

A Case Study of How Gender Affects the use of Technology in Elementary Classrooms  
in Northern Louisiana

by

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## TABLE OF CONTENTS

	Page
LIST OF TABLES .....	4
TABLE OF CONTENTS.....	2
CHAPTER	
1. INTRODUCTION .....	4
Purpose of the Study .....	4
Significance of Study.....	5
Theoretical Model.....	5
Research Questions.....	6
Definition of Terms.....	6
Limitations of Study .....	9
2. REVIEW OF LITERATURE .....	11
Conclusion .....	17
3. Methodology .....	18
Procedure .....	18
Sampling .....	19
Setting and Participants.....	19
Setting .....	19
Instrumentation .....	21
Timeline of Data Collection.....	21
Observations/Field Notes.....	22
Teacher Interviews.....	22
Tech Journals .....	23
GLE Checklist.....	23
Trustworthiness.....	24
Validity .....	24
Credibility .....	24
Transferability.....	25
Dependability .....	25
Triangulation of Data.....	25
Data Analysis .....	25
Conclusion .....	26
REFERENCES .....	27

## LIST OF TABLES

TABLE	PAGE
1. Data Focus and Collection .....	19
2. Timeline of Data Collection.....	22
3. Sample Tech Journal Entry .....	23
4. GLE Checklist.....	24

## CHAPTER 1

### Introduction

Boys and girls respond to the use of technology differently. The following dialogue was recorded after students were asked how they felt about using technology in the classroom.

"I like working with computers at school. It is nice to be active, to determine your own way of working and to not have to listen to the teacher all the time," (boy, age 14). "It is nicer than the usual lessons, but it depends on the task that has to be done," (girl, age 14)

(Admiral, Dam, Heemskerk, and Volman, 2009, p. 253).

As time progresses, technology has become an integral part of classroom instruction. We've come a long way in terms having one or two apple computers in the classroom with those huge headphones, to now having five to six computers in addition to smart boards and interactive software available. With the shift from teacher centered to more student centered instruction, teachers are being challenged more so to examine their teaching methods as well as the ways that students learn. As teachers take this time to examine how students learn, they must figure out how they can adapt instruction to the learning styles of everyone. How better to do this, than to determine if gender is a factor that should be taken into account when using technology?

### **Purpose of the Study**

The purpose of this study is to determine how gender affects the use of technology in the elementary classroom. This study will be Practical Action Research because results of this study will be used as a tool that will assist teachers in expanding their teaching "tool boxes" gain insight to develop them professionally. It will be facilitated by conducting classroom observations and interviews of third grade teachers.

### **Significance of the Study**

A study conducted for this purpose is necessary for the teaching profession because we must continually seek insight in ways to better understand our students and the way they learn. Gender is another group that can be divided to better address student need in terms of technology use. In the student-centered classrooms of today, with the aid of the computer, students are able to collaborate, to use critical thinking, and to find alternatives to solutions of problems (Jaber, 1997). It would be beneficial if gender is taken into consideration as a measurable factor.

### **Theoretical Model**

Two theoretical frameworks can be utilized for this study. The Constructivist Theory can first be adapted because of the need for change in our educational system because of the shortcomings established with the push for better test scores. In this period, students became better test takers and but became worse at higher-order cognitive learning. This action of teaching to the test brought about reform efforts to move teaching instruction from rote learning to problem solving, concept development, and critical thinking. This new instruction philosophy is based on theory of knowledge and learning which today is called “constructivism” (Sandholtz et al.,1997). Constructivism views learning as a personal, reflective, and transformative process where ideas, experiences, and points of view are processed into something new. In this philosophy, teachers are the facilitators for the students’ learning (Sandholtz et al., 1997) rather than the instigators (Sandholtz et al., 1997). By including technology into instruction utilizing a more personal approach designed

