronous group. Random assignment did not occur in the traditional group. All participants were given details of the training and according to the Institutional Review Board of Mississippi State University, given guiding standards that would protect them as human research subjects. To ensure that online participants were comfortable with the online process, the researcher gave her email address and phone number, as well as provided a place on the course website to post questions. Participants did utilize these resources.

The online learning opportunities, both synchronous and asynchronous, were implemented through WebCT®, an online learning forum through Mississippi State University. The incentive for each participant to attend and complete the training was six hours of in-service training approved by the Mississippi State Department of Health Child Care Licensure Bureau. The dependent variable was learner achievement and the independent variable was type of instruction. Levels of the independent variable were synchronous, asynchronous, and traditional.

The research population was Mississippi child care providers. Actual sample size in the final population was 96, with 31 in the synchronous group, 32 in the asynchronous
group, and 33 in the traditional group. This research employed a convenience sample since participants volunteered for the course.

The researcher collected demographic information from all participants, including age, race, gender, educational level, years of experience in the child care setting, and computer skills. Additionally, online participants, both synchronous and the asynchronous, were asked whether or not they would be likely to participate in a future online training opportunity.

Using SPSS 15.0, analysis of covariance (ANCOVA) was used to compare the relationship between learner achievement and method of instruction.

Conclusions

In regards to Research Question 1: Which type of instruction leads to greater student learning in a training course for child care professionals: synchronous, asynchronous, or traditional? Based on these findings, it can be concluded that the answer to Research Question 1 is that the synchronous group led to greater student learning than the traditional group.

In consideration of the performance levels of online groups versus the traditional group, a significance value of .018 was found which showed a significance difference. As a result of this, a Bonferroni test was run. The results of the Bonferroni were: (1) there was a significant difference of .014 between the synchronous and traditional groups; and, (2) comparing the asynchronous group to the traditional group, no significant difference was found with a value of .703.
H₁ stated that participants in a synchronous online class will exhibit higher achievement than participants in an asynchronous class. This hypothesis was not accepted.

H₂ stated that participants in an asynchronous or synchronous online class will exhibit achievement equal to or higher than a traditional class. Based on the pretests and posttests, it was discovered that the synchronous and the asynchronous groups performed as well as the traditional group.

A Levene’s Test of Equality of Error Variances had a significance value of .759 which showed that scores were homogenous. The Between-Subjects Effects test revealed that there was a significant difference in type of instruction with a significant difference in type of instruction with a significance value of .018.

Based on the findings, it can be concluded that:

1. Online instruction should be continued but not replace traditional
2. Synchronous approach should be considered due to kinship with traditional.
3. Teacher support & constant communication are vital to effective online learning.

Discussion

Much of the research found in the literature review, Chapter II, supports the conclusions made by the researcher. The remainder of this section addresses connections between the review of the literature and conclusions made based on prior research.

There is ample support that online learning networks are equivalent to, and in some cases, superior to, the traditional learning environment. A study by Schulman and Sims (1999) compared scores of pretests and posttests of an online class versus
traditional delivery methods and came to the conclusion that online learning is at least equivalent to learning experienced by students in the traditional classroom. Likewise, McCollum’s research (1997) comparing online versus traditional learning employed a sample of 43 students in a statistics class. The experimental group (online) outperformed the control group (traditional) by an average of 20%.

Paul Shotsberger, a researcher of synchronous online learning, maintains that students in a synchronous online setting are more likely to perform set tasks in less time and provide swifter responses with immediate feedback from the learning group. Immediate feedback, coupled with “larger sense of community”, comprise two major strengths of synchronous learning. Another strength of synchronous online learning is the naturally-occurring informality that is not easily replicated in asynchronous experiences. Synchronous online learning also, according to Shotsberger, achieves the goal of learner interaction. Furthermore, in a research study by Shotsberger (2000), 100% of participants rated the learning experience as very effective or effective. Shotsberger went on to state that “a chat-format could accomplish in one hour what it takes a week to accomplish using an asynchronous discussion group” (p. 55).

Cooper and Selfe (1990) maintained that the online synchronous classroom is logically more democratic than the asynchronous setting. Students have equal opportunities to review, reflect, and respond and the teacher does not dominate the discussion. Also, Cooper and Selfe stated that students who would otherwise, as in traditional learning settings, contribute much less in a traditional setting seemed to noticeably increase their participation online. Other researchers (Berge & Collins, 1996; Heller & Kearsley, 1996; Ruberg, Moore, & Taylor, 1996; Pena-Shaff, Martin, & Gay,
2001) agree that the online learning environment and its teaching-learning process allows for more flexible communication patterns.

Graham’s 2001 research, concerning online versus traditional learning environments, made some conclusions that coincide with this research. Though Graham’s research focused on asynchronous online learning with no synchronous group, her findings coincide with the research at hand. These include: (1) students in the online learning group seemed to more readily process concepts taught than did the traditional class and (2) that students commented positively regarding the online learning experience though they noted that they believed the online course took more time than a traditional class would have.

According to Pollack (2005), online courses can be quite effective in delivering online learning opportunities. Characteristics of effective online learning are:

a. Promote faculty-student contact: With the research at hand, the instructor offered several methods of communication including her phone number, email, and a bulletin board on the course website.

b. Nurture active learning: participants were given three avenues to reach the instructor: phone, email, and course bulletin. Since online learning was the focus of this research, online communication was most highly encouraged, but the researcher felt the phone offered a more conventional alternative.

c. Provide feedback in a prompt fashion. All communications were responded to by the instructor within 24 hours, many much less time. This
immediate feedback showed participants that there was a personal touch, even though they and the instructor were physically not together.

In concurrence with Liu’s research (2006), the researcher discovered that the online participants performed at least as well as the participants in the traditional group.

Recommendations

The increased use of online learning opportunities has not damaged traditional learning, nor will it alleviate anytime soon. Rather, online learning has simply offered a viable alternative for delivery of learning opportunities. The following recommendations are made based on the finding of this research study:

1. Continue to offer quality training opportunities statewide that address professional development needs of Mississippi child care providers.

2. Put forth a plan to extensively explore online opportunities for child care providers.

3. Offer training opportunities for beginner-level computer users so that they would feel more comfortable in an online learning environment.

4. Offer synchronous and asynchronous training opportunities, remembering that based on the findings of this study, synchronous learning environments offer more interaction.

5. Consider utilizing computer labs at vocational centers, community colleges, mobile units (such as the one owned by MSU-ES), and other resources to make computers more accessible to those in need of computers.
Suggestions for Future Research

The possibility for research in the area of online learning environments is endless, and there is a multitude of existing research from which to work. However, online learning for child care providers is still in the early stages and needs further exploration. The researcher recommends further exploration through research a number of combinations of the three delivery methods: synchronous, asynchronous, and traditional.

Additionally, this research can be generalized only to the population at hand: Mississippi child care providers. It would seem to be in the best interest of the field of early childhood education to expand upon this and other prior research to conduct more research studies about the effectiveness and/or learner achievement for child care providers in an online learning environment.

Finally, the research of Day, Raven, and Newman (1998) suggested that the use of computer laboratories in online learning can be useful and productive. Therefore, especially while online learning is a relatively new concept to Mississippi child care providers, use of laboratories with facilitators guiding the learning process could be a great advantage. At any rate, more research in the field of online education for child care professionals is needed to find alternative and effective ways of delivering training.
REFERENCES


Consent Statement

By participating in this training, you understand that:

1. Your participating is voluntary;
2. There is no risk of harm by participating;
3. You may withdraw from the training or refuse to answer any questions. However, please understand that incomplete work means that you will not receive full inservice training credit;
4. Your personal information and responses will not be connected with your name; and
5. This training is free of charge and is part of a research project towards my PhD.

