



2014

VIRTUAL COACHING IN GUATEMALA: CAN IT BE EFFECTIVE FOR CHANGING TARGETED TEACHER BEHAVIORS?

Ruby Owiny

University of Kentucky, rowiny@tiu.edu

Recommended Citation

Owiny, Ruby, "VIRTUAL COACHING IN GUATEMALA: CAN IT BE EFFECTIVE FOR CHANGING TARGETED TEACHER BEHAVIORS?" (2014). *Theses and Dissertations--Early Childhood, Special Education, and Rehabilitation Counseling*. Paper 5.
http://uknowledge.uky.edu/edsrc_etds/5

This Doctoral Dissertation is brought to you for free and open access by the Early Childhood, Special Education, and Rehabilitation Counseling at UKnowledge. It has been accepted for inclusion in Theses and Dissertations--Early Childhood, Special Education, and Rehabilitation Counseling by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.

STUDENT AGREEMENT:

I represent that my thesis or dissertation and abstract are my original work. Proper attribution has been given to all outside sources. I understand that I am solely responsible for obtaining any needed copyright permissions. I have obtained and attached hereto needed written permission statement(s) from the owner(s) of each third-party copyrighted matter to be included in my work, allowing electronic distribution (if such use is not permitted by the fair use doctrine).

I hereby grant to The University of Kentucky and its agents the irrevocable, non-exclusive, and royalty-free license to archive and make accessible my work in whole or in part in all forms of media, now or hereafter known. I agree that the document mentioned above may be made available immediately for worldwide access unless a preapproved embargo applies. I retain all other ownership rights to the copyright of my work. I also retain the right to use in future works (such as articles or books) all or part of my work. I understand that I am free to register the copyright to my work.

REVIEW, APPROVAL AND ACCEPTANCE

The document mentioned above has been reviewed and accepted by the student's advisor, on behalf of the advisory committee, and by the Director of Graduate Studies (DGS), on behalf of the program; we verify that this is the final, approved version of the student's dissertation including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Ruby Owiny, Student

Dr. Belva Collins, Major Professor

Dr. Ralph Crystal, Director of Graduate Studies

VIRTUAL COACHING IN GUATEMALA: CAN IT BE EFFECTIVE FOR
CHANGING TARGETED TEACHER BEHAVIORS?

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Education
at the University of Kentucky

By
Ruby Lynn Owiny

Lexington, KY

Co-Directors: Dr. Belva Collins, Professor of Special Education
and Dr. Jennifer-Grisham-Brown, Professor of Special Education

Lexington, KY

2014

Copyright© Ruby Lynn Owiny 2014

ABSTRACT OF DISSERTATION

VIRTUAL COACHING IN GUATEMALA: CAN IT BE EFFECTIVE FOR CHANGING TARGETED TEACHER BEHAVIORS?

The education system in Guatemala struggles to meet the needs of students with disabilities. There are often not enough trained special educators to meet the demand. In addition, general educators are often not trained to adequately meet diverse needs in their classrooms. Thus, schools are often unable to fully meet the needs of students with disabilities. This study sought to identify a method by which teachers could be virtually trained on a teacher behavior (i.e., specific praise) that could help meet diverse student needs. A multiple probe design across participants was used to determine if virtual training could be effective in training teachers to use new teacher behaviors. The results of the study are discussed, along with implications for future research.

KEYWORDS: coaching, technology, praise, behavior change, Guatemala

Ruby Lynn Owiny
Student's Signature

February 4, 2014
Date

VIRTUAL COACHING IN GUATEMALA: CAN IT BE EFFECTIVE FOR
CHANGING TARGETED TEACHER BEHAVIORS?

By

Ruby Lynn Owiny

Dr. Belva Collins

Co-Director of Dissertation

Dr. Jennifer Grisham-Brown

Co-Director of Dissertation

Dr. Ralph Crystal

Director of Graduate Studies

February 4, 2014

DEDICATION

This dissertation is dedicated to the memory of my father, Eldon Sutton Edwards, who always believed in me. A poor, rural farm boy from northwestern PA secretly thought my dreams were unattainable; he let me dream anyway.

It is also dedicated to my beloved husband, David Owiny, who always cheered for me and believed in my ability to succeed. He sacrificed so I could attain this milestone. Words cannot express the gratitude in my heart for his love and support.

ACKNOWLEDGEMENTS

The following dissertation, while an independent project, benefitted from the expertise of many individuals without whom this final product could not exist. Dr. Belva Collins, my co-chairperson provided invaluable expertise in distance education technology. It was through conversations with her that the idea of conducting research related to virtual coaching came into existence. Dr. Jennifer Grisham-Brown, my co-chairperson, first offered the opportunity to conduct research in Guatemala. Her partnerships in Guatemala allowed this research to take place. Her knowledge of Guatemalan culture and available resources was invaluable for working cross-culturally. I wish to thank the rest of my committee whose contributions increased my learning and improved the quality of this project: Dr. Robert McKenzie whose knowledge of the field of learning disabilities is commendable and Dr. Sharon Brennan who inspired the idea of mentoring and coaching, in the first place. I thank Dr. Justin Bathon for his expertise and willingness to serve as my outside reviewer.