The Behaviorist Theory can be applied using operant conditioning, which involves the use of reinforcement to encourage behaviors. There are several kinds of reinforcers, which may vary from student to student. Responses are voluntary in operant conditioning. With this theory

we must remember that we are concerned with the use of behavioral methods to encourage learning rather than for classroom or behavior management. Skinner He and other behavioral theorists were concerned mainly with observable indications of learning and what those observations could imply for teaching. They concentrated on observable 'cause and effect' relationships. Skinner and others viewed the teacher's job as modifying the behavior of students by setting up situations to reinforce students when they exhibit desired responses. Behaviorists viewed learning as a sequence of stimulus and response actions in the learner. They reasoned that teachers could link together responses involving lower-level skills and create a learning "chain" to teach higher-level skills. The teacher would determine all of the skills needed to lead up to the desired behavior and make sure students learned them all in a step-by-step manner (Roblyer, Edwards, and Havriluk, 1997, p.59).

### **Research Question**

Should gender be taken into consideration when planning lessons using instructional technology for classrooms of third graders located in Northern Louisiana?

### **Definition of Terms**

#### **Behaviorist Theory.**

Behaviorism is an approach to psychology based on the proposition that behavior can be researched scientifically without recourse to inner mental states. It is a form of materialism, denying any independent significance for mind. Behavioral theories define learning as a "semi-permanent change in behavior." In other words, learning has only taken place if a change in behavior is evident. Pure behaviorists are not concerned with internal process, but with external exhibitions.

**Practical Action Research Study.**

Practical Action Research is a type of action research that emphasizes on a how-to approach and has less philosophical bent than critical action research (Airasian, Gay, & Mills, 2009).

**Instructional Technology.**

Instructional technology is the use of a variety of teaching tools to improve student learning. Instructional technology describes all tools that are used for teaching and learning such as: computers, computer software, cameras, CD players, PDA's, GPS devices, computer-based probes, calculators and electronic tools we have yet to discover.

**Constructivism.**

The theory of knowledge and learning that bases instructional philosophy in the action of teaching which brought about reform efforts to move teaching instruction from rote learning to problem solving, concept development, and critical thinking. Constructivism views learning as a personal, reflective, and transformative process where ideas, experiences, and points of view are processed into something new. In this philosophy, teachers are the facilitators for the students' learning rather than the instigators (Sandholtz et al., 1997).

**Teacher Researcher.**

Teacher researchers are teachers that conduct research through inquiry that is intentional, systematic, public, voluntary, ethical, and contextual. These teachers develop questions based on their own curiosity about their students' learning and their teaching, investigate their questions with their students systematically documenting what happens, collect and analyze data from their classes including their own observations and reflections, and examine their assumptions and

beliefs. While doing this, they also articulate their theories; discuss their research with their colleagues for support as "critical friends" to validate their findings and interpretations of their data, and present findings to others (Mohr, 1999).

### **Purposive Sampling.**

Purposive sampling is the process of selecting a sample that is believed to be the representative of a given population (Airasian, Gay, & Mills, 2009). Subjects are selected because of some characteristic depending on the purpose or goals of the research.

### **Table of Random Numbers.**

A table of random numbers is a list of multi-digit numbers, arranged in a table, that have been randomly generated by a computer to have no defined patterns or regularities; used in sampling.

### **Triangulation.**

Triangulation is the use of multiple methods, data collection strategies, and data sources to get a more complete picture of what is being studied and to cross-check information (Airasian, Gay, & Mills, 2009).

### **GLE (Grade Level Expectations).**

The term GLE refers to Louisiana's Grade-Level Expectations that identify what all students should know or be able to do by the end of each grade from prekindergarten through grade 12 in math, English, science and social studies

(<http://www.louisianaschools.net/topics/gle.html>).



**Gender Inclusiveness.**

Gender inclusiveness refers to the idea that educators should offer students optimal possibilities to identify with the subject matter and the way that subject matter is presented, and each student should feel comfortable as well as challenged when working with an educational tool. Therefore, the content and the interface of the educational tools should be attractive for girls and boys (Admiral, Dam, Heemskerk, and Volman, 2009).