These standards are to protect you and assure confidentiality as specified by the MS State University Institutional Review Board. Should you have any questions, you may contact:

1. Carla Stanford---Researcher
   662-489-3910
2. Dr. Michael Newman---Advisor and Dissertation Director
   662-325-3462
3. IRB (Institutional Review Board), MS State University
   662-325-3294

These standards were set by the MS State University Institutional Review Board to assure that your participation is safe. Thank you for your participation in this research project and training for child care professionals.
APPENDIX B

ONLINE CHEAT SHEET
Online Cheat Sheet

*this was emailed to synchronous participants on January 19, 2008*

1. Be on time. Log into webct at least 20 minutes before class starts to take the pre-class survey. Enter the chat room and “make yourself comfortable”. It is advisable to clear any distractions out of your work space (TV, radio, music, other people, etc.) so that you can concentrate and get the most out of this learning experience.

3. When we finish the discussion session, do not log out, but go to the “posttest” and the “survey” links on the home page and complete them.

4. After you finish items in #2, you are excused.

5. Remember our class rules:

   A.* to raise your hand to be called on when a question has been asked
   B. ! to make a point
   C. ? to ask a question
   D. Y = yes
   E. N = no
APPENDIX C

WELCOME MESSAGE AND SCREENSHOTS
Welcome Message on WebCT©

After entering the WebCT©, the participant was to click on the icon above to hear the Welcome Message. From there, the participant was taken to another page, which looked like the image below.

By clicking on the notebook page icon or the text “Welcome Message---Asynchronous” or “Welcome Message---Synchronous”, the participant was taken to a brief audio message. Scripts for the message are of the following pages.
Hello, this is Carla Stanford and welcome to this training on “Lesson Plans and Thematic Units”. You are in the synchronous group which means we will all log on together for class on the internet at 9:00 a.m. Central Time Saturday morning, Jan. 26, 2008. By participating in this training, you understand that:

1. Your participating is voluntary;
2. There is no risk of harm by participating;
3. You may withdraw from the training or refuse to answer any questions. However, please understand that incomplete work means that you will not receive full inservice training credit;
4. Your personal information and responses will not be connected with your name; and
5. This training is free of charge and is part of a research project towards my PhD.

These standards are to protect you and assure confidentiality as specified by the MS State University Institutional Review Board.

After this message, please proceed to Step 2 which is a 30-minute video entitled “Planning the Day”. After the video, review the handouts, please take the Pretest. After you have taken the Pretest, you will then be ready to attend class. Class will be held Saturday morning, Jan. 26 at 9:00 a.m. Central Time. You are encouraged to go into the website and then to Chat Room 1 at least by the day before class to familiarize yourself with the process of entering class. Be sure to log in about 20 minutes early the day of
class to allow time for slow connections, technical problems, etc. Remember to do the
following before attending class on Saturday morning, January 26:

1. Watch the video
2. Read the handouts
3. Take the Pretest

When you get ready to enter class, log into WebCT© as you normally would. Next,
go to “Communication Tools” on the main page and click on “Chat”. Click on “Chat
Room 1 and that will take you to class. If you have any problems with the website,
please refer to the “Student Support Section” on your homepage as a guide. You may
also go to “Communication Tools” to post a course question or email me your question.

Should you have any questions about the research, you may contact:

2. Dr. Micheal Newman---Advisor and Dissertation Director: 662-425-3462
3. IRB (Institutional Review Board), MS State University: 662-325-3294

Again, thank you for your participation and I look forward to working with you in this
learning opportunity.
Script for the Audio Welcome Message: Asynchronous Group

Hello, this is Carla Stanford and welcome to this training on “Lesson Plans and Thematic Units”. You are in the asynchronous group which means that you will complete this course at your own convenience and pace until the deadline which is January 27.

By participating in this training, you understand that:

1. Your participating is voluntary;
2. There is no risk of harm by participating;
3. You may withdraw from the training or refuse to answer any questions. However, please understand that incomplete work means that you will not receive full inservice training credit;
4. Your personal information and responses will not be connected with your name; and
5. This training is free of charge and is part of a research project towards my PhD.

These standards are to protect you and assure confidentiality as specified by the MS State University Institutional Review Board.

After this message, please proceed to Step 2 which is a 30-minute video entitled “Planning the Day”. After the video, review the handouts, please take the Pretest. After you have taken the Pretest, you may proceed on through the course by visiting sections in numerical order, which means by order of number: 1, 2, 3, and so on. Be sure to look in and follow directions in every section of the homepage to receive credit. After you visit every section, you should take the Posttest, fill out the certificate information, and
complete the survey. You have until January 27 to finish all work to receive credit. You have been also been sent an email with details. Please check your email for important information often until the end of the course. If you have any questions about the website, you can go to “Communication Tools” to post a course question or email me.

Should you have any questions about the research, you may contact:

1. Carla Stanford---researcher: 662-507-9563
2. Dr. Michael Newman---advisor and Dissertation Director: 662-325-3462
3. IRB (Institutional Review Board), MS State University: 662-325-3294

Again, thank you for your participation and I look forward to working with you in this learning opportunity.
1. What are ‘3-year old’ benchmarks?
   A. Goals for teaching the 3-year old
   B. What a child should know by the exit of the ‘3-year old’ program
   C. Marks from sitting too long in time-out

2. Sometimes benchmarks are referred to as
   A. early learning guidelines
   B. early childhood education guidelines
   C. Mississippi pre-school standards

3. The development of the brain depends on
   A. socio-economics, health, environment and experience
   B. genetics, experience, health and nutrition
   C. genetics, environment, birth weight and health

4. Children learn as whole persons and
   A. in sequence
   B. through their senses
   C. both A and B

5. The best example of an open-ended question would be:
   A. How would you like to try this game?
   B. How many birds are on the fence?
   C. How are you feeling today?
6. What are learning centers?
   A. Areas for children to work and play individually, in small groups and in a whole group with the teacher or caregiver as the learning leader
   B. Places to organize Circle Time into subject matter
   C. Areas designed for certain children on assigned days

7. For 3-year olds, Circle Time should be held at least how many times per day?
   A. twice
   B. three times
   C. four times

8. Introduction of unit concepts should be done during
   A. the Friday before the unit begins on Monday
   B. language-vocabulary activities
   C. circle Time

9. A broad idea from which you plan learning experiences for children is a
   A. benchmark
   B. instructional goal
   C. thematic unit

10. An example of a broad idea might include
    A. the farm
    B. concepts
    C. animals in the rain forest

11. Subtopics are
    A. general
    B. specific
C. can be either A or B

12. Webbing
   A. is a cross-referencing technique
   B. starts with a central theme
   C. is a measurement tool

13. “Patterns and relationships” are examples of ________________ concepts
   A. mathematical concepts
   B. language and literacy
   C. both A and B

14. Matching is
   A. a math activity
   B. a science activity
   C. Neither A nor B
   D. Both A and B

15. Phonological awareness
   A. begins at birth
   B. is complex and is best taught in the library center
   C. means an awareness that words are made up of sounds

16. At the beginning of the 3-year old program, story times should be held in small groups and should not exceed _____ minutes.
   A. 10 minutes
   B. 15 minutes
   C. 20 minutes
17. Two types of activities that help children develop skills in the science area are:
   A. comparison and investigation
   B. comparison and ordering
   C. comparison and safety precautions

18. What is a lesson plan?
   A. an assessment tool
   B. a list of activities and when they occur
   C. a map to guide a teacher through the day, week, month

19. What is a schedule?
   A. an assessment tool
   B. a list of activities and when they occur
   C. a map to guide a teacher through the day, week, month

20. A well planned day makes children feel more secure and can help prevent some ______.
   A. safety hazards or accidents
   B. challenging behaviors
   C. learning disabilities

21. Information included in the lesson plan:
   A. days of the week
      learning centers
      materials/resources needed
   B. size of classroom
      learning centers
      budget for supplies
C. size of classroom
   learning centers
   list of books that relate to the thematic unit

22. A learning objective is
    A. a statement about teaching methods the teacher will use
    B. a statement about what the teacher wants the children to learn
    C. both A and B

23. The performance objective should be S-M-A-R-T: ________, measurable, achievable, relevant and time-bound.
    A. simple
    B. singular concept
    C. specific

24. The K•W•L method is
    A. what the children know, what the children want to know, and what the child learned.
    B. knowledge, wisdom and learning.
    C. what we knew from experience, what we will learn, and what we are let to know.