I would be remiss if I did not mention the invaluable assistance of the team in Guatemala. Thank you, Kenneth Sese, for taking time from your regular duties to assist with this project. Emily Kauffmann, Caroline Rogers, and Bethany Heinz, whose willingness to assist participants with coaching sessions, video recording, burning videos to DVDs, and mailing them to me allowed me to successfully complete this research. Without their support, this research would not have gone as smoothly. I must thank Allie Rhodes with whom I've traveled the road of higher education through our bachelor's degrees, master's degrees, and doctoral degrees. Her extensive knowledge of Excel and her willingness to share that expertise allowed me to successfully create the graphs found

within this dissertation. Dr. LeAnna Wilson, whose doctoral path parallels mine, kept me motivated and held me accountable for getting this project completed. Lisa Walerczak, who always believed in me and cheered me on, her friendship helped to keep me focused and pushed me to produce quality work. Finally, Kim King, whose steadfast friendship and support helped give me the boost I needed to continue when I wanted to give up.

In conclusion, the ones who deserve the highest accolades have been saved for last. This doctoral degree has truly been a family effort. My husband, David Owiny, has been my biggest cheerleader and supporter. Thank you to my mom, Donna Edwards, who spent endless hours babysitting my children when I could not be home. My children, Adeline, Emma, and Matthias, inspire me daily. My family has sacrificed more than anyone will ever know. I love you dearly! Finally, to the God who made it all possible. To Him be all the glory!

TABLE OF CONTENTS

Acknowledgements	iii
List of Tables.....	vii
List of Figures	vii
Chapter One: Introduction and Literature Review	1
Brief History of Guatemala	1
Education.....	2
Special Education.....	2
Inclusion	4
Effective Teaching Behaviors	6
Pilot Study Results	7
Opportunities to Respond	8
Praise	8
Circulating around the Room.....	9
Coaching and Training.....	10
Technology	12
Research Questions.....	15
Chapter Two: Method.....	21
Target Behaviors.....	21
Participants	22
Researcher.....	22
Translator	22
Reliability Data Collector	22
Procedural Reliability Collector.....	23
Teachers	23
Technology	24
Technology Training.....	25
Setting	25
Materials.....	26
Training Materials	26
Coaching Materials.....	29
Data Collection Procedures	29
Baseline.....	29
Intervention	30
Maintenance	30
Generalization	31
Data Collection Sheet	31
Instructional Procedures.....	31
Video Training	31
Coaching	32

Social Validity	33
Experimental Design.....	34
Reliability	35
Interobserver Agreement	35
Procedural Reliability	36
Data Analysis.....	37
Chapter Three: Results	38
Study Changes	38
Virtual Coaching: Research Question 1	40
Implementation of the Targeted Teacher Behavior: Research Question 2.....	46
Virtual Coaching: Research Question 3	46
Social Validity: Research Question 4	47
Chapter Four: Discussion	50
Challenges Addressed	56
Limitations.....	61
Future Research	61
Conclusion.....	62
Appendices.....	64
Appendix A: Cue Cards: Opportunities to Respond, Praise, Circulating Around the Room	64
Appendix B: Coaching Protocol.....	68
Appendix C: Data Collection Sheet.....	70
Appendix D: Social Validity Survey	75
References.....	77
Vita	80

LIST OF TABLES

Table 2.1 Changes from Proposed Method	í í í í í í í í í í í í í í í í ...í	21
Table 3.1 Baseline Mean and Intervention Mean	í í í í í í í í í í í í í í í í ..	42
Table 3.2 Social Validity Survey Results	í í í í í í í í í í í í í í í í í í í ..	48

LIST OF FIGURES

Figure 3.1 Group 1: Percentage of Intervals in which Specific Praise Occurred í í í ..42

Figure 3.2 Group 2: Percentage of Intervals in which Specific Praise Occurred í í í ..43

Chapter One

Introduction and Literature Review

Brief History of Guatemala

Guatemala's recent history is replete with civil war and strife. Multiple military regimes have led the country, exacerbating problems of poverty, inequality, and injustice among indigenous Maya. The 1944 October Revolution led to the first democratic election in 1945. These events seemed to be the turning point for creating a democratic Guatemala that would be sympathetic to the Maya (Schlessinger & Kinzer, 2005, p. 33). Unfortunately, this new democracy did not last long. In less than a decade, the United States felt it had sufficient evidence to suggest that the new democratic leadership was communist. Thus, the U.S. led an operation to end the presidency of democratic president, Jacobo Arbenz (Schlessinger & Kinzer, p. 170). This invasion by the United States resulted in the end of democracy and created an atmosphere of instability for decades. Poppema (2009) noted that the civil war, resulting from the U.S. invasion, was the longest and bloodiest civil war in a Latin American country in the 20th century, resulting in the annihilation of thousands of Maya. Not until the Peace Accords in 1996 did the ideas of equality and justice for the Maya enter the public arena again (Grandin, 2004, p. xiv). Despite the ratification of the Peace Accords, Guatemala continues to struggle with issues of equality and justice for all its peoples (Manz, 2005, p. 3).