**Limitations**

There could be four primary limitations of this study. The first could be unreliable data gathered during interviews with teachers because of their own personal bias. To avoid biases, the researcher must have an opportunity to observe and interview multiple subjects so that he or she is able to have enough data to be able to differentiate between the bias and validity of the data being presented. Second, the time allotted to gather this data might affect the number of teachers and students that are able to be interviewed or observed. In order to overcome this issue, the teacher researcher may focus his or her scope on a sample of classrooms from one grade level, although this data would be beneficial to multiple elementary grades. Third, this is an intrinsic case study and is, therefore, limited to one elementary school during a period of approximately 18 weeks. The unique interactions of the class and the surrounding environment are of interest to this researcher. The interactions of the students in this school might differ from those in other school depending on the demographic. Their motivation, parental involvement, development of a supportive classroom environment, and how they view technology might be different in other schools. Therefore, the results of this case study will be of limited use in generalizing to other situations. Fourth, other limitations will result from the types of data analysis performed and the role this researcher will fill as a teacher researcher.

Despite the limitations of this study, this researcher believes that studying the views and responses of both genders to the use of instructional technology. The results from this study might stimulate new approaches how teachers plan instruction for students based on gender as well as use this knowledge to differentiate instruction.

## **Chapter 2**

### **Literature Review**

The literature review strives to answer the following question: Should gender be taken into consideration when planning lessons using instructional technology for classrooms of third graders located in Northern Louisiana? In order to familiarize readers with previous research regarding gender and the use of technology in the classroom, literature will be reviewed in this chapter in four different areas. These areas are the association of technology with masculinity, the genders' use of technology as a tool for socialization and collaboration, marketing and lack of equal subject matter, and the attitudes of both genders.

#### **Masculinity**

The first area of review will be the notion that technology has previously been considered a masculine tool. Wajcman (2000) first suggested, that although strides have been made in the appeal of technology to various demographics, very little effort has been made to assist with the embracing of technology for females (Wajcman, 2000). Wever-Rabehl (2006) suggested that if current trends continue, females will be less likely to achieve using technology because they have a lower competence and confidence than males. It's difficult to find games in which the main, positive game characters are female, games that can be played in collaboration with others rather than solitary games, open-ended games, and games with multiple possible outcomes which are features that appeal to girls (Wever-Rabehl, 2006). This is the basis for the argument that females don't strive as much when technology is utilized. It simply is not utilized in the classroom setting in instances that appeal to girls.

Salminen-Karlsson (2007) conducted an ethnographic study to research the use of single sex groups in interest in technological activities (Salminen-Karlsson, 2007). The aim of this

article was to show how the gendering of technology affects single-sex technology instruction, while pointing out the problems but also at the possibilities that arise. From these single-sexed groups, the boys achieved more of a traditional masculine socialization, while making it more difficult for girls to thrive. To create an equal playing field, the teacher is encouraged to help boys change their interaction patterns to more communicative, collaborative ones which are ways that females are said to succeed academically. This way there is an equal playing field. It is also suggested, in this article, that boys were more eager to work on technological tasks, while the girls were more fidgety. Girls focus more on the appearance, while boys focus more on the function (Salminen-Karlsson, 2007).

### **Socialization and Interpersonal Relationships**

The next area of focus is the use of technology and its appeal for genders in areas of socialization or interpersonal relationships. According to Admiral, Dam, Heemskerk, and Volman, girls seem to prefer games and educational tools facilitating cooperation to more competitive tools (Admiral, Dam, Heemskerk, and Volman, 2009). Sauntson's (2007) research of gender based differences with the use of technology agreed with this theory by stating that girls can be competitive and boys can be cooperative. Girls focus on collaboration and consensus within a group, whereas boys focus on collaboration to establish a hierarchy or status (Sauntson, 2007). As Mawson (2010) documents the study of a group of boys and girls over a six year period, girls appeared to be less secure with the use of technology because they have a more socially contextualized view of the world. Because of this, girls tend to focus on people and their personal relationships or feelings about the technology that's being used. This study was significant because instead of a snapshot of what took place within a short period of time, the same students were studied for a lengthier period (Mawson, 2010). Johnston and LaCaze

