ENVIRONMENTAL FACTORS AND

LITERACY LEARNING AND INSTRUCTION

by

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CERTIFICATION OF THESIS WORK

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ENVIRONMENTAL FACTORS FOR LITERACY LEARNING AND INSTRUCTION

ABSTRACT

The basis for this thesis is research into the topic of environmental factors for literacy learning and instruction. To answer the research question, what are the environmental factors that influence literacy learning and instruction, an extensive review of the literature was conducted. A synthesis of the review was then conducted to produce several findings related to the research question. Results of the synthesis reveal that visible factors contributing to positive literacy learning are access to print through classroom and public libraries, technology in the classroom, the physical design of a classroom, and student behavior and school atmosphere. The findings also show that invisible factors contributing to positive literacy learning are school safety, classroom diversity, a supportive learning environment, and student motivation. All of these factors appear to contribute to the design of a learning environment that promotes literacy learning and instruction.

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Chapter 1: Introduction

Statement of the Problem

According to Partin (1995), classroom environment effects both student and teacher learning. Jensen (1995) states that "a carefully planned positive-suggestive environment can do 25 percent of your teaching" and a "poorly-designed learning environment can significantly distract from the learning process" (p. 99). Nearly 20 years since those words and after numerous reported incidents of bullying and school shootings, student safety is becoming yet another component in the classroom environment. With that being said, this area of inquiry in the field of literacy is related to the learning environment and the factors that affect literacy learning and instruction. In my experience, part of the problem is that many educators do not understand the factors of classroom environment and their potential impact on literacy learning and instruction.   Without this understanding, many may not be aware of how to use or control environmental factors as aides to achieve a positive learning experience. An appropriate research question to guide this study is, what does research show are specific environmental factors that influence literacy learning and instruction?

Background

From personal experience, I have found the topic of environmental factors and their influences on literacy learning and instruction to arise several times throughout my graduate studies as a topic that directly impacts different aspects of the learning experience. Because the topic of environment has surfaced in several areas of my educational career, I have become very

interested in it and have decided to explore the significance of environment in order to increase my understanding of it and in turn coach teachers to a deeper understanding of environment and its impact. As a reading specialist, I ask what can be included in the learning environment to positively impact literacy learning and instruction; as a literacy coach, I ask what I can inform teachers about; as a program leader, I ask what I can advocate for to help create safer and more effective classroom environments to promote literacy learning and instruction.

Terminology

For the purpose of this research study, the working definitions of key terms are defined below to provide the reader with a better understanding of the topic.

literacy- According to the International Reading Association (1989), literacy means the competence "to carry out the complex tasks using reading and writing related to the world of work and to life outside the school" (p. 36). This thesis study also incorporates Rafferty's (1999) definition of literacy being a "tool" or a "way to learn about the world as a way to participate more in society" (p. 22). Combining these two aspects creates the working definition of *literacy* for this thesis study: a tool used to carry out complex tasks using reading and writing related to the outside world.

learning environment- According to Frender (1994), a *learning environment* includes "how you choose to arrange the physical aspects of your classroom which sets the tone for your room's learning" (p. 116). This thesis study also incorporates Wilson's (1995) definition of "an environment wherein students are given room to explore, and determine goals and

learning activities" and "students are given generous access to information resources--

books, print and video materials, etc.--and tools--word-processing programs, e-mail,

search tools, etc." (p. 27). Combining these two aspects creates the working definition of

learning environment for this proposal: how a teacher chooses to arrange the classroom as an

atmosphere wherein students are having room to explore and determine goals while given

access to informational resources including books, print and video, materials, tools,

programs, etc. While *environment* and *climate* have distinct meanings, for the purpose of

this study, *learning environment a*nd *school climate* will be taken to have the same

meanings and refer to the same phenomenon.

environmental factors- For this study, these factors refer to the measurable components of the

learning environment. The IRA *Standards for Reading Professionals* (2010) identify

three types of factors: physical, social, and grouping. These three factors are understood

in broad terms for this study. The term *visible environmental factors* refers to the

physical environment that includes all physical aspects over which a teacher has control,

including seating arrangements and the design of a classroom library (Frender, 1994).

The term *invisible environmental factors* refers to the social environment. This includes

"talk and social interaction" (Anstey & Bull, 2006, p. 63) between students and teachers,

and students and students.

environmental print- According to Tompkins (2007), *environmental print* is the words and logos

that children see in the world around them. For this study, the print from everyday life

includes symbols, signs, numbers and colors found in places including Wal-Mart,

McDonalds, Pizza Hut, and the internet.

physical atmosphere- According to Miller and Cunningham (2011) *physical atmosphere* includes

"class composition, class size, and classroom design as factors of the learning

environment" (p.1).

mental atmosphere- According to Tan (2013) *mental atmosphere* is a "combination of thoughts

and feelings coming from an energy from a group of people" (p. 1).

blended learning environment- According to Banerjee (2011) a *blended learning environment* is

a combination of online classes and in class lectures.

tight-knitted- According to Zadzora, Gest, and Rodkin (2011) *tight-knitted* refers to a classroom

with "richly interconnected positive social ties" (p.1).

Web Quest- According to Hakverdi-Can and Sonmez (2012) a *Web Quest* refers to an "inquiry-

orientated lesson format in which most or all the information with which learners work

comes from the Internet" (p. 338).

Theoretical Stance

The current theory related to environmental factors that influence literacy learning and

instruction is constructivist epistemology (Hannafin & Land, 1997). According to Hannafin and

Land (1997), this theory emphasizes similarities and differences among learning environments

and their effect on student-centered learning. Jonassen (1991) suggests that learning

environments are "supported to reflect constructivist epistemology" because they are "designed

to support individual efforts to negotiate meaning while engaging in authentic activities" (p.2).

Hannafin and Land (1997) also note that the impact of the constructivist epistemology theory on

student learning is that instruction, in an environment designed to be student-centered, provides

for "unique learning interests and needs" (p. 2).

Rationale

The justification behind this inquiry question is found in research. Wolfersberger, Reutzel, Sudweeks, and Fawson (2004) have found that "a significant number of studies focused on the presence [in a learning environment] of literacy materials including types, variety, and display which shows that access, arrangement, interaction, etc. have behavioral consequences for young children who are becoming literate" (p. 212). Through a research study (Loughlin & Ivener, 1987) that suggests spatial organization, print, materials, and tools for literacy affect the extent to which children respond and contribute to literacy learning, various factors of a learning environment do appear to have an effect on literacy learning and instruction. According to the IRA (2010), teacher understanding of environmental factors that influence literacy learning and instruction contributes to "visible" and "invisible" support of learners. The visible factors that influence literacy learning and instruction are suggested by Wolfersberger, Reutzel, Sudweeks, and Fawson (2004) to be literacy materials and types. One newly emerging invisible that influences literacy learning and instruction is school safety. President Obama suggests, "we need to make our schools safer, not only by enhancing their physical security and making sure they are prepared to respond to emergencies like a mass shooting, but also by creating safer and more nurturing school climates that help prevent school violence" (Strauss, 2013, p. 1). The purpose of this study is to synthesize research on specific environmental factors that influence literacy learning and instruction.

Chapter Two: Literature Review

An examination of the relationship between the learning environment and literacy learning and instruction may provide answers to the problem of specific environmental factors that influence literacy learning and instruction. The most appropriate way to examine this relationship is to conduct a literature review. I searched the leading educational databases for research articles using the key terms "learning environment", "print richness of a learning environment", "literacy instruction and the learning environment", "classroom design and literacy growth", and "factors of classroom climate". Using the theory of environment types by Hannafin and Land (1997), I grouped the studies that were found into environmental factors that are "visible" or "invisible" and their related subcategories.

Visible Factors in a Learning Environment

For the purpose of this study, the term "learning environment" refers to Frender's (1994) definition which includes the physical aspects of a classroom and Wilson's (1995) definition which includes an opportunity for students to explore and take part in learning activities. This literature review begins with the visible factors, referring more closely to Frender's (1994) definition of the physical aspects but also meaning the physical aspects over which a teacher has control. These visible factors include libraries and access to print, technology, the physical design of a classroom, and student behavior and school atmosphere.

Libraries and access to print.

To understand the central role of a well-established learning environment and the effect of print-richness on literacy learning, Wolfersberger, Reutzel, Sudweeks, and Fawson, (2004) conducted a qualitative research study that would "likely lead to informed decisions about how to affect necessary changes in the classroom environment to enhance young children's literacy acquisition" (p. 213). The research question relates to the design elements for "measuring the "print-richness" of elementary classrooms" (p.190). Participants consisted of students from 53 different classrooms for intensive observation in four print-rich environments in the Mockingbird School District.   Classrooms were identified as being print-rich by using a checklist. Wolfersberger, Reutzel, Sudweeks, and Fawson, (2004) observed the learning environment by dividing each classroom into quadrants to ensure that all areas of the classroom were carefully evaluated. A second checklist was also used to generate 48 questions used during focused discussion between the classroom teacher and the students. Data analysis shows that "provisioning the classroom with literacy tools, arranging classroom space and literacy tools, gaining students' interests in literacy events, and sustaining students' interactions with literacy tools" (p.218) are key factors in developing a learning environment. Wolfersberger, Reutzel, Sudweeks, and Fawson, (2004) conclude that it is beneficial for student learning to "enrich, refine, research, and redesign classroom literacy environments to foster engaged literacy learning for all children" (p. 239).   The findings of Wolfersberger, Reutzel, Sudweeks, and Fawson, (2004) conclude that environmental factors that affect literacy learning include provisioning the classroom with literacy tools, positioning the classroom space with literacy tools, gaining student interest through participation, and promoting literacy learning through literacy tools.