As a result of its history, becoming a developed country remains a challenge for Guatemala. The United Nations Children's Fund (UNICEF, 2008) estimated that more than 50% of Guatemalans live in poverty, with approximately 17% living in extreme poverty. Conditions in rural Guatemala and among indigenous Maya are considered to be

worse than in other areas or with other groups of people. Of those living in poverty, it is estimated that 50% of children under the age of 18 are in this category. This percentage increases to nearly 80% among children in rural areas or from indigenous groups. The lack of adequate healthcare and nutrition assists in creating further deteriorated conditions for children and challenging efforts to become a developed nation.

Education

With Guatemala's tumultuous history, high rates of poverty, inadequate healthcare, and poor nutrition plaguing the nation, it is no surprise that the education system suffers as well. While the 1996 Peace Accords include provisions for creating high quality opportunities to access education for all students in a non-discriminatory and inclusive fashion (Poppema, 2009), it is estimated that only 60% of students who start first grade complete sixth grade. Of those who complete sixth grade, only 39% complete it at the appropriate age (UNICEF, 2008). UNICEF has suggested that high rates of child labor contribute to this problem. Children who are indigenous or live in rural areas are often required to work to meet the needs of the household; thus, regular school attendance is interrupted. In addition to poor attendance rates, the education system is further plagued by a shortage of trained teachers, inadequate buildings and materials, and inadequate access to school due to the long distances students sometimes have to travel (Coleman, Duy, Freeland, Kane-West, & McCloskey, 2004).

Special Education

As can be expected, with a country wrestling with humanitarian issues, such as poverty, healthcare, poor nutrition, and access to school for all children, servicing children with disabilities is not yet adequately addressed, even though this was a

provision in the Peace Accords over a decade ago. While in 1998, the government addressed the immediate necessity to develop special education programs (Rodríguez, Espinosa de Gaítan, & Luterbach, 2008), limited literature in English is available to verify the existence of special education programs in Guatemala's public schools. It is also difficult to find research being conducted related to the quality of available programs.

The Guatemalan government made a point of specifically stating that children with disabilities have the fundamental right to education in their legislative framework on education in the Special Education Act for persons with special capacities (Amadio, 2009). In fact, the Guatemalan Ministry of Education articulated concern for children with special needs in 2001 by reissuing statements noting the need for equal access to public school for children with disabilities and the need for schools to provide services (Rodríguez et al., 2008). The Guatemalan government passed legislation in 2001 to define learning disabilities, similar to the United States' definition in the Individuals with Disabilities Education Act (IDEA; Jiménez & García de la Cadena, 2007). Despite this legislation, it is estimated that only 56.14% of students with disabilities are being serviced in either public or private schools. To put this into perspective, of the population of school age children diagnosed with disabilities, up to 95% of these children are not being educated in a school setting (Rodríguez et al., 2008). This does not include the number of children who may have disabilities but are not diagnosed. The Mayan Hope Special Education School reports on its website that only about 10% of children with disabilities are enrolled in school, while very few programs exist for secondary students (Mayan Hope, n.d.). The Latin American region, as a whole, has recognized the challenge faced in providing quality education for all students, even though governments have articulated

the goal for inclusive education for students with disabilities (Amadio). Thus, the problem of providing quality education to students with disabilities is not isolated in Guatemala, but is a regional issue being addressed across settings. Amadio stated, however, that one problem in Guatemala, in particular, is the apparent absence of clearly stated policies related to inclusive education.

The Guatemalan Ministry of Education reported that, in 2006, 123,486 teachers were employed nationwide by the public school system. Of the public school teachers, 165 were special education teachers (Rodriguez et al., 2008). In other words, less than 1% of the nation's teachers are certified in special education; thus, a two-fold problem exists for meeting the needs of children with disabilities in Guatemala. First, not all children with disabilities have access to school. Second, there are not enough trained teachers to meet the educational needs of children with disabilities in the public school system.

Inclusion

USAID has defined inclusive education as provision of equal access to educational services and placement in grade levels by chronological age. The definition further explains the advantage for children without disabilities to understand them and learn how to interact with those who have disabilities in order to counteract the cultural stigma. Children with disabilities can learn from the models children without disabilities provide as well. The difficulty lies in the slow nature of development and implementation of programs in public schools for children with disabilities. With such a low percentage of special education teachers in the country, it is difficult to provide inclusive settings for students due to the lack of training general education teachers have in special education.

In fact, Vaillant (2011) noted that only 64% of primary school teachers in Guatemala are adequately prepared to teach in the primary classroom, not to mention the lack of preparation for addressing the diverse needs of students. Vaillant further contended that teachers require training in skills for successful inclusion at the pre-service level rather than specific special education training.

A search on the Internet revealed several private organizations that are providing services to students with disabilities; however, limited literature was found on widespread services being provided in the public schools. òMayan Hopeö lists on its website that, due to their work in òone of the poorest and most isolated areas of Guatemala,ö they are the only school servicing students with learning disabilities and physical disabilities in the region, thus providing further evidence of the lack of public school services for students with disabilities in the country. Couch, Goetz, and Baud (1991) stated that special education was started in the private sector and charitable organizations, but, as the government becomes more involved, the responsibility is being shared among the government and these private entities. One example of the government working toward improved services for students with disabilities is the Ministry of Education's request that universities work to develop programs to train special education teachers (Rodriquez et al., 2008). Rodriquez et al. identified three universities in Guatemala that had special education programs as of 2008, with one of those universities providing specialization in learning disabilities, special education, and auditory disabilities.