25. A print-rich environment includes:
    A. an alphabet displayed high for all to see.
    B. writing tools in 3 or more learning centers.
    C. clearly labeled storage.
Room Arrangement in the Child Care Setting

Provided by Dr. Lynn Darling

on behalf of the

MSU Early Childhood Institute
Organize your classroom.

You need 9 areas or centers in your classroom. Use carpets and shelf units to separate areas. If you have a very small classroom, or only a few tables and shelves, you can combine some centers. Each center should have 3-5 books in them about the center or the unit theme. Writing paper and materials should also be available in every center so children can draw or write about their work.

1. Circle time – this is your meeting place for morning and afternoon circle time. You can also use this space to gather everyone before lining up for lunch or the playground. Area - NOT a center.

2. Language/Writing Center – this is where you have teacher-directed language activities and writing activities for children to do on their own.

3. Math/Manipulatives Center – this is where you have teacher-directed math activities and manipulative activities for children to do on their own. If you do not have enough space for language and math areas, you can use one table for each of these activities.

4. Science Center – this is where you have science experiments and house plants and animals. The sand and water table is in this center.

5. Blocks Center – this is where children build and play with blocks.

6. Music Center – this is where children can play instruments, dance, or just listen to music.

7. Dramatic Play Center – this is where children play house. You can also change this area every month according to the theme. For example, when you are studying Community Helpers, you can change this center into a hospital or doctor's office.

8. Art Center – this is where children create art work. You can also use this center for messy activities like play-doh and shaving cream activities.

9. Library Center – this is where you keep most of your classroom books. You can also include follow-up activities for children based on books read in the classroom.
Circle Time Area - Not a learning center!

This is your meeting place for morning and afternoon circle time. You can also use this space to gather everyone before lining up for lunch or the playground.

- This should be carpeted area, or put down a rug. You want the children to sit in a circle so that everyone can be seen.
- You need one wall to put the job chart, calendar, and weather chart.
- You need enough space so that every child can sit comfortably without being crowded.

In this classroom, the circle time rug has flags on it that the children sit on during circle. This helps them space themselves so that everyone has room to sit comfortably. On the wall is a list of the classroom rules, the center name tags, and the monthly calendar.

The center name tags are craft sticks with the children’s names written on them. They are stored in plastic pockets with pictures of the children in them, so that the children return their sticks to their pockets after center time.
Blocks Center

This is where children build and play with blocks.

- You need a carpeted area, or area rug, plus two shelves for block storage.
- This is the noisiest center, so place it far away from the Library and Language Centers.

This classroom has a very large block area, with two rugs placed together to create a play space. There is one shelf unit which separates the block area from the dramatic play area on the left. There are two storage bins in the corner for materials that do not fit on the shelves.

The shelves are labeled with pictures of the different shaped blocks so that children can put the blocks away neatly.
Language/Writing Center

This is where you have teacher-directed language activities and writing activities that children can do on their own.

- You need a table and chairs with room for you and 3 children to sit comfortably.
- This center can be near the Library, but should not be near the Blocks or Dramatic Play centers.
- Place the teacher’s chair so that you are facing the classroom. Place the children’s chairs so that their backs are to the classroom. This will help you watch the room, and help the children focus on you without distractions.
- Have writing materials available for children to use when you are not directing a language activity.

In this classroom, the language/writing center is in a corner next to the library center. The large chalkboard is used by the children to practice writing. Writing materials are stored in bins in the shelf behind the table. There are usually four chairs at this table.
Math/Manipulatives Center

This is where you have teacher-directed math activities and manipulative activities that children can do on their own. If you do not have enough space for language and math areas, you can use one table for each of these activities.

- If necessary, you can use the Language Center for math activities. If you are teaching alone, you can do language activities for a few days then math activities for a few days at the same table.
- If you have 2 teachers, the Math Center set-up is the same as the Language Center. Place them far enough apart that you and the other teacher can see the entire classroom.

This storage shelf divides the math/manipulatives table from the art center. Math materials are stored here in bins. Many of the bins are labeled with words and pictures so that children can put toys or math counters away when they are done. There is a table with four chairs in this center, and another storage center with more materials on the other side of the table.
Science Center

This is where you have science experiments and house plants and animals. The sand and water table is in this center.

- You need a table and two chairs, one shelf unit, and a sand/water table. You can use sand, beans, rice, or packing Styrofoam peanuts in the sand table.
- If possible, place the Science Center under a window.
- The Science Center can be placed between noisy and quiet centers.
- The sand/water table needs to be on a tile floor for easy clean-up. Have broom and dustpan nearby so that the children can sweep up when they are finished. Have a plastic mat (a shower curtain works) to put down when using the water table.

In this classroom, they have separate sand and water tables, and a small table for discovery activities.
Library Center

This is where you keep most of your classroom books.

- You need a small carpet, a bookshelf for books, and two soft seats, like bean bag chairs, for children to sit and look at books.
- This is the quietest center in your classroom, so it should be far away from Blocks and Dramatic Play.

This center is located next to the language/writing center, and across the room from the blocks and dramatic play centers. There is also a small listening center here, where children can listen to books on tape using headphones. There are comfortable bean-bag chairs in this center.
Music Center

This is where children can play instruments, dance, or just listen to music.

- You need a cabinet or shelf to hold the instruments and CD/tape player.
- You need a carpeted area where children can move and dance freely. You can use your circle time area for the music center as well. Then you can use the CD player at circle time, and the area can be used for music until it is time to gather for circle time.

This small music center is located in the dramatic play area. It includes a CD player, record player, instruments, and a collection of CD’s. The dramatic play area has a large carpeted area that children can use to dance and move to music. The music center cabinet is on wheels, so it can be moved.

In this classroom, they play music during center time if no one is busy in the music center. This area is near the art and blocks area, but across the room from quieter areas like the library and language/writing centers.
Art Center

This is where children create art work. You can also use this center for messy activities like play-doh and shaving cream activities.

- You need one shelf for storage of art materials.
- You need a table and chairs for 4 children.
- Collect old shirts to use as smocks.
- This center should be on a tile floor so that you can clean up easily, or place a shower curtain or oil cloth on the floor beneath the table and easel.

This easel shelf is on wheels, so that it can be moved and used by children on both sides of the shelf. Paper and paints are stored on the shelf below. The rack on the right is used for paintings to dry before they are put up in the classroom.

Painting smocks are stored under the easel. The table is used for art projects. The floor is linoleum, perfect for easy clean-up.
Dramatic Play Center

This is where children play house. You can also change this area every month according to the theme. For example, when you are studying Community Helpers, you can change this center into a hospital or doctor's office.