In another study examining the impact of print-richness on literacy learning and instruction, Hoffman, Sailors, Duffy, and Beretvas (2004) examine the display of print in the learning environment. They report on the development and validation of the TEX-IN3, a research tool and protocol designed to assess the quality of the classroom literacy environment. The TEX-IN3 "focuses on the assessment of the physical text environment of the classroom, the practices surrounding the use of the texts in the classroom environment, and the understanding and valuing of the texts in the classroom environment" (p. 304). The researcher's question includes the "reliability and validity of the TEX-IN3" (p. 321). A quantitative research study assessed the reliability and validity of the TEX-IN3 and the impact of displayed print on literacy learning and instruction. Participants consisted of 33 elementary teachers in self-contained classrooms (grades K-5) and their students. The classrooms were from five different research sites across the United States. Hoffman, Sailors, Duffy, and Beretvas (2004) used the standardized, norm-referenced "research based" assessment of Group Reading Assessment and Diagnostic Evaluation (GRADE) test to assess student reading achievement and the TEX-IN3 to assess the literacy environment of the classrooms. Their findings suggest that the "TEX-IN3 effectively assesses the quality of the text environments in the classroom" (p.330). While this study suggests that the TEX-IN3 effectively assesses text in a learning environment, Hoffman, Sailors, Duffy and Beretvas (2004) also connect engagement with text and student comprehension growth to be related. Implications from this study suggest there is "an importance" (p. 332) between text and the learning environment because the text promotes engagement and further develops student comprehension.

In another study that focuses on instructional literacy practices of a teacher who was successful with struggling readers inside a print-rich learning environment, Wilhelm (2003)

conducted a mixed methodology research study examining the aspects of instructional literacy

practices that involve a print rich learning environment. The research question includes the

"kinds of texts and opportunities the teacher makes available to lowest achieving readers" and

"what the teacher's intentions and purposes are in providing these opportunities for the lowest

achieving readers" (p. 24). Participants consisted of four third grade struggling readers.

Wilhelm (2003) used the Text-interview Observational System (TEX-IN3) (Hoffman, 2002),

classroom observation, and classroom interviews with the teacher and the students to collect

classroom data. Data collection took place over a three month period and involved one

classroom in an urban school district in the southwest. Through data analysis, the findings

suggest that "multiple opportunities to engage in whole group literacy events" (p. 38) is

beneficial for low achieving readers and that a learning environment where "all students feel

cared for and are encouraged to take risks" (p.42) positively influences literacy learning. The

teacher "strove to make learning exciting as well as motivating for the students through the

integrated learning that guided the classroom" (p. 42). The findings of Wilhelm (2003) and this

study's definition of a learning environment suggests that positive factors influencing literacy

learning and instruction include multiple opportunities to engage in literacy instruction in an

exciting and safe learning environment.

   According to Neuman (1999), access to high-quality children's books provides

"meaningful language opportunities" (p. 287) associated with literacy learning. To examine the

impact of high-quality children's books as a factor of literacy learning, Neuman (1999)

conducted a mixed methodology research study investigating the relationship between the

availability of books and children's early literacy skills of receptive language, concepts of print,

environmental print, letter name knowledge, concepts of writing, and narrative competence.

Participants consisted of 400 three and four year old children randomly selected across ten regions. To conduct this study, Neuman (1999) used several standardized assessments including Test of Early Reading Abilities, Clay, the Peabody Picture Vocabulary Test, and Purcell-Gates. The researcher's question was whether or not exposing children to "greater quantities of print and meaningful language opportunities at a very early age" will "enable them to explore and express their natural curiosity" (p. 288) to further develop their literacy learning. After data analysis, Neuman (1999) finds that the gains made by the participants in this study included "uppercase, lowercase, letter name knowledge, rhyming, alliteration, and concepts of writing" (p. 304) and the gains were still evident six months later.   Neuman (1999) then suggests that access to high-quality children's books "sets the stage for children's greater access to literacy activity" (p. 298). According to this study's definition of a learning environment, access to high quality children's books is an environmental factor.

According to Tella and Akande (2007), reading is "one of the most effective processes of conscious learning" (p. 120). To study the process of reading, Tella and Akande (2007) conducted a mixed methodology research study examining children's reading habits and the availability of reading materials as factors of the learning environment. Participants consisted of 200 primary school children from ten different private and public schools in Botswana. The research involved the "measures needed for the improvement of children's reading habits" and the "availability of books for the achievement of quality basic education" (p. 199). All participants were administered a questionnaire and told that there was no right or wrong answer and that their responses were confidential. The data were analyzed using simple percentage, frequency count, and chi-square statistical tools. Their findings suggest "36.7 percent of children read on a daily basis" and that the "population only engages in reading for examination purposes

and not so much for personal development, fun, or to be well informed" (p. 132). They used the

Children Reading Habits/Books Availability Scale with both open and closed ended questions to

collect data. Tella and Akande (2007) find that the "availability of books means access and time

for reading them" (p. 132). With an availability of books and more time for reading, Tella and

Akande (2007) suggest that children better develop the literacy skills of "receptive language,

concept of print, letter name knowledge, concept of writing, and narrative competence" (p. 132).

The results of this study and this study's definition of a learning environment indicate that access

and availability to children's books is an environmental factor that promotes literacy learning

and instruction.

   Access to books is often provided to students through a classroom library. According to

Fractor, Woodruff, Martinex, and Teale (1993) a classroom library is a "focal area within the

classroom where books are easily accessible to students" (p. 477). To study the accessibility of

classroom libraries, Fractor, Woodruff, Martinez, and Teale (1993) conducted a qualitative study

examining student access to well-designed classroom libraries and its impact on student learning.

To examine the effect of classroom libraries on literacy learning and instruction, Fractor,

Woodruff, Martinez, and Teale (1993) used a survey that focused on observable and physical

characteristics of 183 regular education classrooms. The research question is whether or not

"elementary school children have access to well-designed classroom libraries" (p.478). In order

to determine a well-designed classroom library, Fractor, Woodruff, Martinez, and Teale (1993)

relied on the work of Morrow and Routman (1991) to indicate a number of physical features of

classroom libraries that increase children's voluntary use of books. By observing the 183

classrooms and using the work of Morrow and Routman, the results of Fractor, Woodruff,

Martinez, and Teale (1991) suggest that kindergarten teachers have established libraries in their

classrooms; however, in upper elementary grade classrooms, library centers did not exist or were not well designed. Researchers conclude there is a "need for developing excellent classroom libraries" to "promote voluntary reading habits as a strategy to the aliteracy problem" (p. 483). Based on this study's definition of learning environment, the results of Fractor, Woodruff, Martinez, and Teale (1993) suggest that a classroom library is indeed a visible environmental factor that affects literacy learning and instruction.

More recent research into classroom libraries was conducted by Celano and Neuman (2001) who studied public libraries and how they might "play a major role in developing literacy skills" (p. 3). To study the role of public libraries, Celano and Neuman (2001) conducted a mixed methodology research study to better understand the impact of public libraries on literacy learning and instruction. The research question includes the impact of reading programs provided through public school libraries "on children's developing literacy skills" (p. 5). Celano and Neuman (2001) observed 25 public school libraries in Pennsylvania during a summer reading program aimed for improving literacy skills of elementary age children. The summer reading programs were run by the public libraries, but the programs were taught by classroom teachers. During this study Celano and Neuman (2001) observed both the teaching methods of classroom teachers and the students' learning. In addition to observing the teachers and the students, Celano and Neuman (2001) further examined the role of public libraries by interviewing librarians and parents for further input on student learning. To measure the children's reading ability and to pinpoint a child's instructional reading level, the Johns Reading Inventory Test was administered throughout the study. Based on the observations and the interviews, findings suggest that libraries "do more than encourage a "love of reading"" "they offer priceless opportunities for children to develop literacy skills" (p.35). According to Celano

and Neuman (2001), public libraries "encourage children to spend time with books" and that the "amount of time children spend with books is crucial to reading achievement, and ultimately, to school achievement in general" (p. 37). Furthermore, "those who attend summer library programs read on a higher level than those who do not come at all" (p. 43). According to this study's definition of a learning environment, the findings of Celano and Neuman (2001) suggest that libraries are an environmental factor that contributes to literacy learning and instruction by encouraging children to spend time with books.

In a study that focuses on reading labels in a learning environment as a factor of literacy learning and instruction, Masonheimer, Drum, and Ehri (1984) conducted a mixed methodology research study examining the print reading skill of preschoolers selected for their expertise at reading signs and labels in their environment. The research question is whether "subjects who could read several words would differ markedly from those who could not in terms of their letter name knowledge" (p. 260). Participants consisted of 106 male preschool students and 122 female preschool students ranging in age from two to five years from a wide variety of ethnic and socio-economic backgrounds. Masonheimer, Drum, and Ehri (1984) used 21 alphabetic labels or signs determined to be familiar to preschool children in that current city. The participants were shown each photo and asked what they saw in the picture and what the picture said. Following this activity, participants were shown, in random order, all 52 upper and lower case letters and asked to name them. Through data analysis, findings suggest "subjects read few, if any words correctly" but they were "able to identify with the print" (p. 263) and that in "identifying environmental print, readers focus on letters while pre-readers ignore the letters and "read" the environment" (p. 267). The findings of Masonheimer, Drum, and Ehri (1984) suggest that

environmental print is a factor in the learning environment that assists children with making connections in literacy learning because children identify with the print and focus on the letters.