While training more special education teachers for meeting the needs of students with disabilities is vital, training for general education teachers to meet the needs of students with disabilities in their classroom is a necessity as well. Even with larger

numbers of special education teachers, it is highly likely that general education teachers will have students with disabilities in their classrooms for all or part of the school day. It is imperative that teachers know how to plan instruction to meet the needs of all students in their classrooms, including those with disabilities. Vaillant (2011) contended that training for inclusive education should start at the pre-service level and move into the arena of professional development for in-service teachers. Vaillant added that professional development must be relevant to the settings in which teachers work and follow-up monitoring must be included for teachers at the classroom-level in order for appropriate fluency in the use of new skills to be developed. Unfortunately, students with disabilities have been placed in general education schools but without structural or curricular changes or changes in school culture or teacher pedagogy (Vaillant).

Effective Teaching Behaviors

Brophy and Good (1986) reviewed the literature on the effects of teacher behaviors on student achievement. Their reviews revealed multiple teacher behaviors that maximize student achievement. These include, but are not limited to, (a) the quantity of concepts taught in one lesson, (b) pacing of instruction, (c) opportunity to learn (i.e., amount of concepts covered, length of school day, length of school year), (d) emphasized academic instruction, time allocation, (e) classroom management, (f) student engaged time, and (g) academic learning time. In addition, Rosenshine and Stevens (1986) examined several studies of general education classrooms to identify the teaching behaviors (called teaching functions by these authors) that increase achievement. For example, they found aspects of instruction (i.e., daily review, presentation, guided practice, corrections, feedback, independent practice, and weekly/monthly reviews) and

aspects of clear presentations (i.e., clear goals and main points, step-by-step presentations, specific and concrete procedures, and checking for understanding) to directly influence student achievement. The use of effective teaching behaviors creates classrooms with high levels of learning; thus, it is the researcher's view that training in these behaviors forms a foundation from which effective classrooms can be established for increased achievement for all students, including those with disabilities. Training general education teachers in these behaviors can build a foundation for improved inclusive classrooms.

Pilot Study Results

The researcher chose 21 of the effective teacher behaviors identified by Brophy and Good (1986) and Rosenshine and Stevens (1986) to include on a survey as part of an exploratory study to teachers in Guatemala City. Three schools in Guatemala City participated in this study. Data from two schools included only general education teachers while a third school's data included only special education teachers. The survey sought to identify which behaviors teachers valued highly and used frequently. Examples of behaviors listed on the survey included (a) modeling correct responses, (b) providing opportunities to respond, (c) using student performance to guide instruction, (d) posting classroom rules, and (e) having established consequences. Seventy-five percent or fewer of teachers rated 11 of these behaviors as very important. Further, the researcher conducted classroom observations using a teacher performance measure (TPM) developed by Stenhoff, Davey, Slocum, Lignugaris/Kraft, and Salzberg (2004). Nineteen of the identified teacher behaviors on the survey are part of the TPM observation instrument. The final two behaviors on the survey are included in the TPM interview protocol. The TPM is meant to include both a classroom observation and a post-

observation interview with the classroom teacher. Due to time constraints, the exploratory study did not include interviews with teachers who were observed. The TPM also cites research to operationally define the behaviors. The results of the study indicated that, overall, many of the identified effective teacher behaviors were not implemented at high rates of frequency or with high levels of accuracy; nor were they rated as highly important or reported to be used with high rates of frequency. In many cases, classroom observations confirmed survey responses as described in the following section.

Opportunities to respond. Rosenshine and Stevens (1986) found that effective instruction includes high rates of questioning to which students are expected to respond at high frequencies. High rates of opportunities to respond can be accomplished through choral responding in which all students respond together, either verbally or in written form, to the same question or through individual responding. Stenhoff et al. (2004) defined an opportunity to respond as each occasion in which a teacher poses an academic question or somehow prompts students to respond in an academic manner. An appropriate amount of opportunities to respond is four or more opportunities per minute, according to the TPM. The results of classroom observations during the exploratory study indicated a rate of 1.6 opportunities to respond per minute. Only 62% of teachers rated this behavior as highly important on the survey while 54% of teachers reported providing frequent opportunities to respond.

Praise. Brophy and Good (1986) noted that the quality of praise is more important than quantity. Data from the exploratory study indicated that teachers in the study used praise infrequently and with poor quality. Consistent with Brophy and Good's definition, the TPM defines praise as (a) contingent (delivered following a correct

response, academically or behaviorally), (b) specific to behavior (descriptive ó state exactly what is acceptable about the response or behavior), (c) varied (provided both for academic and behavioral responding), (d) non-disruptive (does not interfere with the student's performance of expected behavior or produce an undesired behavior), (e) given with sincerity (evidenced by tone of voice and context in which praise is given), and (f) appropriately distributed (across most students). In the classrooms observed, the average rate of praise was 1.2 praise statements per minute. The survey showed only 66% of teachers rating the use of frequent praise as important and 57% of teachers rated the use of frequent praise. According to the TPM, an appropriate rate of providing praise is four or more praise statements per minute.