- You need two shelves for storage and a small table and chairs.
- If possible, include toy kitchen appliances like a stove, refrigerator, and sink.
- Collect a variety of clothes that they children can wear, including shoes, handbags, and hats.
- This is also a noisy center, and can be located next to the Block Center.

In this classroom, the dramatic play area also serves as the circle time area, so the calendar and other circle time materials are seen on the wall. The other wall has family pictures next to the kitchen unit. Dress-up clothes are stored in the shelf unit to the right of the circle bulletin board.
In this classroom, the children have built a train from empty boxes in the dramatic play area.

This storage shelf separates the dramatic play center from the block center. It has bins for food and utensils that are used in the play kitchen.
Review monthly and weekly lesson plans.

- Read over your monthly objectives so that you have an idea of what your goals are for the month. You will review these often.
- Plan 1-2 weeks ahead so that you can locate all materials you will need.
- Keep unit boxes and add to them yearly so that each year the children will learn about the topic.
- Read over your weekly lesson plans.
- Gather any special materials that you need for the first week and put them in the centers where you will need them.
APPENDIX F

POWERPOINT© PRESENTATIONS

SESSIONS 1, 2, AND 3
Session 1

Before Beginning:
- Take the pre-training survey
- Watch the video “Planning the Day” (Penn State Better Kids Care Network)
- Clear distractions from your environment
- Read each slide carefully & follow instructions for activities.

Mississippi Department of Education
Early Learning Guidelines:
Lesson Plans and Thematic Units for Three Year Old Children

This session will address:
1. MS Dept. of Education
   Benchmarks for Three Year Old Children
2. Brain Development
3. How Children Learn

For this session you need:
1. A pencil or pen
2. Paper

Thank you for participating in this training.

This series of learning sessions is being provided to you through dissertation research by Carla Stanford.

Information for these sessions are made possible through:
- MS State University Extension Service
- MSU Early Childhood Institute
- Penn State Better Kids Care Network
- MS Office of Children & Youth
- MS Department of Public Health: Child Care Licensure Bureau
- MS Department of Education
The Mississippi Pre-kindergarten Curriculum Guidelines for Three Year Old Children addresses BENCHMARKS.

This training introduces 3-year-old Benchmarks & applies them to the topic of lesson plans & thematic units.

What are benchmarks?

A. Goals for teaching the 3 year old
B. What a child should know by the exit of the three year old program
C. Marks from sitting too long in time out

Sometimes Benchmarks are referred to as “Early Learning Guidelines”

The correct response is....

B. What a child should know by the exit of the three year old program

Did you have the correct response?

What is the purpose of Benchmarks for 3-year-olds in how children learn?

Benchmarks suggest information appropriate for 3-year-olds that promote positive growth & learning

Let's Get Down to Basics:

Brain Development & How we Learn
Development of the Brain Depends on 4 factors (GHEN):

- Genetics
- Experience
- Health
- Nutrition

1. Genetics

Refers to predetermined & inherited factors

For example:

Because of genetic traits of your parents, you might be more likely to:

* have heart disease
* be overweight
* have a longer life span

Hereditary traits, such as genes, influence the development of the brain...but are not the only influence.

2. Health

Lifestyle & considerations of health & safety can dramatically affect a child’s learning.

For example:

A child’s learning can be greatly impaired if he or she is:

* worried about safety
* not physically active (as with exercise through play)
* psychologically stressed
3. Experience

Experiences in the first three years of life directly & profoundly impact a child’s future.

Plan experiences rich in language (talking, singing, reading, writing) to promote development in:
- Social-emotional
- Intelligence
- Health

Experiences: What are some activities that promote social-emotional development?

- a) Small group play
- b) Games
- c) Choices

Social-emotional activities

a) Schedule time for children to play in small groups.
Children are able to learn social skills in smaller groups.

Social-emotional activities (cont’d)

b) Play games & offer activities that help children feel good about themselves.

Social-emotional activities (cont’d)

Artistic activities such as finger painting where the child is allowed to create.
Social-emotional activities (cont'd)

Games like musical chairs where no one is "out" help children achieve while learning to listen & act.

Social-emotional activities

3. Allow children to have choices of activities such as block play & dramatic play.
   When you give children choices of activities, you are giving them the chance to learn decision-making skills.

Food for thought

Have you ever been in a meeting & been hungry?
Did your hunger distract you?
Healthy eating habits can actually give a child a better head start.

4. Nutrition

Good nutrition helps the body & brain grow & develop.

How can you ensure good nutrition in the child care setting?

Teach children that good nutrition leads to good health.

How can you ensure good nutrition in the child care setting?

Offer a variety of nutritional foods during mealtimes, snacks, & "cooking activities".
Pop goes the popcorn!

1. Pop popcorn in an air popper so the children can watch (from a safe distance).
2. Put popcorn in a 6 oz. cup for each child.
3. Have a "salty" table with Parmesan cheese, garlic salt, etc., with a spoon in each.
4. Have a "sweet" table with cinnamon, nutmeg, brown sugar, etc., with a spoon in each.
5. Let each child choose toppings while they are fixing their popcorn and singing a song (next slide).

Remember:
Ask open-ended questions to help children think & talk.

Popcorn Song
(to the tune of "Pop Goes the Weasel")

Oh all around Ms Carla’s class
We popped up some fresh popcorn
We all thought it was so much fun
POP! Goes the popcorn

(Repeat until each child has fixed popcorn.
Then sit together & enjoy.)

('Substitute teacher’s name')

Questions you could ask with this activity:
- How does the popcorn feel in your mouth?
- What are some other toppings we could use on popcorn?
- Where is your favorite place to eat popcorn?

Good for you to know:
Open-ended questions encourage communication by requiring more than a "yes" or "no" answer or, at the least, are conversation starters.

Do you remember?
Can you name one?
Write down your response

List your response & proceed to the next slide.
Possible answers:

1. Allow time for children to play in small groups.
2. Play games & offer activities that help children feel good about themselves.
3. Allow children to have some choices in their activities.

Did you get any of the above responses?

"The goal of early childhood education is to help a child develop the abilities, the understanding, and the disposition required for success in the primary grades and beyond."
Bluestein, 2005

How Does a Child Learn?

#1 As a whole person

Learning as a whole person

The brain in the central office of operation for all functions. By teaching children with a variety of activities that stimulate learning, you are helping the child develop socially, emotionally, & cognitively.

Remember:

By using thematic units in all areas of learning, children can make more sense of the learning experience.

This is further discussed in Session 3 of this series.
Learning in the Real World

"Thematic instruction is based on the idea that people acquire knowledge best when learning in the context of a coherent 'whole', and when they can connect what they're learning to the real world."

http://www.fundamental.com/thematic_instruction.com

Putting it into Practice

To help the child learn "as a whole child", offer a variety of learning experiences that addresses the child's social, emotional, cognitive, & physical needs.

Activities that teach "the whole child" & help them learn through their senses:

- Games that promote physical activity & cooperation among children
- Exploration activities in the science activities where children can use their senses & powers of observation
- Music & fingerplays (see next slide)

(to the tune of "I'm a Little Teapot")

I'm a little froggy nice & green
(point to self)
I live on the best lillypad you've ever seen
(jump up & down)
I'm a lillypad, isn't it?
(stand on one foot)
When I feel like moving I can't be stopped
(shake hands & feet)
Stand back, friend, & watch me hop
(hop around)

Note: Physical movement with songs promote gross motor skills

How Do Children Learn?