In another study focusing on environmental print in the learning environment, Masonheimer, et al., (1984) conducted a mixed methodology research study that assessed the use of labels as an environmental factor in literacy learning. The researchers' question was whether participants "notice letter alternation in the spellings of labels presented with their logos" (p. 266). Participants consisted of 92 preschool students ranging in age from three to five years. Masonheimer, et al., (1984) tested each participant individually by presenting six separate labels and asking the participant to say what it is. Some labels were altered by changing the spelling of the logos. If the participants did not automatically identify that change, the examiner prompted the participants. If the participants noticed anything wrong, they were asked to put their finger on it. After all six labels were examined, the labels were shown alongside the correctly spelled labels and the participants were asked whether or not the labels were the same. Again, if the participants noticed anything different, they were asked to put their finger on it. Through data analysis, Masonheimer, et al., (1984) data show that the participants did not automatically identify the altered spellings of the logos or labels, but they were able to identify the labels and logos and make connections based on the environmental print. Their findings suggest that environmental print, specifically labels, assist children to make connections while reading. According to the findings of Masonheimer, et al., (1984) and this study's definition of a learning environment, environmental print is a learning environment factor that contributes to literacy learning and instruction by assisting students to activate background knowledge in order to make new connections.

Technology.

With the growing use of computers and smartboards in schools, technology is quickly becoming an environmental factor of the learning environment where "students are given room to explore" and "are given generous access to information resources – books, print, video, and tools – word processing programs, e-mail, search tool, etc." (Wilson, 1995, p. 27). To study technology, Proctor, Dalton, and Grisham (2007) researched the influence and impact of a software program on literacy learning and instruction. The research question includes the effect of "digitally embedded vocabulary acquisition and comprehension strategy support for students struggling with reading" (p. 74). Proctor, Dalton, and Grisham (2007) reported on a multimedia digital reading environment derived from the work of Dalton and colleagues and its effect on literacy learning. They conducted a mixed methodology research study examining the use of a multimedia digital reading environment as a factor in learning and instruction. Participants consisted of 30 fourth grade students in Southern California. Proctor, Dalton, and Grisham (2007) gave the participants an opportunity to read eight hypertexts: four narrative and four informational. These hypertexts had supports that targeted vocabulary development, and cognitive and metacognitive strategy development. Each text contained pre-reading, within-reading, and post-reading activities and supports designed to scaffold and assess progress. Their findings indicate that through the use of the multimedia digital reading environment, the participants were interacting meaningfully with the texts and applying vocabulary and comprehension skills. The findings of Proctor, Dalton, and Grisham (2007) and this study's definition of a learning environment suggest that the use of technology, specifically a multimedia

digital reading environment, positively influences literacy learning and is a visible environmental factor.

A great deal of technology used in schools comes through the use of computers added to classrooms. Reinking and Watkins (2000) conducted a mixed methodology research study investigating how a computer-based instructional intervention, creating multimedia reviews of books, might be implemented to achieve an increase in students' independent reading. The research question asked whether there are factors in the educational environment that enhance or inhibit the goal of increasing students' independent reading. Participants consisted of elementary students from two different schools during one school year. The schools were located in a small town within commuting distance of a large metropolitan area. Reinking and Watkins (2000) used observational field notes and interviews with students and teachers to determine classroom engagement in independent reading. Reinking and Watkins (2000) also used the Elementary Reading attitude Survey (ERAS), a standardized instrument designed to measure students' attitudes toward reading in and out of school. A student and parent questionnaire was administered to determine the diversity of students' reading. After presenting the idea of multimedia book reviews, students were then taught to use these book reviews. Their findings indicate that "computer-based activities alter positively the social dynamics surrounding instructional activities (p. 22). The multi-media book reviews are an "entertaining" way for students to make connections to books and form an interest in reading. Thus the findings of Reinking and Watkins suggests that computers in a classroom environment can be a positive visible factor to impact literacy learning and instruction because computers appear to have the potential to increase student interest in reading.

To further explore the factor of technology, Hakverdi-Can and Sonmez (2012) examined the use of the Internet on literacy instruction. Hakverdi-Can and Sonmez (2012) used an inquiry based program where the majority of the information that the learners work with came from the Internet. Hakverdi-Can and Sonmez (2012) used a qualitative research methodology to analyze the collected data. Participants consisted of 22 pre-service teachers at a major university who were required to create a Web Quest. To collect data, questionnaires were used containing open-ended questions. The research question aimed to explore "Web Quest as a teaching and learning tool" (p. 342). During the analysis of the questionnaires, it became apparent that the Web Quest motivated student learning and the impact of the Web Quest further developed student learning by increasing levels of knowledge about chosen topics. With that being said, Hakverdi-Can and Sonmez suggest that Web Quest is a "valuable teaching tool" and that Web Quest "allows educators to create learning opportunities that are student-centered, motivating, and participatory" (p. 348).   Findings from Hakverdi-Can and Sonmez (2012) suggest that the technology of internet use is an environmental factor that positively influences literacy instruction.

With the increase of technology, many institutions move towards "blended" (part in a classroom and part "online") and fully online learning environments. According to Banerjee (2011), blended learning environments are learning environments which "provide multiple modalities for learning, significant interactivity, familiar technologies, and sustained connections with teachers" (p. 1) through face-to- face interactions and interactions through the use of technology. Fully online learning environments are a transition "from a primarily face-to-face approach to the use of information and communication technologies" (p. 1). To study the factor of technology in the learning environment and its influence on literacy learning and instruction,

Banerjee (2011) examined online and blended learning environments at a small college of liberal arts. Banerjee (2011) conducted a mixed methodology study assessing student perception of their blended learning environment and student academic success in a blended learning environment. The research question involves the use of technology "for learning and student satisfaction and perceptions about online and blended learning environments" (p. 11). Participants consisted of 3,000 undergraduate students at a large urban college. After collecting data using surveys, researchers find that most of the students "prefer a moderate amount of technology for learning" thus "requiring a balance between technology and face-to-face methods" (p. 13). Findings also suggests most students prefer to learn with the incorporation of technology via online classes because the students feel "more comfortable" (p. 13) learning on their own and at their own pace rather than being in a classroom where everyone is expected to learn at the same rate.   While research suggests most students prefer a moderate amount of technology, some face to face time is valuable to instruction. Banerjee (2011) suggests that in-class instruction is beneficial for asking questions and explaining difficult concepts. With that being said, the findings of Banerjee (2011) and this study's definition of a learning environment suggest that technology is a factor of the learning environment that can influence literacy learning and instruction.

The physical design of a classroom.

To examine physical environmental factors that stimulate literacy learning, Liang, Hsu, Huang, and Chen (2012) conducted a mixed methodology research study examining the physical design of a classroom and its effect on student learning. The research question included the "environmental factors that can stimulate imagination" (p. 432) and "how these factors manifest

in different design phases" (p. 432). Participants consisted of college students in the field of

educational technology from four universities across Taiwan. The participants had similar

assignments in instructional design based on the agreement between instructors and the research

team. Liang, Hsu, Huang, and Chen (2012) adapted the ADDIE model and divided the

instructional design process into three phases: analysis, design/development, and

implementation/evaluation. Liang, Hsu, Huang, and Chen (2012) took into account 21

environmental factors grouped into four dimensions: physical component, organizational

measure, social climate, and human aggregate. The items were scored on a five-point Likert

scale. Their findings indicate that there is a "significant relationship between imagination and

environmental factors" (p. 439) and that the "learning environment and curriculum must inspire

students' passion for excellence, nurture their curiosity, develop their imagination, empower

their professional life, and awaken their spirit for an unknown future" (p. 439). According to

Liang, Hsu, Huang, and Chen (2012), there is a relationship between the learning environment

and students' passion for excellence and that "the learning environment is composed of four

factors: social climate, physical component, organizational measure, and human aggregate" and

that that there is a "significant relationship between imagination and environmental factors" (p.

439).

In a study examining physical aspects of a learning environment on literacy learning,

Walker, Brooks, and Baepler (2011) conducted a mixed methodology research study assessing

types of "learning spaces" (p. 1) in relation to student learning outcomes. The first research

question is whether there is a "relationship between the type of learning space and student

learning outcomes" (p. 3). The second research question is whether there is a relationship

between "learning space and instructor and student behavior" (p.3). Their third question relates

to the "relationship between the type of learning space and student perception of the learning experience" (p.3). Participants consisted of 253 undergraduate students from the University of Minnesota. Walker, Brooks, and Baepler (2011) used surveys, interviews, focus groups, achievement tests, and direct observations to measure learning space in relation to student learning outcomes. One professor taught two sections of an introductory biology class: one being in a traditional lecture hall environment with standard row seating and a podium, and another in a room with round tables and the use of technology. The researchers determine that the "results strongly indicate that teaching in the new classroom had a positive effect on student learning outcomes as measured by the course" (p. 5). Therefore, the research suggests that the physical aspects of round tables and the use of technology positively effects learning. Further findings indicate that traditional classrooms foster a significant use of the podium by the instructor. Despite the professor's attempts to create identical instructional environments in both classes, the new classroom reflects a greater ease of instructor movement and significantly more time engaged in group activities because the students are facing each other instead of the instructor. In response to the third question, the findings indicate that teaching in the new classroom has a positive effect on learning because the students felt "more encouraged to interact" (p.5) and the students feel as if they could pay attention better. Based on student interviews and surveys, many students liked the cleanliness and projection capabilities of the new classrooms. Furthermore, the new classrooms appear to have a "significantly positive effect" (p.9) on student learning outcomes and student perceptions of the learning experience. Therefore, according to Walker, Brooks, and Baepler (2011) physical aspects of the classroom do affect student learning and instruction, and these physical aspects include technology, seating arrangements, and the use of a podium.