Circulating around the room. Rosenshine and Stevens (1986) described the importance of monitoring students during seatwork by circulating among students to provide feedback and ask questions. Stenhoff et al. (2004) defined the behavior "active monitoring during independent practice" as actively monitoring students by directly contacting students and monitoring their performance during independent practice while emphasizing that most students should be contacted throughout the course of independent practice. The highest score (3) on the TPM is earned when the teacher actively monitors 100% of students with a rate of contact with two or more students per min. Teacher reports on the survey showed only 74% of teachers valued circulating around the room while 75% of them reported using this behavior frequently. The data from classroom observations during the exploratory study indicated that teachers do not often circulate around the room during active instruction or during independent practice. In fact, during whole group instruction, the majority of teachers stood in one place in front of the room,

except in the case of small class sizes; in those cases, teachers sat at a desk with students sitting in desks around them.

Coaching and Training

Coaching has become a more widely used professional activity, especially when coupled with more traditional trainings. Coaching has become one method for closing the gap between professional development trainings and classroom practice. Isolated professional development trainings with no follow up services are less effective than professional development coupled with some type of follow up. Guskey and Yoon (2009) conducted a synthesis of professional development research and found that trainings coupled with follow up were more effective than trainings alone. Coaching has been found to serve as an effective means for providing follow up services. Denton and Hasbrouck (2009) stated that matching the needs of teachers to trainings plus on-the-job coaching can provide teachers with the more effective professional training than training alone. Coaches then become the bridge between newly formed knowledge gained in training and proficient practice. There are several types of coaches, depending on the needs of the schools and individual teachers. Technical coaching is one type (Denton & Hasbrouck, 2009), which provides support to help teachers improve their skill-sets and help to ensure accuracy in using those new skills.

Coaching is a complex skill that requires careful thought and planning. Knight (2011) recommended that coaches approach the coaching relationship as a partnership for collaboration. Coaches must be careful not to take an approach that isolates them from the teachers for whom they are coaching by taking a top-down approach. Knight offered seven principles for building a coaching partnership: (a) equality, (b) choice, (c) voice,

(d) reflection, (e) dialogue, (f) praxis, and (g) reciprocity (p. 18-21). Equality refers to communicating respect to the teacher and ensuring the sharing of ideas and decision-making. It is important for the coach to allow teachers to make choices for what works best in their classrooms. While coaches will make suggestions for improvements, teachers should be the final decision-makers in which suggestions are implemented in their classrooms. Coaches should build a relationship with teachers, which is open and candid to allow teachers to openly share their enthusiasm and concern and to allow teachers to have a voice in the coaching relationship. Reflection allows teachers to examine their classroom practices and better learn about ways to improve. Coaches who allow reflection further create a collaborative relationship, which is more likely to be effective. Coaches are encouraged to allow for discussion rather than lecture with teachers whom they coach. In the course of discussion, the teacher may come up with an idea that is better suited to meeting the classroom needs than what the coach would suggest; coaches should be open to this type of idea sharing. Coaches must allow teachers to apply new knowledge and skills by allowing them to make the decisions on how this new knowledge will be applied in the classroom, which will allow praxis to become a part of the coaching relationship. Finally, the coach should have the philosophy that everyone is a learner *and* a teacher and allow for the ebb and flow of ideas during coaching sessions. The coach should also serve as an encouragement and guide for teachers to try new skills in their classrooms.

Shidler (2009) studied the coaching time necessary for developing teacher efficacy. Findings indicated that a focused approach to coaching was most effective versus a specific amount of time. Modeling techniques and instructional practices,

observing the teacher, and consulting with the teacher when students are not present were all effective activities in which coaches engaged and experienced increased efficacy in the teachers they coached.

Traditionally, coaching occurs with the coach positioning himself or herself physically in the teacher's classroom; however, technology has made it easier to coach virtually, reducing costs related to time and travel. Rock, Zigmond, Gregg, and Gable (2011) described a case study in which bug-in-ear (BIE) technology was used to coach a teacher remotely. Coaching occurred in much the same way as face-to-face coaching via the use of a webcam and BIE headsets. The virtual coach, like the face-to-face coach is a supportive companion who inspires and builds up teachers (Rock et al., p. 44). These authors suggested four skills for virtual coaches to develop: (a) learn when to be explicit with directions and when to allow a teacher to determine independently on what changes should be made, (b) set and evaluate goals together, (c) personalize feedback, and (d) stay positive (p. 45-46). The researchers in this study conducted 10 virtual coaching sessions across 5 weeks. Each session lasted between 30-60 minutes. The focus of coaching was to improve the teacher's instructional effectiveness for teaching writing. Results indicated that the teacher's effectiveness improved as a result of virtual coaching, and students' achievement in the writing objectives increased.

Technology

Distance education technologies can serve as a means for supporting pre-service teachers in their fieldwork experiences and in their first years of teaching. Mentoring can serve as a powerful tool in helping both pre-service and in-service teachers gain skills for improved teaching. Kretlow and Bartholomew (2010) cited several works in which

teachers implemented teaching strategies with higher fidelity when receiving coaching from an expert, such as a university supervisor or highly skilled colleague. In addition, mentoring can help bridge the gap between what teachers learn in professional development and implementation in their classrooms.