#2 Through their senses:
- Hearing
- Sight
- Touch
- Smell
- Taste

Additional Information

If you would like a copy of the Mississippi Pre-Kindergarten Curriculum Guidelines for Three Year Old Children, go to the web address below to read & print.

http://www.mde.k12.ms.us/AcademicCurriculum/LAER/Table%20%20Contents.pdf
More information:

Using the MS Early Learning Guidelines: A Complete Curriculum for Three-Year Olds by Dr. Lynn Darling on behalf of the MSU Early Childhood Institute

http://earlychildhood.mstate.edu/usingthe_guidelines/index.htm

Recap

A benchmark for a three year old is what the child should know & be able to do at the exit of the three year old program.

Recap

Brain development depends on four factors (GHEN):
1. Genetics
2. Health
3. Experience
4. Nutrition

Recap

A child learns as a whole person.

Recap

Children learn through their five senses.

Recap

Plan activities that help children learn:
- Socially
- Emotionally
- Physically
Recap

Following “Early Learning Guidelines” (Benmarks) helps teachers plan activities appropriate for 3-year-olds that promote positive growth & learning.

References:


References (continued):

erARIABLE/Cor%20or%20Contents.pdf.


This concludes Session 1: Early Learning Guidelines & How Children Learn
Session 2

Before beginning:
- Read “Learning Center” handout
- Clear distractions from your environment
- Read each slide carefully & follow instructions for activities

When you have done these things, proceed to the next slide. If not, please do so, then proceed to the following slide.

This session will address:
- Extended discussion from “learning center”
- Definitions of “thematic unit” & “webbing”
- Building a thematic unit through the use of webbing
- Examples of activities that include the teaching of specific benchmarks

Remember
- This training is specifically targeted for teachers of 3 year old children & children who are at the developmental level of a 3 year old.

For this session you need:
1. A pencil
2. Paper
3. “Room Arrangement” handout

What are learning centers?
A. Areas for children to work & play individually, in small groups, & in a whole group with the teacher or caregiver as the learning leader.
B. Places to organize circle time into specific subject matter.
C. Areas designed for certain children on assigned days.

After you write down your responses, proceed to the next slide.
The correct response is:

A. Areas for children to work & play individually, in small groups, & in a whole group with the teacher or caregiver as the learning leader.

Did you get the correct response?

List the learning centers you currently have in your classroom

Note: After you have your list, proceed to next slide

Now, list as many of the learning centers as you can that were listed in the handout (don't look at notes)

Note: After you have your list, proceed to next slide

How many answers did you get?

1. Language/Writing
2. Math/Manipulatives
3. Science
4. Blocks/Construction
5. Music
6. Dramatic Play
7. Art
8. Books/Library

Thinking about the possible layouts given in the handouts, how is your current classroom arrangement alike & different?
(list these and list ways you could improve)

Note: After you have your list, proceed to next slide

Be sure to...
give some serious thought about ways you can take action in improving the layout of your classroom.
About the Circle Time Area

You may have noted that “Circle Time” was listed in Dr. Darling’s handout with learning centers. It is important to remember that circle time is not a learning center, but an area/activity.

Circle time is used to gather children & teachers to make all feel a “sense of community” or connection.

For 3 year olds, Circle time should be held at least twice per day and in the same place each day.

During Circle time introduce concepts for the unit, discuss weather, recognize & welcome those in attendance for the day.

Be sure to include in your lesson plan what concepts you plan to introduce during Circle Time.
Thematic Units

Write down your definition of "thematic unit"

Note: After you write your definition, proceed to next slide

Thematic units also:
- Incorporate activities from language, math, science, & other areas.
- Teach concepts & skills that support the information.

The answer is...
A broad idea from which you plan learning experiences for children.

Did you have the correct response?

Remember:
By using thematic units in all areas of learning, children can make more sense of the learning experience.

What is a subtopic?
A subtopic is related to the thematic (main) unit & links back to the broad idea.

...activities and experiences should effectively support teaching multiple content areas and skills organized around a central topic, idea, or theme."

--Burns, Roe, and Ross, 1992

123
Broad ideas:
- farm
- community helpers
- birds
- winter

Farm Thematic Unit
The “farm” is a possible thematic unit.

Remember:
FARM is the broad idea, like an umbrella, on which you might focus for an entire month.

Subtopics are....
more specific topics that are come from the main theme.

Question:
What are some subtopics that you might use to go along with a farm thematic unit?

Possible answers:
- Farmer
  - The farm
  - The farmer's job
- Gardens/Vegetables
  - Types of vegetables (names)
  - How vegetables are grown
- Farm animals
  - Where animals live (pig pen, barn, etc.)
  - How farm animals sound (moo, baa, etc.)

Note: After you write your answer, proceed to next slide.
What is webbing?

Is Webbing:
A. A way to weave concepts into the thematic units to help children learn?
B. A way to connect concepts to activities?
C. An organizational technique?

The answer is...
All of the above:
A. A way to weave concepts into the thematic units to help children learn
B. A way to connect concepts to activities
C. An organizational technique

Imagine the center of the web as the central idea (in this case, the thematic unit)

Now imagine the sub-topics based on that thematic unit on the outer edges of the web.

Let’s use the web display & apply a thematic unit and subtopics!
Now let’s use the farm theme to plan some activities for the unit.

Math Activities for the Farm Unit

MS Department of Education
Mathematical Concepts Development Benchmarks for 3 year olds

1. Number sense, number operations, and number relationships.
2. Patterns and relationships.
3. Compare, classify (sort), and order.
4. Geometry (shapes) and spatial sense.
5. Parts and wholes.

Sorting Activity

Have small plastic bowls available for children to sort
(1) by color &
(2) by animal

Children learn that items can be grouped more than one way & that farm animals come in many sizes & colors.
Math Activities for Farm Animals

**Supplies needed:**
- Bag of farm animals (use only three types such as cows, pigs, and horses)
- Plastic bowls (cereal-size)
- Construction paper (3 colors—1 sheet each)
- Scissors

**Ask questions like these for this activity:**
- Which animal is the largest?
- What different colors can cows be?
- How else could you group these animals?

---

**Pattern Activity**

The teacher will:
1. Cut sheet construction paper into 3 pieces.
2. Tape in a pattern (i.e. red, yellow, blue, etc.) This will make a strip.
3. Make the first pattern for the children (i.e. cow on red, pig on yellow, horse on blue)

Then children will: repeat/continue the pattern.

**Ask questions like these for this activity:**
- What are the colors in this pattern?
- Which color do you think comes next?
- How could you change this pattern?

---

Science Activities for the Farm Unit

---

**MS Department of Education Scientific Investigation Benchmarks for Three-Year-Old Children**

1. Acquires scientific knowledge related to life science & earth science.
2. Engages in simple investigations using processes.
3. Develops an understanding of rules & routines related to health & safety practices.
### Matching Activity for Farm Unit

Match the fabric to the correct animal pictures.

### Science Activities: Farm Animals

**Supplies needed:**
- Feathers (like a chicken’s)
- Short pile fur that looks like cow hide such as shown in previous slide
- Fabric that looks like sheep wool
- Magnifying glass
- One picture each of: chicken, cow, sheep

### Comparison Activity: Farm Animals

**Children will:**
1. feel the different fabrics/feathers and compare textures
2. look at fabric with a magnifying glass

*Note: Can also be done with vegetables*

### Ask questions like these for this activity:

- Which fabric is softest?
- Which animal is also soft?
- Why do you think animals have fur?
- How are the animal skins different?