Hadjioannou (2007) makes contributions to the significance of physical factors of a learning environment by conducting a qualitative research study to analyze the effects on literacy learning. The researcher's question related to the "elements that seem to shape the environment of the classroom community" and how to "describe the functions of these elements as repeatable threads woven to create the fabric of the classroom's social life" (p. 374). Participants consisted of 24 fifth grade students from a public school classroom and their teacher. Hadjoannou (2007) used observation, participant interviews, and audio and video recording of class sessions. The language arts block of the classroom was observed for a five month period on an almost daily basis. The field notes included detailed transcriptions of the class conversations as well as descriptions of the physical environment, nonverbal events, unofficial conversations with participants, and classroom climate features. In addition, a series of interviews with the classroom teacher and four focal students were conducted. Each individual was interviewed four times, using a flexible interview protocol.   Findings indicate that the factors that shape the environment are a "welcoming atmosphere created by the display of student work", "generally orderly but with some homey clutter", "student art and writing decorating the wall", "posters charting historical events the class had been studying in social studies", "placement of the teacher's desk in the far left corner", "books and other reading materials were abundant in the room", a "number of thesauri, atlases, and other reference materials were stored in shelves around the room, and two large bookshelves full of children's literature books were located at the back of the room", and "comfortable areas with reclining chairs and bean bags" (p. 376). This learning environment can be described as comfortable and cozy which seems to "have a great potential for fostering interactions that are socially demanding and that are common in authentic discussions" (p. 376). The findings of Hadjoannou (2007) and this study's definition of a

learning environment suggest that the physical design of a learning environment influences student academic success. The findings also suggest it that might be beneficial for teachers to consider positivity, a welcoming atmosphere, student art and writing on display, historical posters, a homey feel, abundant books and reading materials, and other reference materials in the physical design of a learning environment.

Student behavior and school atmosphere.

Focusing on classroom climate, or "how the teacher chooses to arrange the classroom as an atmosphere where students are given room to explore and determine goals" (Wilson, 1995, p. 27), Koth, Bardshaw, and Leaf (2008) conducted a mixed methodology research study examining student perceptions of the classroom climate in how their perceptions influence literacy learning. The researchers' question included the "influence of individual, classroom and school level factors on students' perceptions of school climate" (p. 100) in relation to student learning. Participants consisted of 2,468 students in 120 regular education fifth grade classrooms within 37 elementary schools. Koth, Bardshaw, and Leaf (2008) used a school version of the School Development Program School Climate Survey to measure student perception of climate. The Order and Discipline and the Academic Motivation tools were also used. Teacher ratings of individual students' disruptive or aggressive behaviors were also obtained using the Teacher Observation of Classroom Adaptation Checklist. The findings of Koth, Bardshaw, and Leaf (2008) indicate that it might be beneficial for teachers to "pay careful attention to the clustering of students" (p.101) and that environmental factors that may influence student learning include "school size, faculty turn over, student mobility, and class size" (pp. 101-102).   Therefore, the

school atmosphere is a visible factor that may be beneficial to consider in the learning

environment based on the findings of Koth, Bardshaw, ad Leaf (2008). They suggest that

student perception of student clustering, school size, faculty turn over, student mobility, and

class size are factors that students are acknowledging and may be influencing student learning.

To further examine student behavior and the school atmosphere on literacy learning and

instruction, Loughlin and Ivener (1987) conducted a qualitative research study examining the

relationship between literacy environments and children's literacy behaviors. The research

question is to provide a "description of literacy environments and children's literacy behaviors

within them" (p.2).   Participants consisted of 140 children from 17 kindergarten and primary

classrooms. To obtain data, Loughlin and Ivener (1987) used the Survey of Displayed Literacy

Stimuli. Through data analysis, their findings indicate "literacy environments are quite fluid,

changing daily, and displayed literacy stimuli are frequently moved about the environment while

in use" (p.10) and that the "environment that functions on behalf of children's literacy is

established through spatial organization and the teacher's provision of print, symbolic materials,

and tools and materials for literacy" (p. 1). With that being said, the findings of Loughlin and

Ivener (1987), suggest that it might be beneficial to consider spatial organization, environmental

print, symbolic materials, and tools for literacy instruction in the design of a learning

environment that positively influences literacy learning and instruction.

Invisible Factors in a Learning Environment

After a review of the visible factors of a learning environment, this section now turns to

the invisible factors. Again, for the purpose of this study, the term learning environment refers

to both Frender's (1994) definition which includes the physical aspects of a classroom and

Wilson's (1995) definition of a learning environment that includes an opportunity for students to

explore and take part in learning activities. The invisible factors reviewed in this section refer

more closely to Wilson's (2005). The invisible factors reviewed in this section are school safety,

school diversity, a supportive learning environment, and motivation.

School safety.

Violence prevention has become an increasingly important priority in school settings

across the United States. To study an anti-bullying program on literacy learning, Beightol,

Jevertson, Gray, Carter, and Gass (2009) conducted a mixed methodology research study

examining the effects of a more positive, caring, and safe learning environment. Participants

consisted of fifth grade students from a local elementary school in Santa Fe, New Mexico.

Beightol, Jevertson, Gray, Carter, and Gass (2009) used a mixed methods design to measure

students' self-reported goals and aspirations, problem solving, empathy, and self-efficacy.

Quantitative data were gathered using the Anti-Bullying Initiative Survey and compared with the

results from focus groups, interviews, and program observations to assess both program

processes and outcomes. After ten in-school sessions of role plays and problem-solving

activities, analysis of data reveals successful experiences, meaningful reflection, development on

student goals, and an enhancement of student responsibility.   The development of student goals

and the enhancement of student responsibility suggest that an anti-bullying program has an

impact on students' goals and achievement.

With an increase in the demand of school safety, some school districts have police-school liaisons for extra support. Police-school liaisons refer to the "police practice of regularly visiting schools with the objective of "teaching" and citizenship" (p. 189) and school safety. This next study closely examines student perception of police enforcement taking part in school programs. Hopkins (1994) conducted a mixed methods research study seeking to describe student opinion of School Liaison Officer's (SLO) being a part of the school environment and how the presence of police officers affects learning. The research question seeks to "describe and explain pupils' constructions of their school liaison officer's 'typicality'" (p. 191). Participants consisted of 81 students taking part in 28 group interviews in three different schools. The group interviews ranged from approximately 15 minutes to over 45 minutes and were normally involving three students at a time. Hopkins (1994) focused the group interviews on several specific questions including the "whether they liked the idea of the police coming into school" (p. 194). Throughout the interviews, the participants suggested that the "shape and form of social relations between young people and the police are distinct" (p. 191). Data analysis reveals that some of the participants do feel uncomfortable with police enforcement in a school setting which results in distraction during instruction and learning. The findings of Hopkins (1994), suggest that the relationship between students and the police could affect student learning based on student perceptions of police enforcement and the different atmosphere that the police enforcement creates with its presence. Police enforcement is an invisible environmental factor because Hopkins' findings suggest that police enforcement involves social interaction and police enforcement is a part of the social environment of a school.

With an aim to provide a low-cost antiviolence intervention program that does not interfere with the educational process Twemlow, Fonagy, Sacco, Gies, Evans, and Ewbank

(2001) examined the impact of such a program on learning. The researchers' question was about

the "impact of a manual-based antiviolence program" (p. 808). Participants consisted of two

inner-city elementary schools with concerns about high levels of disciplinary problems and

serious fighting. Twemlow, Fonagy, Sacco, Gies, Evans, and Ewbank (2001), used an

intervention program based on zero tolerance for bullying. The program was designed to prevent

school violence and provided teachers with training. After four years of implementing the zero

tolerance for bullying intervention, the schools saw a "dramatic reduction in disciplinary

referrals" (p. 809) and a "significant improvement in academic achievement and reduction in

out-of-school suspensions and other serious infractions" (p. 810). With the reduction in

behavioral problems and an improvement in academic achievement, Twemlow, Fonagy, Sacco,

Gies, Evans, and Ewbank (2001) suggest that a less violent learning environment might be a

positive factor to consider in a learning environment and in literacy learning.

Comparable to the Twemlow, Fonagy, Sacco, Gies, Evans, and Ewbank (2001) analysis

of a low-cost antiviolence intervention program, Fonagy, Twemlow, Vernberg, Sacco, and Little

(2005) also investigated the impact of an antiviolence program on student academic success.

The research question is whether or not "participating in the CAPSLE program" (p. 322)

positively influences academic success on standardized tests. Participants consisted of 2,206

students ranging from seven to 14 years. They used a CAPSLE program which offers a more

protective non-violent environment. This program utilized four components of a positive climate

change: a classroom management plan, a physical education program, and a peer mentorship or

adult mentorship program. The Metropolitan Achievement Text was used to measure school

achievement across the domain of reading, mathematics, written language, and science. Through

data analysis, findings indicate that children who attended the CAPSLE program for two

consecutive years performed better on standardized achievement tests, which suggest that a violence-free learning environment promotes learning. According to Fonagy, Twemlow, Vernberg, Sacco, and Little (2005), a "simple, low-cost anti-violence intervention program" has the potential to "significantly benefit educational performance of children" (p.317). With that being said, the findings of Fonagy, Twemlow, Vernberg, Sacco, and Little (2005), and this study's definition of a learning environment suggest that an environmental factor that affects literacy learning is a safe environment that promotes zero-tolerance for violence.