(2011) look at the negative side of socialization and the use of technology with recommendations of what is and is not appropriate. Gender is used to distinguish between how technology is utilized, but very little information is given about what can be done in an elementary classroom (Johnston & LaCaze, 2011). This text studies boys and girls in upper grades and more so how society can access these students through technology.

Luik (2011) recognizes that boys and girls have different preferences, habits and aptitudes in other areas of life, and decided to study the differences in the appeal of gender specific software. In this study, girls seem to prefer learning problems that require cooperation and communication and prefer to work cooperatively and interactively with the compute (Luik, 2011). Interestingly enough, in this study, it was determined that girls worked best in larger groups with computers, while boys benefited from working in smaller groups.

The findings from Kalin's (2012) study indicate a means to utilize technology to promote social learning in the classroom. Within this study, Kalin determines which technologies students use most often to collaborate and how they are used, as well as what value technology has with the learners (Kalin, 2012). This study doesn't distinguish gender as a primary division for the use of technology, but does promote the use of technology for students to collaborate when they are familiar with the instructional technology that is being utilized.

Conway (1997) helps define and give examples of the use of educational technology in the classroom, but does not use gender as a distinguishing factor. This text is useful when creating an environment that fosters collaboration using educational technology (Conway, 1997). In the context of this proposed study, if one knows the goals of both genders when using technology the learners interests can be utilized to drive instructions as thee students collaborate.

### **Marketing, Design, and the Lack of Equal Software Exposure**

The third area that will be addressed is the lack of equal software exposure to boys and girls because of design, marketing, or exposure to both genders. Wajcman (2000) believes that gender relations should figure into the construction of technology more so twelve years ago. As society has focused on appealing to other demographics with the design of software, the effort to appeal to females has been lost (Wajcman, 2000). Luik (2011) finds that boys prefer software with a challenge or competition, and most educational games provide this. Unfortunately, competition isn't the driving force behind female interest in technology which calls for more attention in design for developers (Luik, 2011).

According to Admiral, Dam, Heemskerk, and Volman (2009) the content and the interface of the educational tools should be attractive to both boys and girls. This text will be referred to in the next section more so in respects to students' motivation and attitudes. It's found that girls value an interesting subject more than boys and appreciate tools that are easy to work with and that include clear, step-by-step instructions and clear help functions. Boys, more than girls, appreciate pictures in the tool bars and the possibility to compete. When this is considered, the designers of the design of the product must be taken into account for if a teacher is attempting to appeal to a particular sex. It is presented that some authors argue that computers and software are predominantly male artifacts and that educational software is often unintentionally tailored to the interest of boys. The more inclusive tools, in contrast, might address both boys and girls, leading to optimal learning experiences for all students (Admiral, Dam, Heemskerk, & Volman, 2009).

Exposure is a concern with Mammes (2004) when considering differences with gender. Many females in this study had not done anything technological before the use of any instructional technology. Females should be exposed to technology as early as possible in order

to level out gender specific differences in technological interests. The result of this research study is that early encounter exposure to technology education at school leads to a higher level of technological interest of both girls and boys (Mammes, 2004). Even Sanders (2005) finds that lower experience in females promotes less positive attitudes, and the failure for them to persist in terms of educational technology (Sanders, 2005).

### **Attitudes and Interest**

The final area of discussion for this literature review will be the attitudes of both genders towards technology. Mammes (2004) finds that it should be able to encourage an interest in subjects that have not yet been experienced by the children. It is an important task for elementary schools to prepare real options for the later choice of education and lifestyle. Girls play significantly less often with technological toys and because of this; they have less of a relationship with technology which makes them less interested in using technology than boys (Mammes, 2004).