### Language, Literacy, & Vocabulary Activities for the Farm Unit

Matching is a math activity, but because it also involves comparison, it is a science activity too.
**MS Department of Education**
Language, Vocabulary, Literacy Development Benchmarks for Three-Year-Old Children

1. Exhibits developmentally appropriate receptive language (listening).
2. Exhibits developmentally appropriate oral language for communication purposes.
3. Demonstrates phonological awareness.
4. Demonstrates an awareness of print.

---

**What is phonological awareness?**
Phonological awareness, put simply, means “an awareness that words are made up of sounds.” (Wren, 2004)

---

**What is Print Awareness?**

"An awareness of print in the everyday environment.” (Jones, 2002)

---

**Did You Know?**
Mississippi has a high percentage of children who only have a basic level of literacy.

We can change that with more exposure to print, as with books!

---

3 year olds need at least two story times plus time in the library center everyday.

Story times should be held in small groups & not to exceed 10 minutes each at the beginning of the year.

---

**Reading Activity: Farm Animals**

1. Read *Click Clack Moo: Cows that Type* by Doreen Cronin
2. Be sure to ask questions about what is happening in the story. Example: “How do you think the farmer feels when the cows go on strike?”
3. Explain new vocabulary words such as “strike” to the children.
Reading Activity (cont’d)

4. Ask the children to make sounds of animals (cow, duck, etc.) from the story.
5. Allow children to make an animal mask of their choice. They paint the mask & you will attach a large craft stick on bottom for a holder. Let dry overnight & the following day have a farm animal parade around your center!

Suggested books

Just Like Mama by Beverly Lewis
Crick Crack Moo: Cows that Type by Doreen Cronin
The Little Red Hen (various authors & illustrators)
Tremendous Tractors by Tony Milton
Farmer Duck by Walter Wick
Hattie and the Fox by Mem Fox

Recap

Learning Centers for the 3-Year-Old Room

1. Art & Creativity 5. Language / Writing

Recap

A thematic unit is a bad idea from which teachers plan learning experiences for children.

Recap

A subtopic is more specific & comes from the thematic unit.

Recap

Webbing is
* A way to weave concepts into the thematic units to help children learn
* A way to connect concepts to activities
* An organizational technique
Recap
Webbing uses a thematic unit (farm) & expands on the idea with subtopics (examples: where the farmer lives, how vegetables grow, what a garden is)
Using webbing helps children make more sense of the subject matter.

Recap
Sorting & pattern activities help children develop math skills & learn to classify, which promotes science investigation skills.

Recap
Comparison & investigation are types of activities that help children develop skills in the science area.

Recap
3 year olds need at least two story times plus time in the library center everyday.
Story times should be held in small groups & not exceed 10 minutes each at the beginning of the year.

Recap
When children are engaged in activities, such as storytime, be sure to ask open-ended questions to help them think about the topic.

Resources for this session:
Resources (cont'd):


Resources (cont’d):


Resources (cont’d):


This concludes Session 2: Developing the Thematic Unit.
Before beginning:
1. Before entering the session, clear distractions from your environment.
2. Read each slide carefully & follow instructions for activities.
3. Be sure to do your post-training survey when you finish this session.

Mississippi Department of Education
Early Learning Guidelines:
Lesson Plans and Thematic Units
for Three Year Old Children

Session 3:
Lesson Plans & Thematic Units:
Tying it all Together

This session will address:
• Definition of a lesson plan
• Difference between lesson plans & daily schedules
• What should be included in a lesson plan
• Writing a learning objective

For this session you need:
A pencil or pen & paper

Is a lesson plan?
A. an assessment tool for developmental checklists
B. a list of activities
C. a map to guide a teacher through the day

The best response is...
C. a map to guide a teacher through the day

Did you have the correct response?

After you choose an answer, proceed to the next slide.
A lesson plan is...

“a map to guide the teacher through the day, week, month, etc.”

It’s easy for daily schedules to get off-track. Be flexible & get back on track when you determine the children’s unexpected needs are met.

It is more important to attend to children’s needs, though the consistency brought by schedules is desirable as well. Find a good balance!

Lesson Plan vs. Daily Schedule

A map
A list of activities and when they occur

Remember

A well-planned day makes children feel more secure & can help prevent some challenging behaviors.

Activity

Think about the day you had yesterday. Take about 5 minutes to list what you did from 8:00 yesterday morning until 5:00 yesterday afternoon.

Example: 8:00 arrive at center
9:05 take children into classroom

When you have your list, proceed to the next slide.

Look at your list

Do you see patterns?

Are there things you did yesterday that you do everyday?

When you repeat actions, such as the time you get up in the morning or when you arrive at work, those actions form a pattern.
Patterns

We function everyday through patterns of behavior filled in by new experiences.

Patterns

When you develop appropriate lesson plans & follow daily schedules, you are providing a secure environment for children.

The well-planned day includes:

1. A safe, healthy environment
2. A print-rich environment
3. Periods of rest & play
4. Opportunities for children to practice what they have learned independently
5. Activities within learning centers that are linked to the thematic unit.

The well-planned day includes:

[1] A safe, healthy environment that supports good health practices

Safe, Healthy Environment

- Healthy foods
- Clean, organized areas
- Keep hazardous materials free from children’s reach (cleaning solutions, sharp objects, etc.)

The well-planned day includes:

[2] A print rich environment
The well-planned day includes:

[3] Periods of rest & active play

After quieter activities such as nap time, story time, & creativity, follow up with active activities.

[See next slide for a followup activity]

The well-planned day includes:

[4] Opportunities for children to independently practice what they have learned & brush up on skills

To help children practice painting skills set up a real or cardboard fence on the playground & let children paint with tempera paint.
The well-planned day includes:

- Activities within learning centers that are linked to the thematic unit
- Painting a fence (Motor Skills)
- Reading “Peter Rabbit” (Literacy)
- Playing music & acting out actions from the story “Peter Rabbit” (Music & Movement)
- Comparing vegetables' textures, size, color (Science)

Activity

List information that should be listed on a weekly lesson plan

After you have your list, proceed to the next slide

Answers:

1. Days of the week
2. Learning centers
3. Materials & resources needed
4. Objectives & how you will measure if you met the objectives

How many of these parts did you have on your list?

What is the K*W*L method?

A. What the children know, what children want to know, & what did the children learn
B. Knowledge, wisdom, & learning
C. What we knew from experience, what we will learn, & what we are led to know

After you choose an answer, proceed to the next slide

The best response is

A. What we know, what we want to know, & what did we learn

Did you have the correct response?
Asking these questions (K*W*L) can help you develop the LEARNING OBJECTIVE for your lesson plan.

Write down your definition of a learning objective.

When you have your answer, proceed to the next slide.

A learning objective is

A statement about what you want the learner to be able to know or perform at the end of a unit.

Make the statement measurable so you can evaluate if the objective was met.

Example learning objective

At the end of the week on the subtopic of farm animals, children will be able to name:
   a. 3 farm animals
   b. 2 farm animals' sound (moo, etc.)
   c. A large farm animal (example: cow) & a small farm animal (example: lamb)

How will you know children reached the objective?

1. Verbal appraisal
2. Teacher observation

Verbal appraisal

Ask children questions throughout the day to see if objectives are being met.

Listen carefully when children talk.

Teacher observation

Observe children in the science area to see if they are carrying out tasks such as comparing & classifying.
**Sample Questions**
- How do you think the pig feels when it rolls around in the mud?
- If you were a farm animal, how do you think you would sound?
- What do you think a framer does on rainy days?

**Teacher observation**
Carefully observe children as they work in learning centers & as they play to see if they are grasping concepts.