Studying a comparable anti-bullying program, Twemlow, et al. (2001) examine a safe learning environment and its effect on learning. Twemlow, et al. (2001) conducted a qualitative study examining the impact of a manual-based antiviolence program on the learning climate in an elementary school based on a zero tolerance for bullying. The research question includes the "impact of a manual-based antiviolence program on the learning climate" (p. 808).   Participants consisted of two inner-city elementary schools. Data were collected through the Olweus program aimed to prevent school violence. The program consisted of four components: a "zero tolerance for behavioral disturbances such as bullying and victimizing, a discipline plan for modeling appropriate behavior, a physical education plan designed to teach self-regulation skills, and a mentoring program" (p. 808). To determine the impact of an anti-bullying program on student learning, the Metropolitan Achievement Test in reading and mathematics was administered. Results showed "considerable improvement" (p. 809). Their findings indicate that a "low cost antiviolence intervention that does not focus on individual pathology or interferes with the educational program may improve the learning environment in elementary schools" (p. 809). The findings of Twemlow, et al. (2001) and this study's definition of a learning

environment suggests that an environmental factor that may be beneficial to consider is safety in the learning environment and that this factor might contribute to academic growth.

A positive school climate is a component of successful schools and is often an aim of school wide initiatives. To examine the learning environment and literacy learning and instruction, Koth, Bradshaw, and Leaf (2008) conducted a mixed methodology research study examining the "characteristics of the classroom environment to consider when aiming to improve the school climate" (p.96). The research question examines "two distinct aspects of school climate (school safety and willingness to learn) to determine the potential influence and relative contribution of factors at various levels" (p.97). Participants consisted of 2,468 students in 120 fifth grade classrooms within 37 elementary schools. Data were collected as part of a school wide behavior support program called Positive Behavioral Interventions and Supports. After analyzing the data, the findings indicate that factors of the school climate include "school size, the experience of the faculty, and mobility" (p. 101). With that being said, the findings of Koth, Bradshaw, and Leaf (2008) suggest that factors to consider when promoting a safe learning environment that endorses willingness to learn are the school size, the experience of the teachers, and mobility throughout the school.

Classroom diversity.

For this study, classroom diversity refers to the different relationships between students' home values and the mainstream education system. The following case studies examine different ethnicities and their relationship between home literacies and school literacies. According to Schulz and Kantor (2005), "each family's frame of reference about literacy and schooling impacts their expectations and relationships with the school community" (p. 67). With

that being said, the diverse backgrounds and the diversity of beliefs of the many students in a classroom along with individualized expectations and relationships with the school as a community contribute to classroom diversity. To determine the relationship between diversity and literacy learning, Schulz and Kantor (2005) focused on the research question relating to what "parents value in terms of literacy activities" (p.60) by conducting a qualitative research study examining the values that participants place on literacy learning and how these values affect literacy learning. In their case study, Schulz and Kantor (2005) studied four case study families by conducting interviews with parents, children, and teachers, observing conversations between children, parents, and siblings, and examining documents and artifacts collected from home and school. With a better understanding of parent values, Schulz and Kantor (2005) observed student literacy learning. Their findings suggest that each student and his or her family interpret literacy differently, "guided by his frameworks of reference" (p. 67). Therefore, researchers conclude that each student's experience within a learning environment is based on his or her expectations and view of literacy, which are in turn influenced by the student's home values and attitudes, contributing to the diversity within a learning environment. Therefore, the findings of Schulz and Kantor (2005) suggest that it is beneficial to include diversity as a factor within a learning environment by incorporating into the classroom the different views and expectations of literacy.

Bouchard (2008) focused on learner autonomy or the "control that the learner exercises over the various aspects of learning" (p. 1). According to Bouchard, each individual has his or her own "drive for learning" (p.1); thus a classroom of students becomes a learning environment full of multiple learner characteristics. Bouchard (2008) conducted a qualitative research study examining this diverse factor and the impacts on literacy learning. The research question asked about the ways that "learning environments support or hinder learner autonomy" (p. 1).

Participants consisted of 13 adult students registered in university courses. To collect data, interviews were used to determine the relationship between diversity and literacy learning. Bouchard (2008) investigated student "likes" and "dislikes" (p. 4) of a learning environment by conducting interviews that focused on specific environmental questions concerning diversity. The findings indicate that there is "diversity in the likes and dislikes of individuals concerning the various components of the learning environments" (p. 4). Bouchard (2008) suggests that a diverse learning environment supports student learning because the diversity stimulates students' drive in the act of learning. Therefore, Bouchard (2008) and this study's definition of learning environment suggest that an environmental factor to consider in relation to literacy learning is diversity because diversity in the classroom provides individual student drive towards learning.

Supportive learning environment.

Classrooms are important places for the development of students' social relationships and attitudes about school. With that being said, educational psychologists have theorized about peer networks as a role in student development. To examine whether differences in the structural features of classroom peer networks are associated with how students perceive the classroom environment and achievement, Zadzora, Gest, and Rodkin (2011) focus on the structural features of a classroom including those with "rich interconnected positive social ties" and the "association with differences in how individual students perceive the classroom environment" (p. 2). The research question examined "whether differences in the structural features of classroom peer networks (tight-knittedness, hierarchy, salience norms) are associated with differences in how individual students perceive the classroom environment and express achievement-related beliefs" (p. 2). Participants consisted of 794 students in first, third, and fifth grade in 41 different

classrooms throughout Illinois and Pennsylvania. To collect data, student surveys were used in classrooms. Through data analysis, findings indicate that "classroom networks favoring academic achievement were positively associated with teacher supportiveness" (p. 6). With that being said, the findings of Zadzora, Gest, and Rodkin (2011) suggest that it might be beneficial to consider teacher support and a richly positive social environment as an invisible environmental factor that influences learning and instruction.

The need to belong is considered a fundamental motivational need for human growth and development. To study supportive learning environments, Vieno, Perkins, Smith, and Santinello (2005) conducted a mixed methodology research study examining student and school-level predictors associated with students' sense of community in their schools and the effect on learning. The research question included the "factors associated with students' sense of community in their schools" (p. 330). Participants consisted of 4,793 students in 248 classrooms in 134 schools. Data at the individual level were collected through a self-report questionnaire in which adolescents' health behaviors were investigated. Vieno, Perkins, Smith, & Santinello's (2005) assessed parental monitoring, parental control, democratic school climate, control variables, the sense of community in the school, extracurricular activities, school external links, and faculties to further understand the sense of a community as a factor in learning. Through data analysis, the findings indicate that the school climate is a moderate to strong predictor of academic success and that "increasing student participation in making rules and organizing events, encouraging greater freedom of expression, and addressing the fairness of rules and teachers may increase school sense of community" (p. 338). According to Vieno, Perkins, Smith, & Santinello (2005), school climate includes student participation and a feeling of

belonging. They suggest a better since of belonging might provide a more supportive learning environment which could lead to academic success.

In a study promoting student academic success, Li (2012) conducted a qualitative research study examining two groups of pre-service teachers enrolled in the teacher education programs at an institution of higher learning. The research question includes how to "promote academic success of minority students through supportive learning environments" (p. 261). Participants consisted of two groups of college students. The first group consisted of students who passed their Praxis One teaching exam and a second group that did not pass their Praxis One teaching exam. The focus of this study was on current and past learning experiences through intensive field participation and rich data collection in the field. The research procedure included a four page descriptive survey. Based on this survey, interviews were conducted focusing on past learning experiences that might affect their current learning. Their findings indicate that "good teachers inspire students and model positive character traits through supportive environments in order to build resiliency in students to meet challenges for achieving academic success" (p. 264). Li (2012) suggests that "establishing a supportive learning climate can enhance confidence, self-esteem, and persistence in students" which are "personal factors for success and will motivate and encourage minority students to pursue learning despite facing any difficulties" (p. 265). Further findings suggests that a supportive learning environment is established through "mutual support between teachers and classmates, teacher's attention over the design process, communication and discussion with classmates, the willingness to accept challenges in class" (p. 265). The teacher plays a key role in establishing a supportive learning environment through encouragement and praise, tolerance for error, and respect for individual differences. According to the findings of Li (2012) and this study's definition of a learning

environment, a supportive learning environment could potentially promote learning through success and motivation.

In a study examining student perception of a supportive learning environment, Lizzio, Wilson, and Simons (2002) investigated environment impact on instruction and literacy learning. Lizzio, Wilson, and Simons (2002) conducted a mixed methodology research study to examine the relationship between university students' perceptions of aspects of the learning environment and their academic outcomes. The aspects included participation, independence, and choice in learning. Participants consisted of 5,000 students from the same university randomly selected to represent the entire school. Lizzio, Wilson, and Simons (2002) used questionnaires to obtain data on student perceptions of the university's learning environment. Perceptions of the teaching environment were measured by students' rating on the Course Experience Questionnaire (CEQ). The CEQ was designed as a performance indicator of teaching effectiveness at the level of whole course or degree in the aspects of teaching which students have direct experience. Their findings indicate that "development of higher order or metacompetencies is a complex and interrelated process, which is affected by all aspects of the learning environment, the two strongest predictors were a good teaching environment and opportunities for independence and choice in learning content or process" (p. 38). Therefore, the findings of Lizzio, Wilson, and Simons (2002) suggest that the learning environment could be a "significant factor" (p. 38) in student learning.

Motivation.