Dempsey, Arthur-Kelly, and Carty (2009) described technologies available for online mentoring. The simplest form of online mentoring is e-mail communication in which the mentor and mentee send messages back and forth to one another. Other modes of online mentoring include threaded forums, chat rooms, or components of course management systems, such as Blackboard. In addition, video-based online communication, such as Skype™ (a free Internet-based telephone system), allows for face-to-face meetings with the mentor and mentee participating from separate locations. As with distance education courses, mentoring can occur synchronously or asynchronously. Also, mentoring formats can occur in one-on-one situations or in small groups.

Many technology options exist for distance education courses and mentoring, whether this includes pre-service teachers in field placements (supervision) or for in-service teachers to have the support they need to be successful. Billingsley, Israel, and Smith (2011) described online resources and Web 2.0 technologies that are available for supporting pre-service and in-service teachers. Four Web 2.0 tools lend themselves to virtual coaching or supervision. Web conferencing via Skype™ or iChat, for example, provides opportunities for university supervisors or mentors to virtually observe teachers. Virtual wireless headphones allow for supervisors and mentors to provide immediate

feedback to their supervisees and mentees. Finally, online communities of practice (CoP) allow for teachers to engage in discussion boards to address issues related to their jobs.

In a study using BIE technology, Rock et al. (2009) used the Internet to deliver feedback from a remote location. In this case, the supervisor used Skype™, a webcam, and earpieces. The supervisor observed the pre-service teacher via Skype™ with the webcam and provided feedback through an earpiece worn by both the supervisor and pre-service teacher. In this study, the supervisor used the video recording feature of Skype™ for later data collection and analysis. In addition, Scheeler, McKinnon, and Stout (2012) expanded upon previous research in using Skype™ loaded on a camera-ready laptop with a Bluetooth™ earpiece. For this study, the researchers did not capture video recordings. They used the webcam for observation of the pre-service teacher only; unlike the Rock et al. study, no students were in sight of the webcam. As in previous studies, Scheeler et al. (2012) used Skype™ with the webcam and earpiece to provide feedback to pre-service teachers from a remote location. In all BIE studies, supervisors provided immediate feedback to teachers, which allows for more immediate acquisition of skills because time between observations and feedback is minimized. These studies identified positive outcomes for mentoring teachers using BIE technology. In addition, each study identified a functional relationship between the independent variable (i.e., coaching in a particular teaching behavior) and the varied dependent variables (e.g., rate and delivery of learn units/TTC trials, changes in classroom climate, correct responding). Falconer and Lignugaris-Kraft (2002) analyzed the use of two-way conferencing technology for remote supervision of pre-service teachers. In this study, supervisors observed pre-service teachers delivering instruction using Direct Instruction methodology. Results indicated

positive results for the use of technology for virtual supervision. The qualitative data showed benefits for coaching specific skills in which teachers needed further training and the ability to communicate more frequently with teachers because the challenges related to distance were overcome.

Koch (2007) described online training for rural special education teachers in social skills training. Koch provided this training for special educators who were completing their teaching credential. The training used online technology (platform used was unspecified) for classes with some teachers accessing the class in real-time and others accessing the class asynchronously via course archives. The course technology package included e-mail and chat as a means for students to ask the instructor questions and, in the case of chat rooms, for students to see each other's questions and subsequent responses to learn from each other. The training also used videos via online streaming, virtual office houses, and supervision using webcams.

Research Questions

The researcher conducted an exploratory study to evaluate the effective teaching behaviors teachers in Guatemala used in their classrooms to help students achieve at high levels. The use of effective teaching behaviors can serve as a foundation for creating effective inclusion classrooms, as they are beneficial to all students in all types of classrooms. The teacher behaviors identified by Rosenshine and Stevens (1986) and Brophy and Good (1986) can serve as that foundation. These authors' research included reviews of multiple classrooms in which teachers used these behaviors and students experienced high levels of achievement. Stenhoff et al (2004) based their TPM on several of these behaviors while also citing multiple other studies with similar results. The use of

these behaviors by classroom teachers strengthens instruction and builds a foundation from which other strategies can be developed for meeting student needs.

Thus, the purpose of the exploratory study was to identify areas for further research and training to build a foundation for inclusion based on the teaching behaviors, which can increase student achievement when implemented properly and at higher rates. As Vaillant (2011) pointed out, teachers in Guatemala are inadequately trained for effective teaching in inclusion settings. Considering teachers' needs as identified through data collected during the exploratory study, this study sought to identify an effective method for supporting Guatemalan teachers in creating classrooms conducive to high levels of achievement for all students by training teachers in research-based, targeted teacher behaviors, as included in the survey and in classroom observations during the exploratory study. Helping teachers to develop a foundation for supporting instruction through training in effective teacher behaviors will help build stronger instruction leading to improved student outcomes.