**Teacher observation**
![Image of children and a teacher]

**Teacher Observation Example**
You can observe children sorting vegetables by type, color, size, & texture. Assist children when they need help.

**Teacher observation**
![Image of a teacher and students with scales]

**An Objective should be SMART**
1. **Specific**
2. **Measurable**
3. **Appropriate**
4. **Relevant**
5. **Time-Bound**
Specific

Performance objectives should be specific so that the teacher can “zone in” exactly what is desired for the children to learn (the “W” in the K-W-L method).

- Name 3 farm animals
- Tell how 2 farm animals sound
- Name a large farm animal & a small farm animal

These are the specifics of this learning objective.

Measurable

- Name 3 farm animals
- Tell how 2 farm animals sound
- Name 1 large farm animal & 1 small farm animal

The items in red allow the number of facts children should know at the end of the unit— for a total of 7 items.

Appropriate

Ask yourself which learning experiences are appropriate for a 3-year-old.

You can check 3 year old benchmarks and expectations by visiting http://www.smoe.k12.ma.us

Question

In the example objective, what portion tells you whether or not it is appropriate?

At the end of the week on the subtopic of farm animals, children will be able to
- Name 3 farm animals
- Tell how 2 farm animals sound
- Name 1 large farm animal (example: cow) & 1 small farm animal (example: lamb)

Answer the question, then proceed to the next slide.

Answer

At the end of the week on the subtopic of farm animals, children will be able to
1. Name 3 farm animals
2. Tell how 2 farm animals sound
3. Name a large farm animal & a small farm animal

This objective is appropriate since it gives the children a week to accomplish 1, 2, & 3.

An inappropriate objective might be having children name 6 farm animals & the scientific name for each.

Which is Appropriate for a 3-Year Old?

- Laying brick
- Grasping & throwing a ball
No way! Yes, this is appropriate for a 3-year-old child.

Relevant
Ask yourself if the information you present can be understood by children & if it “matters” to them.

In other words, if children have little or no use for the information, it would not be relevant.

Which book would be more relevant to a 3-year-old child?

Of course, it would be “Goodnight Moon”.

A 3-year-old would not be interested in a legal mystery.

The Innocent Man
JOHN GRISHAM

Time-Bound
At the end of the week on the subtopic of farm animals, children will be able to:
- Name 3 farm animals
- Tell how 2 farm animals sound
- Name the largest farm animal & a small farm animal

This example sets a time frame: at the end of the week.
Recap

A lesson plan is a map to guide the teacher through the day, week, month, etc.

Recap

A daily schedule is a list of activities and when they occur.

Recap

A well-planned day makes children feel more secure & can help prevent some challenging behaviors.

Recap

Information included in the lesson plan:
1. Days of the week
2. Learning centers
3. Materials & resources needed
4. Objectives & how you will measure if you met the objective.

Recap

The objective should be S-M-A-R-T
S—Specific
M—Measurable
A—Appropriate
R—Relevant
T—Time-bound

Resources for this session:
Resources (cont’d)


Resources (cont’d)


Very Important!

Don't Forget

Please take your post-training survey now!
APPENDIX G
SCRIPTS FOR LESSONS
Session I: Thematic Units

I. Welcome and Introduction

[Note that this is the first session and class rules will be included in an email before the first class but will be reinforced at the beginning of this first session just after the introductions. This segment will take about 10-15 minutes of the first class since it is important for class members to get to know each other a bit, thereby forming a class community.]

I want to welcome each of you and thank you for participating in this online training course.

Some class rules that will be instituted:

- We are a classroom community and will learn together. If you wish to add a point, please type in ! to be called upon.
- Questions are welcomed and are part of the learning process. If at any time you wish to ask a question, please type ? so I may call on you.
- The instructor encourages input from the students. Please know that you are an important part of the classroom community and your input is important. Remember to stay on the subject.
- There will be times when we will move from one basic concept to another and to signify this, I will ask if everyone is ready. You will respond with *
- When asked a “yes” or “no” question, respond with Y or N
II. Helping you learn to properly arrange your lesson plans, we will have three sessions:

A. Thematic units

B. Using webbing to plan and organize

C. Lesson plans: Tying it all together

III. How Children Learn

A. Four categories of learning for children:

1. Knowledge---facts, concepts, ideas, experience
   - Ask participant what a child might know from experience

2. Skills---Small units of action that can be observed
   - Ask participants to name some children’s skills
   - Ask how these could be fostered in the classroom according to a thematic unit (give an example at the end of responses)

3. Dispositions---habits and tendencies such as curiosity, friendliness, creativity

4. Feelings---Emotional states (confidence, security, sadness, fear, etc.)
   - Ask participants to name other feelings
   - Stress that these four areas show that it is important to guide the learning experience
through a variety of methods and across all learning areas for children

IV. Utilizing learning centers to benefit the whole child by using thematic units:

- Discuss 9 learning centers (ask participants to discuss each area and use info below to add in if not mentioned by participants):

1. Circle Time area

   ^This is your meeting place for circle times (3 per day for 3 year olds). You may also use this area to gather before going to lunch, playground, or other physical movements

2. Language/Writing Center

   ^This is the area where you have teacher-directed language activities and writing activities for children to do on their own.

   Example: Lots of writing tools (water-based markers, pencils, crayons, etc.) and lots of different types of paper (newspaper, copy paper, construction paper, etc.) for children to use. Be sure to have letters posted around this area for children to observe and try skills.

3. Math/Manipulatives

   ^Manipulatives include peg boards/pegs; puzzles; lacing active. that help develop children fine motor skills. These serve to help children develop fingers and this leads to better writing skills.
4. Science Area

^Opportunities for scientific skills such as comparison and observation. Staples for this area: scales, magnifying glasses, rulers, measuring cups, etc. (use plastic items)

^Sand and water activities can be in this area.

5. Block/Construction Area

^Building skills promote decision-making, problem-solving, and creativity

^Easy to teach cooperation among children in this area

6. Music Area

^Where children can play instruments, dance, or just listen to music.

^Should not be near library/book center or any other quiet area

7. Dramatic Play area (aka Pretend and Play; Family Living)

^Should be changed up to fit the thematic unit (give example)

^Should include newspapers and books near a sitting area

^Good place to teach cooperation among children (as with blocks)

8. Art and Creativity Center

^Where children can choose and create their own works of art

^Provide lots of choice (paint and brushes, markers, crayons, pencils, paper, painting paper, easels, etc.)

^Consider unusual tools (i.e. sponges and Match Box cars for painting; stamps and stamp pads, etc.)
9. Book and Library Center

^Keep lots of choices; rotate often

^Teach children respect for books

^A place to provide follow-up activities for stories you read

*Tell participants that they can access learning center handouts on WebCT (info from Lynn Darling) which will serve as a supplement

V. Thematic Units

- Ask participants for their definition

- Reinforce responses and state that a thematic unit is “a broad idea from which you will plan learning experiences for children”.

- Lesson plans can be planned to last several days or many weeks using thematic units

- Thematic units incorporate activities from language, math, science, and other areas. By using the thematic unit in all areas, the children can make more sense of the learning experiences.

- Thematic units can include topics like community helpers, birds, winter, and farm.