In a study focusing on motivating struggling readers to become more engaged in the reading process, Guthrie, et al. (2004) conducted a mixed methodology research study

investigating an instructional framework with the purpose of providing support by motivating

struggling readers. Participants consisted of third grade students from four schools in a small

city located in a mid-Atlantic state. The four selected schools were judged to be comparable in

demographic characteristics and past reading achievement. Guthrie, et al. (2004) used the

Concept-Oriented Reading Instruction (CORI) and the Strategy Instruction (SI). The program

was administered for 12 weeks for 90 minutes a day. Guthrie, et al. (2004) worked to determine

if merging motivational and cognitive strategy support in reading comprehension instruction

would increase engaged reading and reading comprehension. Through data analysis, Guthrie, et

al. (2004) indicates that "connecting an intrinsically motivating activity to reading and

generalizing the motivation to new texts" (p. 11) promotes engagement and motivation in student

learning. The findings suggest that "setting knowledge goals, interacting in real-world

situations, having an abundance of interesting texts, providing autonomy support, and referring

to collaboration as students interact with each other" (p. 11) could be beneficial in the

environmental to promote literacy learning and instruction.

 To examine the role of motivation as a factor of a learning environment that may impact

academic achievement, Dogan and Sezer (2011) conducted a mixed methodology research study

examining the factor of motivation. The research question examined the "opinions of elementary

school students" on "learning environments" (p. 263). Participants consisted of two thousand

students from 12 classes from the fourth, fifth, sixth, and seventh grades. The model used in this

study was the scope of the survey model. To collect data, Dogan and Sezer (2011) used a

questionnaire composed of 15 items formed with the aim of taking opinions of elementary school

students and teachers. Through data analysis, their findings indicate that children excel in their

subject matter when they are interested, when they are having fun, and specifically when

"teachers can contribute to students' successes and progresses by encouraging students in areas they are good at" (p. 269). The findings of Dogan and Sezer (2011) and this study's definition of a learning environment suggest that positive encouragement, feedback, and rewards contribute to academic success in a learning environment.

In a study examining learning environments and how they affect the way students think about themselves, their tasks, and others, Ames (1992) conducted a qualitative research study examining the different motivational patterns and how the goals are reflected in a classroom environment. This study focused on student perception of the learning environment and student behavior. The research question included the "characteristics of tasks that foster willingness in students to put forth effort and become actively engaged in learning" (p. 263). The participants were students from two different elementary classrooms beings taught the same lesson by two comparable teachers. Through data analysis, findings indicate that "enhancing motivation means enhancing children's valuing of effort and a commitment to effort-based strategies through the design of mastery-oriented classroom structures" (p. 268). The findings of Ames (1992) suggest that enhancing student efforts through a mastery-oriented classroom often means using extrinsic incentives to get students to engage in certain behaviors, and motivational strategies translate into free time or special activities. These findings indicate that the factor of motivation affects literacy instruction. As an aim to interest and motivate students, Ames (1992) suggests that teachers would likely benefit from "rewarding their students' positive behaviors" (p. 268). The findings of Ames (1992) and this study's definition of a learning environment, suggest that creating a motivating learning environmental could positively influence literacy learning because the more motivated and interested a student is in the learning process, the more likely that the student will display a greater effort and more interest in learning.

Motivation may be a significant component within literacy instruction due to the link

between motivation and action. Putman and Walker (2010) conducted a mixed methodology

research study examining children's motivation and their action of reading. Participants

consisted of 22 students ranging in age from seven to 12 years. The research question involved

whether there is an "increase in children's motivation for reading within the alternate contexts

emphasizing engagement with materials that were found within the various settings and the

importance of incorporating activities that were literacy related, but not specifically identified

with reading" (p. 146). The participants were involved in a tutoring program offered through a

midsize university located in the Midwestern region of the United States. The participants were

ten girls and 12 boys, each of whom demonstrated a need for assistance with reading in some

way, including word recognition, comprehension, and fluency. The tutoring sessions were

conducted within one academic semester. Prior to the start of the tutoring sessions, the tutors

were enrolled at the university and engaged in university coursework focused on reviewing

concepts of effective literacy instruction. The tutors were trained on the administration of

diagnostic assessments including informal reading inventories, writing samples, and attitude and

motivation surveys. The university instructor supervised the tutors and provided guidance.

Through data analysis, the findings indicate that motivation to read is affected by environmental

factors because "students who were tutored in the various instructional settings demonstrated

increased motivation over the course of the study" (p. 148), and the learning environments could

"account for the increase in motivation" because the "text, artifacts, and exhibits contained in

each setting" (p. 148) "hooked" the students to the lesson. The findings of Putman and Walker

(2010) and this study's definition a learning environment suggest that the learning environment

has the potential to positively influence literacy learning. The findings from this study also

suggest that a learning environment using artifacts, tools, and displays within the setting captures students' interest and engages them with the literacy instruction.

Summary of the Review

This literature review examines studies relevant to the visible and invisible factors of a learning environment as related to the research question of what research shows about specific environmental factors that influence literacy learning and literacy instruction. A search of the major educational databases has found 33 articles related to this topic of learning environment. Using the theory of environment factors (Hannafin & Land, 1997), these 33 studies are grouped into the two categories: the visible factors of a learning environment and the invisible factors of a learning environment. The 18 studies addressing visible factors are subdivided into the topics of libraries and access to print, technology, the physical design of a classroom, and student behavior and the school atmosphere. The 15 studies addressing invisible factors are subdivided into the topics of school safety, classroom diversity, supportive learning environment, and student motivation.

Chapter Three: Methodology

Data Collection

To answer the research question, what does research show are specific environmental

factors that influence literacy learning and instruction, an in-depth and extensive review of the

literature has been conducted. Each of these studies becomes part of the data for this study. This

chapter will analyze and synthesize the assortment of relevant studies in the literature review to

provide the findings for this thesis. The findings of this thesis will then be applied to a

professional development project. The professional development workshop is designed for

Kindergarten to grade 12 teachers.

Data Analysis

Using the theory of environmental factors (Hannafin & Land, 1997), the 33 studies found

for this thesis have been grouped into the two categories of the visible factors and the invisible

factors of a learning environment. The 18 studies addressing visible factors are grouped into the

topics of libraries and access to print, technology, the physical design of a classroom, and student

behavior and the school atmosphere. Through data analysis, these topics become the visible

factors of the learning environment.

A total of nine studies relate to the factor of libraries and access to print in a learning

environment; three studies (Neuman, 1999; Wolfersberger, Rutzel Sudweeks & Fawson, 2004;

Masonheimer, et al., 1984) specifically examine classroom libraries. Findings from all three

studies indicate that access to high quality children's books has a positive influence on literacy learning. Two studies (Fractor, Woodruff, Martinez & Teale, 1993; Celano & Neuman, 2001) find that well designed classroom libraries encourage children to spend time with books, which is crucial to reading achievement. Six studies specifically examine access to print. One of the six studies (Tella & Akande, 2007) closely examines access to high quality literature and finds that increased access results in increased literacy growth. Four studies (Proctor, Dalton, & Grisham, 2007; Reinking & Watkins, 2000; Hakverdi-Can & Sonmez, 2012; Banerjee, 2011) are found to relate to the factor of technology. Of the four studies, two studies (Hakverdi-Can & Sonmez, 2012; Banerjee, 2011) closely examine the use of technology in a college education learning environment and find that students prefer the use of technology as a learning tool to aid in understanding. One study (Wilson, 1995) closely examines the influence and impact of a software program on literacy learning and instruction and finds that the participants were interacting meaningfully with the digital texts and applying vocabulary and comprehension skills. One study (Reinking & Watkins, 2000) finds that technology in the form of multi-media book reviews is a positive visible factor to impact literacy learning and instruction. Three studies (Liang, Hsu, Huang, & Chen, 2012; Walker, Brooks, & Baepler, 2011; Hadjioannou, 2007) relate to the factor of the physical design of a classroom; all three studies conclude that there is a relationship between the physical design of a learning environment and academic success. Two studies (Koth, Bardshaw, & Leaf, 2008; Loughlin & Ivener, 1987) relate to the factor of student behavior and school atmosphere; one study (Koth, Bardshaw, & Leaf, 2008) finds that the school atmosphere, including school size, faculty turn over, student mobility, and class size, influence student learning.; the other study (Loughlin & Ivener, 1987) finds that a learning environment

that supports literacy learning is established through the use of literacy tools and the organization of an environment that functions on behalf of literacy learning.

The 16 studies addressing invisible factors of the learning environment are grouped into the topics of school safety, classroom diversity, a supportive learning environment, and motivation. Through data analysis, these topics become the invisible factors of the learning environment.