Brunzman, Gilmore, Lerch, and McCarthy (2010) speculate that girls simply approach technology differently. In their guide to gender bias issues in education, they state that many girls in adolescence go through changes which negatively affect self-image and future choices. As a result, girls often refrain from asking questions and sharing answers. Many girls feel inferior (Brunzman, Gilmore, Lerch, and McCarthy, 2010). This corresponds to the idea that females aren't initially interested in technology simply because they lack interest. If this is the case, they are surely to not accept the use of technology as readily as males.

Katz and Sokal (2008) find that boys have more positive attitudes toward computers than girls. This study focuses more so on technology as a tool to strengthen the reading ability of boys. Because of boys' increased interest in technology, the authors feel that technology would

be beneficial in improving their reading ability. Technology is said to be more beneficial, though, with decoding rather than meaning making skills and reading strategies. In the study conducted by Admiral, Dam, Heemskerk, and Volman (2009) they found gender differences in the attitudes of boys and girl towards educational tools and toward learning in relation to the inclusiveness of the tools. Girls working with the less inclusive tools were the least enthusiastic about the tools, compared to the other girls and to the boys. Moreover, girls worked more easily with the more inclusive tools. Girls who worked with the more inclusive tools reported that they learned more and showed more enthusiasm about what they learned compared to girls who worked with the less inclusive tools and to boys. In general, girls seemed to value more inclusive tools because of the feedback and support of self-esteem these tools provide (Admiral, Dam, Heemskerk, & Volman, 2009). It appears that if their interests are considered, girls have more positive outcomes when technology is being utilized.

Hamlen (2010) found that stereotypes and lack of opportunity leave girls feeling inadequate with certain types of technology. It is thought that girls' lack of interest in video games and other technologies may later hurt their chances of entering technology-related fields and their ability to utilize the technologies needed to complete tasks needed for particular careers and activities. Girls are using technology, but their primary uses for activities such as social networking and homework may not build their understanding of the technology or contribute to their spatial skills as much as boys' uses (Hamlen, 2010). Based on the results of this study and contributions from prior research, it is recommended that educators introduce technology-related activities that are highly motivating but concurrently utilize self-regulation strategies. This would encourage girls' interest in technology-related activities while assisting



both boys and girls in developing the control required for success in educational pursuits (Hamlen, 2010).

Airasian, Gay, and Mills (2009) were utilized in composing my definitions of terms. This resource was instrumental in gathering sound meanings to the terms utilized throughout this paper. Muir-Herzig (2004) assists with developing an understanding of how Constructivism applies to this study in the Theoretical Framework. Because Constructivism views learning as a personal, reflective, and transformative process where ideas, experiences, and points of view are processed into something new teachers are the facilitators for the students' learning rather than the instigators. Using technology as it applies (whether gender is used as a factor or not), the students work together, sharing the process of learning not only with their peers but with parents and others (Muir-Herzig, 2004).

### **Conclusion**

This review of literature focused on the areas of masculinity, socialization, design and exposure, and attitudes in terms of technology use in educational settings. Most of the related literature calls for further research to determine if gender is a considerable factor when implementing technological strategies. The text cited in this review indicates that females and males can benefit if the teacher chooses the instructional technology she uses with gender in mind in some cases. Pedagogical areas of teacher knowledge can expand if the teacher takes into consideration how or in which setting a particular instructional tool is used. The aspects mentioned in this study can be used to differentiate instruction as well as developing the sizes of groups where the tools are being used.