A. Example: Farm as the thematic unit for springtime

B. Within one month (March for example) sub-themes could be:

- Ask participants for examples of themes that could be used with the main thematic unit of “farm”

- Reinforce responses by adding other possibilities
C. Subtopic example: Vegetables:

- Name each of the 9 centers listed above and have participants suggest activities based on “vegetables” sub-theme
- Reinforce responses by filling in gaps

Reinforce points by asking participants:

1. Four areas of learning for children
2. Name 9 learning centers
3. What is a thematic unit?
4. What is a subtopic?
Script for Session II: Webbing

I. Review of learning centers from handouts

A. Ask participants if they remembered to read the handout on “Learning Centers”

B. Ask participants to name the centers mentioned (9)

C. Ask participants to comment on the centers they have in their rooms and how they use them

D. Talk about each center and ask participants to comment on how they use each area or special ideas they have for each area
   - Ask participants how many of them actually thought of the circle time area as a learning center

E. Ask participants if they remembered the layout examples given in the handouts. Ask them if any of them had setups in their classrooms similar to any of the example layouts.

II. Move participants in to the next subject: webbing.

A. Ask: What is webbing?
   - (Tell them webbing is an organizational technique that you can use to map out what you want children to learn.)

B. Show the slides on webbing and discuss

III. Tell participants that we are going to use the webbing concept to plan some thematic unit and subtopics (what webbing is, discuss subtopic, etc.)

   A. Explain the K*W*L method. (what do we know about X? what do we want to know about X? What did we learn about X?)
B. K*W*L: Explain that this method is great for planning learning experiences for children and the “L” component is for reinforcement at the end of the subtopic, which may last a week or more.

C. Using the web concept, suggest the thematic topic of farm.

D. Ask participants to list some potential subtopics.

E. Choose “farm animals” and say that we are going to plan math, science, and reading activities to go with the “farm animals” subtopic.

F. Work with class to plan math, science, and reading activities using “farm animals”. Prompt participants by giving hints if they have trouble.

G. Remind them that 3 year olds should have at least two story times plus time in the library/book area daily.

H. Remind them that children should be allowed to contribute ideas during story time.

IV. Recap:

A. Nine learning centers

B. Webbing (definition and explanation)

C. K*W*L method

D. Using skills (sorting, etc.) used in math examples and remind children that these are activities which help children develop math skills.

E. Using skills (comparison, etc.) used in science examples and remind children that these are activities which help children develop science skills.
F. Using skills (sorting, etc.) used in math examples and remind children that these are activities which help children develop math skills.

V. Remind the participants to complete the post-session survey before they log out.
Script for Session III:

Lesson Plans:

Tying it all Together

I. Welcome

II. Tell participants they will need a pencil (or pen) and paper for this session

III. Ask participants if they watched the Penn State video on “Planning the Day” and discuss highlights

IV. Say “So far we have talked about the importance of planning, thematic units, and webbing. Do you have any questions about those before we move on to our final session on lesson plans?” [wait for possible questions]

V. Ask each participant to name one important piece of information that they have learned in the online sessions that they we use in the classroom.

[wait for responses and add to discussion]

VI. Ask participants “Can someone tell me what a lesson plan?” [wait for responses]

VII. Ask “What is the difference between a lesson plan and a daily schedule? Or are they the same?” [wait for responses]

VIII. Explain that a lesson plan is like a map for the teacher to guide you through the day, week, month, etc. and a daily schedule tells what happens during the day and when. Remind them that daily schedules can easily get off-track (skinned knees, etc.) but be flexible and just get back on track as soon as possible.
IX. Research tells us that a well-planned day makes children feel more secure and can help prevent some challenging behaviors.

X. Instruct participants to take out their pens and papers. Tell them to think about what they did yesterday. On a piece of paper they are to write down what they did and when. They don’t have to be detailed, just general activities. Tell them to take 5 minutes for this activity. [allow 5 minute lapse]

XI. Ask if everyone has their list. Now ask them to look at their list and look for patterns: things they do everyday. Ask if they could mention some of those things. [wait for responses] Tell them that we all function everyday on a series of patterns filled in by new experiences. Patterns give you a sense of security because you can depend on certain things to happen. Children are the same way; when they can depend on certain things to happen they feel secure and a well-planned day followed within a daily schedule can help achieve this security.

XII. Tell them that the well-planned day also makes the time with children more productive and an optimum environment for learning. A well-planned day with a carefully planned balance of rest and active times helps the child grown physically, mentally, emotionally, and socially.

XIII. The well-planned day includes:

1. A safe, healthy environment that supports good health practices
2. A print rich environment
3. Periods of rest and active play
4. Opportunities for children to independently practice what they have learned and brush up on skills

5. Activities within learning centers that are linked to the thematic unit

XIV. Discuss what information is included in a lesson plan

XV. Discuss objectives. We can use the K*W*L method to form an objective for the thematic unit/subtopic. Does anyone remember what the K*W*L method is? [wait for responses] Let’s use the thematic unit Farm and the subtopic farm animals.

XVI. “What do we know about farm animals?” Ask participants to name some things a 3-year-old might know about farm animals? [wait for responses] “Now, what do we want to learn about farm animals?” Ask them to mention some things they might want a 3-year-old to learn about farm animals. [wait for responses] “What we want children to learn about farm animals helps us develop objectives.”

XVII. Example: At the end of the week on the subtopic of farm animals, children will be able to

a. Name 3 farm animals

b. Tell how 2 farm animals perform

c. Name the largest farm animal (cow) and a small farm animal (chicken)

XVIII. Tell them to remember that objectives are SMART:

- Specific
- Measurable
XIX: Let’s look at our objective

At the end of the week on the subtopic of farm animals, children will be able to

a. Name 3 farm animals
b. Tell how 2 farm animals perform
c. Name the largest farm animal (cow) and a small farm animal (chicken)

XX. Now, ask them how this example is specific. [wait for responses]

- Tell them you want to “zone in on” what you want children to learn.
- Remember to use guest speakers, real objects, and field trips whenever possible.

XXI. Then ask how it is measurable. [wait for responses]

- “How will you know if the children learned the objectives?”
- “In the preschool setting, verbal feedback is the most frequently used method. This simply means you ask questions throughout the course of the week about the subtopic to let you know whether children understand. Use open-ended questions. Can someone tell me what an open-ended question is.” (Questions that cannot be answered with “yes”, “no”, or other short answers) [wait for responses]
Ask participants to give examples of open-ended questions about the farm.

XXII. Ask why this is an appropriate objective for 3-year-olds. [wait for responses] Ask what would be an expectation that would not be appropriate for 3-year-olds.

XXIII. Ask if this is an objective that is reachable for this age. [wait for responses]

○ Remind them that challenging children in learning is important but to be careful not to teach “above their heads”; likewise do not teach “beneath” them.

XXIV. Ask what part of the objective makes it time-specific. [wait for responses]

○ Keep in mind that children absorb information when it is introduced in meaningful, small doses and reinforced with activities.

XXV. Recap:

1. A lesson plan is like a map for the teacher to guide you through the day, week, month, etc.

2. A daily schedule tells what happens during the day and when.

3. Research tells us that a well-planned day makes children feel more secure and can help prevent some challenging behaviors.

4. Parts of lesson plans: (“right click” on handout---view for 5 minutes before discussing) Explain each of the components below:

a. Title
b. Approximate time required

c. Supplies needed

d. Objectives

e. Setting or lead-in (how to get children’s attention)

f. Independent practice by children

5. Objectives are SMART:

   ▪ Specific
   ▪ Measurable
   ▪ Appropriate
   ▪ Reachable
   ▪ Time-specific

XXVI. Remind participants to be sure and go to do the posttest plus the exit survey within 5 days.

XXVII. Remind participants to complete the post-session survey before logging out.

XXVIII. Thank them for participating in the online session and that you hope this was a positive experience for them. Ask if anyone has any questions before you log off this last time. If so, answer. If not, dismiss class.