A total of six studies relate to the factor of school safety in a learning environment; four studies (Beightol, Jevertson, Gray, Carter, & Gass, 2009; Twemlow, Fonagy, Sacco, Gies, Evans, & Ewbank, 2001; Fonagy, Twemlow, Vernberg, Sacco, & Little, 2005; Twemlow, et al., 2001) specifically examine an anti-bullying program and the effects on student learning, and find that a more positive, caring, and safe learning environment has a positive impact on students' goals and achievement. One study (Hopkins, 1994) closely examines police enforcement and student learning, finding that police enforcement in a school setting is a distraction from learning and creates an uncomfortable atmosphere. One study (Koth, Bradshaw, & Leaf, 2008) closely examines the relationship between school safety and willingness to learn, finding that a safe environment has a positive relationship with student willingness to learn. Two studies relate to the factor of classroom diversity. One study (Schulz & Kantor, 2005) explains diversity as the family beliefs that students carry with them to the classroom, and finds that such diversity has a positive influence on literacy learning. The other study (Bouchard, 2008) explains diversity as an individual drive for learning, and finds that such diversity drives student learning. Four studies relate to the factor of a supportive learning environment; two studies (Zadzora, Gest, & Rodkin, 2011; Vieno, Perkins, Smith, & Santinello, 2005) closely examine social relationships between students and the effect on learning, finding that a richly positive learning environment

with a feeling of belonging provides a more supportive learning environment leading to

academic success. Two studies (Li, 2012; Lizzio, Wilson, & Simons, 2002) closely examine a

supportive learning environment and find that support, communication, participation, and choice

are factors of a supportive learning environment that lead to academic success. Four studies

relate to the factor of motivation; two studies (Guthrie, et al., 2004; Dogan & Sezer, 2011)

examine instructional motivation and its influence on student learning, finding that motivating

activities encourage student success and contribute to academic success. One study (Ames, 192)

closely examines student perception of instruction and how it influences student approach to

learning, finding that instruction which students find motivating, providing extrinsic incentives

for positive behavior in the form of special activities, increases student interest and effort in

learning a skill. Another study (Putman & Walker, 2010) closely examines the learning

environment as a motivational factor for literacy instruction, finding that motivation to read is

affected by the instructional setting and that the learning environment influences student

motivation and success with literacy learning.

Summary of Data Analysis

Results of this analysis reveal that visible factors contributing to positive literacy learning

are access to print through classroom and public libraries, technology in the classroom, the

physical design of a classroom, and student behavior and school atmosphere. Research shows

that access to print means the incorporation of classroom libraries, providing high quality

children's books, and access to print in the form of posters, student work, and environmental

print. To be effective, classroom and public libraries would benefit from having a focal area that

is attractive and visible, being private and set apart from the rest of the classroom to create a

quiet place to read, including comfortable seating such as carpets, chairs, beanbags, pillows, or

other creative options, providing five to six books per student for variety, the inclusion of books

that provide a variety of genres and reading levels, room for five or six children in order to

promote a community of readers, two types of shelving to display attractive covers and to

include many books using minimal space, literature-oriented displays and props to attract the

students, and organized categories by genre, theme, topic, author, reading level, content area, or

some combination. Effective technology in a classroom environment includes software

programs, digital texts, the use of the Internet embedded in instruction, "blended" learning

environments, and multi-media book reviews. To produce positive literacy learning, the physical

design of a classroom includes the school atmosphere, school size, faculty turn over, student

mobility, and class size. Student behavior and school atmosphere refer to the climate of the

learning environment and the relationship between a learning environment and children's

behaviors. Student behavior and school atmosphere are effective when school size, faculty turn

over, student mobility, class size, symbolic materials, spatial organization, and environmental

print are considered. These factors influence student behavior and student learning.

Results of this analysis also reveal that invisible factors contributing to positive literacy

learning are school safety, classroom diversity, a supportive learning environment, and student

motivation. Research shows that school safety means a positive, caring, and safe learning

environment that positively impacts student goals and achievement and includes anti-bullying

programs, police-school liaisons, intervention programs, and antiviolence programs. Classroom

diversity is defined as the different relationships between students' home values and the

mainstream education system and individual drive for learning; both definitions indicate that

student drive and motivation are influenced by home values and attitudes and that it is beneficial

to include diversity as a factor within a learning environment by incorporating into the classroom

the different views. A supportive learning environment includes a richly positive social

environment, student participation, choice, support, and a feeling of belonging. Student

motivation is a positive invisible factor in a classroom environment when connecting

intrinsically motivating activities to reading and using that motivation with new texts, when

students are motivated through instruction that is interesting and fun, when a teacher uses

positive encouragement, feedback, when rewards contribute to academic success, and when the

learning environment positively influences literacy learning through the use of artifacts, tools,

and displays.

Chapter Four: Results and Application

To answer the research question, what does research show are specific environmental factors that influence literacy learning and instruction, an in-depth and extensive review of the literature was conducted. Chapter three analyzed and synthesized the assortment of relevant studies from the literature review to provide the findings for this thesis. The results of the review are a summary of the findings found in the previous chapter. The findings of this thesis will be applied to a professional development project. The professional development workshop is designed for all grade level teachers.

Results of the Review

This research synthesis has examined literature relating to the visible and invisible factors of a learning environment as they relate to the research question of specific environmental factors that influence literacy learning and instruction. Results of this literature review reveal that visible factors contributing to positive literacy learning are access to print through classroom and public libraries, technology in the classroom, the physical design of a classroom, and student behavior and school atmosphere. The findings also show that invisible factors contributing to positive literacy learning are school safety, classroom diversity, a supportive learning environment, and student motivation. All of these factors appear to contribute to the design of a learning environment that promotes literacy learning and instruction.

Application of Results to a Professional Development Project

The results from this research study indicate that there are several environmental factors that influence literacy learning and instruction. These findings have significance and application for Kindergarten to grade 12 teachers because the findings will provide teachers with a better understanding of how the learning environment can be designed to positively influence literacy learning and instruction. In the classroom, teachers can implement the factors related to the learning environment and thus aid in literacy learning. The most efficient way to provide these results to teachers is through a professional development project, in the form of an interactive webinar.

To apply the results of this research study to a professional development project, the results of the review suggest that there are several environmental factors that influence literacy learning and instruction. The findings can provide teachers with a model of how to design a learning environment that will nurture literacy learning and instruction to aid in student literacy skills. In the learning environment, teachers can include the visible and invisible environmental factors to aid in literacy learning and instruction. In order to provide this information to teachers, the most beneficial way is in the form of professional development through an interactive webinar. The interactive webinar is the most beneficial form of professional development for the results of this research study because teachers will have the opportunity to visualize, discuss, and apply their new knowledge to the field of literacy at the convenience of their own classrooms.

Design of Professional Development Project

The professional development project that is most appropriate for delivering the findings of this thesis is an interactive webinar. This webinar is intended for Kindergarten to grade 12 teachers and will be a two hour interactive session in which teachers can participate in the professional development in the convenience of their own classrooms. The interactive webinar focuses on the visible and invisible environmental factors that appear to be influential to literacy learning and instruction. The participants will have the opportunity to participate in a virtual fieldtrip that is designed to model a learning environment that includes all the research-identified visible and invisible environmental factors. Part of the webinar will involve using a computer based program that allows participants to design a blue print of an effective learning environment that includes the recommended visible factors that influence literacy learning and instruction. An interactive webinar is the most appropriate format for distributing the findings from this thesis because educators will have the opportunity to visualize, discuss, and participate with the findings from this research study.

Literacy coaching workshop goals and objectives.

The goal of this professional development interactive webinar is to provide knowledge of the environmental factors that influence literacy learning and instruction to Kindergarten through grade 12 teachers in order to assist them in their literacy instruction. The objectives of the interactive webinar include teachers being able to verbally describe the visible and invisible factors in a learning environment that influence literacy learning and instruction, and to virtually

apply those factors in their individualized learning environments. By the conclusion of the interactive webinar, a learning outcome for teachers is the ability to physically design a learning environment that fosters literacy learning and instruction and the ability to discuss the visible and invisible factors of a learning environment that influence literacy learning and instruction.

Proposed audience and location.

The intended audience for this workshop includes Kindergarten to grade 12 teachers within various school districts across the United States. High school teachers are included in this webinar because some of the research reviewed was conducted in college level environments, and high school teachers seeking to help their students become "college ready" would benefit from knowing about college environments. The interactive webinar will take place in the convenience of each individual teacher's classroom through the use of technology. The instructor will be located at her personal learning environment in Western New York. The interactive webinar is best designed for at least ten participants to promote discussion.

Proposed webinar format and activities.

The anticipated professional development is designed to be a two hour interactive webinar that will be broken into an opening activity, a research-based power point, a virtual fieldtrip, individual work involving the design of a learning environment, a discussion, and feedback. The interactive webinar will take place during after school hours in the convenience of the teacher's individual classrooms through the use of technology. The interactive webinar

will begin with an activity where teachers discuss their understanding of a learning environment

and the influence on literacy learning and instruction. The instructor will then provide the

supporting research and further explain the visible and invisible factors that influence literacy

learning and instruction. To model the information presented in the Power Point, a virtual

fieldtrip will be included in the next section of the in-person workshop using a direct link. The

virtual fieldtrip will take the teachers on a virtual tour of different learning environments that

support the research. Teachers will then apply their new knowledge by working individually to

design a research supported learning environment using the Internet website Classroom Architect

at http://classroom.4teachers.org/. Next, the teachers have the opportunity to share their work

and discuss what they have learned. At the conclusion of the webinar, each participant will be

emailed a link to an online survey for evaluation of the interactive webinar.

Proposed resources for interactive webinar.

To conduct this interactive webinar, the instructor and the participants will need access to

a computer and the Internet. The instructor will create a professional development webinar

agenda (see Appendix A), a Power Point presentation, an evaluation survey, a virtual field trip

through a learning environment, and an evaluation survey (see Appendix B).

Proposed evaluation of interactive webinar.

To evaluate the interactive webinar, participants will be emailed a link to an online

survey (at SurveyMonkey.com). The survey (see Appendix B) will include a series of questions

determining whether the learning outcomes have been reached, the overall effectiveness of the

interactive webinar, and the presentation of the material. The survey also allows webinar

participants to write suggestions for future presentations of this interactive webinar and to

provide input on the effectiveness of the design of the interactive webinar. The evaluations will

be used to modify future interactive webinars. To also evaluate the learning outcomes, the

instructor will examine the blue print designs created during the interactive webinar by

examining the participating teacher's ability to physically design a learning environment that

fosters literacy learning and instruction.