The exploratory study served as a basis for informing further research to meet the training needs of Guatemala's teachers in several ways. Guatemala is a country in need of support for students with special needs as the infrastructure for special education is at the beginning stages in the education system. Vaillant (2011) stated the need for appropriate special education training in pre-service programs while also providing in-service training for teachers; yet, this important facet of the infrastructure has not been adequately addressed and students with disabilities have been placed in general education settings without structural or curricular changes in school culture or pedagogy (Vaillant, 2011). This is evident in the results of the exploratory study. The survey and classroom

observations indicated that teachers do not regularly use teacher behaviors that are effective for achievement at higher levels for all students. The data from the exploratory study indicates that teachers do not always value or demonstrate the identified teaching behaviors that will help all students to be successful in the classroom. Eleven teacher behaviors were rated as important by fewer than 75% of teachers on the survey. Not only did teachers rate these behaviors as not very important, classroom observations confirmed these behaviors also are used infrequently. For example, providing opportunities to respond and giving praise were observed at rates 75% below what is considered to be acceptable, based on TPM requirements. Modeling correct responses and circulating around the room were observed at even lower rates than what is considered to be acceptable, according to the TPM.

There is no evidence of a support system in Guatemala to train teachers in these behaviors. Training with on-going coaching may be a method for helping teachers to develop skills to implement the teacher behaviors. Technology is an option for providing coaching in situations in which there is distance between the coach and the participant. The current study sought to identify whether training via a technology package would be effective in helping teachers learn how to implement targeted teacher behaviors at higher rates. A technology package was used to examine whether these are effective technologies for delivering training and coaching to support the development of teacher behaviors. Originally, the researcher chose to use iPads for this study due to their versatility, however funding constraints did not permit iPads to be used. Those using this device (i.e., iPad 2 and iPad 3) can record video, upload and send video, view videos, and videoconference. With the use of one device, rather than multiple devices, the cost can be

further reduced because video cameras and computers do not need to be purchased.

Further, a search of five electronic databases using the terms "iPad and special education" and "iPad and teacher training" produced several articles related to the use of iPads with students with disabilities but found no articles related to the use of iPads for training teachers.

A second intent of this study was to add to the literature on coaching to train teachers in the implementation of new behaviors. Teachers who lack access to training, such as those in rural areas or in international locations like Guatemala, may benefit from coaching using technology as a tool for training delivery.

While the use of BIE technology has been successful for supporting teachers, the use of BIE technology for this study posed three specific challenges: (1) language barrier with delayed translation, (2) time zone difference, and (3) limited internet bandwidth that creates freezing of screens and delayed transmission of images and sound. Video recording and uploading those videos reduced the risk of the researcher missing occurrences of the target behaviors due to delayed relay of images and sound.

Due to the problems described above, the researcher used a technology package that included the use of flip cameras, DVDs, and personal computers to conduct this study rather than iPads and BIE. The research questions were as follows:

1. Will virtual coaching be effective for increasing the implementation of three targeted teacher behaviors of teachers in three urban schools in Guatemala?
2. Will the teachers, subsequently, implement the targeted teacher behaviors with high rates of fidelity?
3. Can coaching occur virtually with a high rate of fidelity?

4. Will teachers find value in the coaching process and be satisfied with participation with virtual coaching?

Terms

1. Technology package: Technology package includes the use of flip video cameras, webcams, and personal computers for the purpose of viewing videos, video recording, video conferencing, and e-mailing. Training: The use of video to model three specific teacher behaviors and to deliver instruction on the implementation of the specific teacher behaviors to allow participants to learn new skills.
2. Virtual Coaching: A conversation using videoconferencing technology between the participant and researcher related to the implementation of the target behaviors.
3. Targeted teacher behaviors: Three specific behaviors targeted for increased use; the three behaviors are defined below:
 - a. Opportunities to respond: The teacher provides students with the opportunity to respond orally or in writing to academic questions either chorally or individually. Individual responding should include a variety of students (Rosenshine & Stevens, 1986; Stenhoff et al., 2004). An appropriate rate of providing opportunities to respond should occur at a rate of at least four opportunities per min (Stenhoff et al., 2004).
 - b. Specific Praise: The teacher verbally affirms students in such a manner that the statements are (a) contingent (delivered following a correct response, academically or behaviorally), (b) specific to behavior (descriptive ó state exactly what is acceptable about the response), (c)

varied (provided both for academic responding and appropriate social behaviors; uses a variety of statements), (d) non-disruptive (do not interfere with the pacing of the lesson or the student's performance of expected behavior or produce an undesired behavior), (e) given with sincerity (evidenced by tone of voice and context in which praise is given), and (f) appropriately distributed (across most students; Brophy & Good, 1986; Stenhoff et al., 2004). Affirming an answer (i.e., "Yes, that is correct.") is considered a praise statement; however, saying "OK" or the teacher repeating a student's response is not counted as a praise statement (Stenhoff et al., 2004). An appropriate rate of providing praise should occur at a rate of at least four statements per min (Stenhoff et al., 2004).

- c. Circulating around the room: Teachers exhibit this behavior when they monitor students during independent practice by circulating among students' desks to provide verbal feedback, ask a question (Brophy & Good, 1986; Stenhoff et al., 2004), or provide tactile feedback, such as a pat on the back. In addition, teachers can exhibit this behavior during active instruction by circulating around the room and moving close to individual students (within 1ft; 30 cm) throughout the lesson. Criterion for circulating around the room includes making contact with 100% of students throughout the lesson with a rate of at least two students per min (Stenhoff et al., 2004).