## **CHAPTER 3**

### **Methodology**

The purpose of this study is to determine how gender affects the use of technology in the elementary classroom. The teacher researcher will determine whether or not gender should be considered when planning to use instructional technology within lessons. In addition to this, this Practical Action Research (Airasian, Gay, Mills, 2009) will determine if students of different genders grasp content differently with the use of technology. This research design was selected because it will be conducted in real classroom settings by the people directly involved with the problem or situation being investigated (teachers). Findings from this study can be used to impact student achievement. As a result of doing this study, teachers can more efficiently plan more detailed lessons that may appeal to students' needs. Not only will teachers be able to address the learning styles of their students, they will also be able to make lessons more personal to boys and girls. The guiding research question for this study is: Should gender be taken into consideration when planning lessons using instructional technology for classrooms of third graders located in Northern Louisiana? This portion of my study presents the design of the study, including setting, participants, procedures, data collection, trustworthiness, data analysis, and the interpretation of plans.

### **Procedure**

Teachers will collaboratively design lesson plans that include instructional technology as a component of the lesson. After the lessons are planned, the teacher will document the skills being taught along with the GLEs and skills on the GLE Checklist so that they are keeping records of what's being taught on what dates to assist in monitoring student journals. During the lesson, teachers will observe the response of the students to the use of this technology. He or she

will pay attention of whether or not a particular gender seems to grasp a concept better with the use of technology. After each lesson, the teachers will allow the students to write in their Tech Journals. Each entry will include the date and the skill that was taught on that day before each entry.

The teacher researcher will observe each classroom weekly, to gather field notes and make their own observations of how the students are responding to the use of technology during these lessons. At the end of the school year, the teachers will submit the student Tech Journals so that the teacher researcher can code the results, and make generalizations regarding the submissions. Also the students will complete an exit questionnaire. Teacher interviews will be conducted at the end of the year to determine if the researcher's findings correlated with the observations of the teacher from the school year.

### **Sampling**

The sampling chosen for this study is purposive sampling. Although the results of this study may be applied to other elementary grade levels, the study will be conducted using third graders. The classes do not have equal representations of males and females which creates the need to pull our sample from the entire grade level. Using the subgroups of male and female, a table of random numbers will be used to select an equal number of students from each group. The desired sample size is 40 students (20 boys and 20 girls).

### **Setting**

The setting of this study is at a small elementary school in Northwestern Louisiana that serves approximately 625 students from Pre-Kindergarten to fifth grade. This school is one of 44

elementary schools within a district serving 42,610 students. The student body includes 97.6% African American, 2.2% white, and .2% Hispanics. The average class size at this particular campus is 22, however the gender proportions are uneven. This is why the study will be conducted amongst the entire third grade level.

Teachers on this campus are encouraged to sit their students in groups conducive to cooperative learning. Each third grade classroom has at least 22 desks, Smart Board, mounted projector, Elmo Document Camera, storage, at least 6 student computers, a teacher laptop, and other materials. There are 1 or 2 teacher tables per room in addition to 4 windows along the outer wall of each classroom. The walls of each room are decorated creatively based on the teacher's discretion. Each class is self-contained, but the teachers share lesson plans and rotate the responsibility of planning a subject each week.

### **Participants**

This study will be carried out while observing four third grade classrooms with approximately eighty-eight students total. 20 boys and twenty girls will be selected to gather the necessary data. Other participants include the 4 third grade teachers that will be given their opinions about the students' responses to technology use. Instead of using names, the students will be given student numbers that include -1 behind them for girls, and -2 behind them for boys. For example, a survey or questionnaire for a girl would be labeled 15-1.

### **Instrumentation**

Table 1. Data Focus and Collection

Weekly Data Focus	Data Collected
Teacher Interviews	Answers to open ended interview questions
Tech Journal Entries	Student written response(s) to lessons that include large components of technology
Observations and Field Notes	Audiotape, written notes
GLE Checklist	Documentation of GLEs addressed in lessons

Each week during the study, teacher interviews, observations/field notes, student tech journals, and GLE checklists will be used as the focus for data collection. The study will be conducted over the course of two nine week grading periods which equals one semester.