Interactive Webinar Ties to Professional Standards

The standards met in this interactive webinar are found in the *Standards for Reading

Professionals-Revised 2010* by the International Reading Association (IRA). The standards and

rationale for each are provided.

IRA Standard 1: Foundational Knowledge
Candidates understand the theoretical and evidence-based foundations of reading and
writing processes and instruction.

The participating teachers will meet standard one because the research provided throughout the

interactive webinar will prepare the teachers for roles as reading professionals. The research and

information discussed during the interactive webinar will provide the teachers with the capacity

to act on their knowledge responsibly. Also, the research provided throughout the interactive

webinar is current information and is reflected based on practice and wisdom. This interactive

webinar also meets the Common Core State Standards because the information discussed during

the interactive webinar corresponds to career readiness in standard RL. 1.1 where participants

must read the content closely from the provided Power Point in order to determine what the text

says explicitly and to make logical inferences from it.

IRA Standard 2: Curriculum and Instruction
Candidates use instructional approaches, materials, and an integrated, comprehensive, balanced curriculum to support student learning in reading and writing.

The participating teachers will meet standard two by engaging in an informational lecture using

Power Point and a virtual fieldtrip with the use of the Internet. The participating teachers will

even further meet standard two by participating in a hands on activity where they have the

opportunity to apply their knowledge in an individual activity. Also, this interactive webinar

uses instructional approaches to support learning through a discussion in which teachers share

their ideas, ask questions, clarify concepts, apply their knowledge to their own learning

environments, and share experiences. This interactive webinar meets the Common Core State

Standards because the information discussed during the interactive webinar corresponds to career

readiness in standard SL. 1.1 in collaborating with diverse partners, and building on others' ideas

through the interactive webinar's discussion of the content material.

IRA Standard 5: Environment
Candidates create a literate environment that fosters reading and writing by integrating foundational knowledge, instructional practices, approaches and methods, curriculum materials, and the appropriate use of assessments.

The participating teachers will meet standard five by designing a research supported learning

environment using the Internet website Classroom Architect at http://classroom.4teachers.org/

The research includes the physical design, the social aspects, and support for reading and writing

instruction. The interactive webinar fulfills standard five by designing the professional

development around the participating teacher's individual learning environments. The

participants have the convenience of participating in the professional development with access to

their own individual learning environment which aides in applying new knowledge. The

interactive webinar relates to the Common Core Standards because the information being

presented during the webinar corresponds to integration of knowledge and ideas in standard R. 7

where the participants evaluate the content presented in diverse media and formats, including

visually and quantitatively, as well as in words. For this webinar, the participants evaluate the

design of interactive learning environments and the presentation of the research presented.

Standard 6: Professional Learning and Leadership
Candidates recognize the importance of, demonstrate, and facilitate professional learning
and leadership as a career-long effort and responsibility.

The teachers participating in the interactive webinar meet standard six by committing to a form

of professional development in order to continue with a career-long effort to extend knowledge

of the field of education. The interactive webinar fulfills this standard by focusing on content

that has been determined with careful consideration. Also, the interactive webinar is embedded

with the latest research. The interactive webinar relates to the Common Core State Standards

because the information being presented during the interactive webinar corresponds to career

readiness in standard SL. 1.1 where the participants take part in effectively conversing and

collaborating with diverse partners building on others' ideas and expressing their own clearly

and persuasively as they continue with a career long effort to extend knowledge of the field of

education.

Chapter Five: Discussion and Conclusion

Overview of Study and Findings

The basis for this thesis is research into the topic of environmental factors for literacy learning and instruction. The researcher's interest in the problem of the environmental factors comes from a topic that arose several times throughout her graduate studies. To answer the research question, what are the environmental factors that influence literacy learning and instruction, an extensive review of the literature was conducted. The review of the literature is a collection of the studies that addresses the problem of what environmental factors influence literacy learning and instruction. A synthesis of the review was then conducted to produce several findings related to the research question. Results of the synthesis reveal that visible factors contributing to positive literacy learning are access to print through classroom and public libraries, technology in the classroom, the physical design of a classroom, and student behavior and school atmosphere. The findings also show that invisible factors contributing to positive literacy learning are school safety, classroom diversity, a supportive learning environment, and student motivation. All of these factors appear to contribute to the design of a learning environment that promotes literacy learning and instruction. The findings are applicable for teachers at the Kindergarten grade level through the high school grade level and will be distributed as professional development in the form of an interactive webinar.

Significance of the Findings

The findings from this study exist in two main categories: visible and invisible factors of a classroom literacy learning environment. These findings are significant to classroom practice of teachers from Kindergarten to grade 12 because the identified factors are those over which a teacher can have control. Therefore, they can be applied by teachers to the design of the classroom and to the overall atmosphere in the creation of a learning environment in order to influence literacy learning and instruction of their students. By knowing these factors, teachers can apply the factors to the design of their own classroom learning environment and shape their instruction so that the learning environment supports literacy learning, and in turn, further develops literacy skills and academic achievement.

Limitations of the Findings

Although the research has shown that the environmental factors that positively influence literacy learning and instruction include libraries and access to print, technology, the physical design of a classroom, student behavior and school atmosphere, school safety, classroom diversity, a supportive learning environment, and motivation, there are some limitations to the findings. The first limitation is the small number of actual research studies conducted on some specific factors. For instance, only one study was found to exist on the nature of school safety and its relationship to literacy instruction. Also, most literature appears to focus on literacy instruction and not much on the impact on actual literacy learning or development. Furthermore, the current research focuses on the physical design of a learning environment and literacy

learning; there appears to be little research into the physical design of a classroom and the influence on literacy instruction. While many of the studies discuss the physical design of a learning environment related to academic success, there appears to be no research into incorporating or adapting literacy instruction to the physical design of a learning environment.

Conclusion: Answer to the Research Question

The research question for this thesis research project is what are the environmental factors that affect literacy learning and instruction? To answer the research question, an extensive review of the literature of the visible and invisible factors that influence literacy learning and instruction was conducted. The findings of the research indicate that specific visible and invisible factors positively influence literacy learning and instruction for students ranging from Kindergarten to grade 12 and college. The visible environmental factors that positively influence literacy learning and instruction are access to print through classroom and public libraries, technology in the classroom, the physical design of a classroom, and student behavior and school atmosphere. The findings also show that invisible factors contributing to positive literacy learning are school safety, classroom diversity, a supportive learning environment, and student motivation. All of these factors appear to contribute to the design of a learning environment that promotes literacy learning and instruction.

Recommendations for Future Research

The results to this research study indicate several findings connected to the factors that influence literacy learning and instruction; however the limitations of the findings of this study reveal that little there is little existing research on school safety and literacy instruction. Further research on the factor of school safety and the influence on literacy instruction could add to the repertoire of literature that helps promote literacy learning and instruction. The limitations of the findings of this thesis also reveal that there is little existing research on the factor of technology in the classroom and its influence on literacy learning; a recurring focus in the existing research is technology and its relation to literacy instruction.   Furthermore, the current research focuses on the physical design of a learning environment and literacy learning, but there is little literature on the physical design of a classroom and the influence on literacy instruction. Many studies discuss the physical design of a learning environment related to academic success, yet there appears to be no research into incorporating or adapting literacy instruction to the physical design of a learning environment. This seems like an area that would benefit from further research.

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APPENDIX A: Agenda for a Professional Development Workshop

Professional Development Workshop Agenda

Environmental Factors for Literacy Learning and Instruction

4:00-4:10: Check-in
- Teachers verify their attendance

4:10-5:00: Introduction and Welcome
- Opening activity where participants discuss their knowledge of a learning environment and the influence on literacy learning and instruction
- Definition of key terms: learning environment, visible factors, invisible factors
- Background on learning environments
- Rationale for studying environmental factors for literacy learning and instruction
- Research base

5:00-5:10: Break

5:10-5:25: Virtual Fieldtrip
- Participants virtually visit different learning environments
- Participants virtually listen to interviews of teachers discussing the learning environment and literacy learning and instruction

5:25-5:45: Blue Print Activity
- Teachers virtually design a blue print of a learning environment fostering visible and invisible factors discussed

5:45-5:50: Discussion
- Teachers participate in discussion lead by instructor

5:50-6:00: Conclusion
- Wrap up, review workshop content, and ask questions
- Evaluation form for professional development workshop

APPENDIX B: Professional Development Workshop Evaluation Form

Workshop Evaluation Form

Date: _____

Workshop Title: Environmental Factors for Literacy Learning and Instruction

Learning outcomes for participants:

- identify and explain visible and invisible learning environmental factors
- use knowledge gained during the professional development workshop to design a blue print of a learning environment
- discuss with other teachers environmental factors to implement in content area classrooms

For each of the following areas, please write the appropriate number in the column.

Poor	Fair	Average	Good	Excellent
1	2	3	4	5

1. Meets the needs and interests of participant	
2. Instructor's knowledge of the content	
3. Clarity of objectives stated	
4. Participants actively involved in learning	
5. Organization of webinar	
6. Useful Visuals and aids	
7. Timeliness of the material being presented	
8. Overall learning experience	
9. Overall rating of the webinar	

1.   **What can be done to improve the webinar?**

2.   **Did the visuals aid in understanding the content?**

3.   **Did the activities and discussions enhance the understanding of the content?**

4.   **Do you have any suggestions?**

Thank you for your participation and feedback.