### **Timeline of Data Collection**

The overall timeline for data collection is portrayed in Table 2. The student tech journals, observations/field notes, GLE Checklists, and teacher interviews will be investigated weekly. Each teacher will be interviewed 20 times, once a week and at the beginning and end of the study. Teachers will be interviewed on campus beginning of the study and asked to meet the researcher at a time convenient to them for the once a week interview so their schedule will not be compromised.

Table 2. Timeline of Data Collection

Data	Daily	Three Times Weekly	Weekly	Beginning and End of Study
Observations/ Field Notes			X	
Tech Journal				X
Teacher Interviews			X	X
GLE Checklists			X	X

This timeline will allow the teacher researcher to concentrate on the details of classroom activity, capture rich descriptions of the events taking place, and gain an insider perspective. Descriptions of the data collected in the observations/field notes, teacher as researcher journal, student and parent interviews, and the written responses to the phonics study of the lesson is given in the instrumentation portion of this proposal.

### **Observations/Field Notes**

Observations will be conducted so that the researcher can observe an accurate account of how the students react during the use of technology within the school day. During the observations, the teacher researcher will collect field notes that will be instrumental in determining if there is a significant difference in gender responses to technology.

### **Teacher Interviews**

Because observations alone will not give a clear picture of what's going on with the students, teacher interviews will be necessary to give a response as to whether or not they could

see a difference often they used a form of technology to teach his or her students. In order to gauge the situations from the teacher's point of view, interviews will be conducted.

So that the students' opinions and feelings are considered a very brief questionnaire will be provided with one open ended "feeling" question. With this questionnaire the students will be able to give their opinion, after a lesson, of how the use of technology has assisted them with learning a concept.

### **Tech Journal**

After lessons that have included an element of instructional technology, the teacher will allow students to write in their Tech Journals about what they learned. They will be prompted to give comments on what they liked, disliked, and what from the lesson can be used to help them remember the concept that was being taught.

Table 3. Sample Tech Journal Entry

Student #
Date:
Skill:
Today I learned...

### **GLE Checklist**

In order to document the GLE's that are being taught and the type of technology that's used to assist in this instruction, the following checklist will be used. Researchers can use this in order to determine which types of instructional technology were beneficial for teaching a specific GLE after all of the data is collected.

Table 4. Sample GLE Checklist

<b>GLE Checklist</b>			
<b>Subject</b>	<b>Date</b>	<b>GLE</b>	<b>Content</b>

### **Trustworthiness**

The trustworthiness of the study considers of this study considers credibility, transferability, dependability, and confirmability.

### **Validity**

In this study, member checking, low inference descriptors, and seeking out negative cases were used in attempt to validate my information.

### **Credibility**

Credibility of this study will be measured by ensuring that the study's time period covers an entire school year. This prolonged participation period credibility of this study will allow the



teacher researcher an opportunity to test biases and the perceptions of the participants (Airasian et al., 2009).

### **Transferability**

Within this study, detailed, descriptive data will be collected. Also there will be detailed descriptions of the context of this study so that the results may be adapted and adjusted so they can be interpreted by educators of other grade levels to assist in their teaching (Airasian et al., 2009).

### **Dependability**

The dependability of this study will be established by creating an “audit trail” by overlapping various data collection methods (Airasian et al., 2009).

### **Triangulation of Data**

Triangulation will also be utilized by providing the multiple data sources so that a more complete picture is created along with giving the researcher an opportunity to cross-check the information that is submitted or gathered (Airasian, Gay, Mills, 2009).

### **Data Analysis**

The Constant Comparison Method will be used in analyzing the data. Through this method, we used coding in our data to help find patterns, and we would analyze the information and search for themes as the data became available. Using this procedure will help to process information in a clear and organized manner.

**Conclusion**

This chapter explained the design of the study. Information was provided about the teacher as researcher design, procedures, setting and participants, data collection, and data analysis. If the study is facilitated in the manner proposed, substantial data can be gathered that should be extremely beneficial to the planning process of elementary teachers.

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