Chapter 2

Method

In this study, the researcher evaluated the effectiveness of using a technology package to train and coach teachers in Guatemala to implement three teacher behaviors with higher rates. The researcher used the results of a survey and classroom observations in an exploratory study in Guatemala to determine three effective teacher behaviors that teachers could implement to help increase student achievement.

The researcher encountered several challenges throughout this study that resulted in study changes. These changes are summarized in Table 2.1 below. The changes are explained throughout the methods section as relevant to each section.

Table 2.1 Changes from Proposed Method

Proposed	Changes
Multiple probe across participants replicated across behaviors	Multiple probe across participants in two groups
Three behaviors	One behavior
General praise definition	Specific praise definition
10-min videos	3 to 5-min videos
iPads	Flip video cameras, webcams, personal computers, DVD players
YouTube link for training video	DVD

Target Behaviors

Targeted behaviors are those in which at least 25% of survey participants rated the behaviors as important or used frequently on the survey. In addition, classroom observation data confirmed infrequent use of these behaviors. These three behaviors included (a) circulation around the room, (b) opportunities to respond, and (c) praise. These terms were defined at the end of the previous chapter. As the study progressed, participant fatigue became a concern, thus, the behaviors addressed in the study were

reduced to one behavior, that of specific praise. A large factor in participant fatigue resulting in this decision was difficulty with consistent Internet connections to upload video data. This created a back log of videos sent to the researcher which, in turn, created a delay in feedback provided to participants.

Participants

Researcher. The researcher was a doctoral candidate at the University of Kentucky in the Department of Early Childhood, Special Education, and Rehabilitation Counseling. She held certification in elementary education (K-5) and special education in learning and behavior disorders (LBD, K-12). She taught for 13 years in an urban public school system. Her experience included 6 years of teaching in elementary general education classrooms and 6 years of teaching in elementary special education. She completed a Master of Arts degree in special education (LBD) in 2003. The researcher had worked in Bolivia and Guatemala to train and mentor teachers. She spoke Spanish with the ability to converse, yet was not fluent in the language and required a translator for technical language and fluency in speaking.

Translator. A professional translator was hired to provide translation for training materials (i.e., videos, handouts) and for coaching sessions. The researcher translated videos for data collection and consulted the translator as necessary. At the time the intervention phase of the study began, the translator was no longer available; thus, the researcher conducted coaching sessions without a translator for 2 of 3 participants.

Reliability data collector. A co-chair of the researcher's doctoral committee served as a reliability data collector to assess reliability in data collection during each phase of the study. She graciously offered to serve in this capacity when the translator

hired by the researcher was no longer available to serve in this capacity. She was the co-founder of a preschool and children's home in Guatemala. She was not fluent in Spanish; however, she was able to participate in conversations. She understood Guatemalan culture as a result of at least three trips per year to the country for the past several years and her work at the children's home and preschool.

Procedural reliability data collector. A 38 year-old doctoral student at the University of Kentucky served as a reviewer for procedural reliability. She had experience conducting single subject research throughout her master's program and doctoral studies. She taught special education for 12 years in public schools in Kentucky and North Carolina. She worked with students across a range of mild to severe disabilities. Eleven years of teaching occurred in Kindergarten through Sixth Grade with 1 year of high school teaching.

Teachers. The researcher identified 4 teachers across three schools in Guatemala as participants. Miss Martinez was 25 years old and had taught 6 of her 7 years at her current school. She completed her university coursework to obtain certification in special education. She taught first grade and had 16 students in her class. During this study, Miss Martinez recorded the videos during Mathematics and Language Arts instruction. Miss Provencia was 25 years old and had taught 6 years, all of which were at her current school. She has certification for teaching primary grades and held a degree in special education and psychology. There were 20 students in her first grade classroom. Miss Provencia recorded videos for this study during Language Arts instruction. Miss Valentino was 32 years old and had taught 4 of her 9 years at her current school. She had 6 students in her combined pre-kindergarten and kindergarten class. She successfully

completed her teaching preparation program, which, in Guatemala, is offered in high school. Miss Valentino recorded the videos for this study during Mathematics and Language Arts instruction. Miss Gonzalez was 20 years old and had taught 2 years, both at her current school. She held primary education certification. She taught third grade in which there were 20 students. Miss Gonzalez recorded all videos for this study during mathematics instruction, except one, which was during Bible instruction.

Participants agreed to video record themselves teaching during instruction of a subject of their choice for 10 min three times per week during the baseline and intervention phases and once per week during the maintenance phase. The researcher requested that the videos be recorded in the same subject area or time of day if at all possible. In addition, participants agreed to Skype with the researcher once per week during the intervention phase.

Technology

The researcher issued flip video cameras from her university to each participant. The participants used the flip video cameras to record lessons. They each had access to a personal computer, which was used to upload videos to Dropbox, a virtual file storing service. The researcher conducted coaching sessions with participants using Skype, which allowed for videoconferencing via the Internet. Participants used personal computers and webcams to videoconference. The researcher verified during the exploratory study that all schools had Wi-Fi accessibility to allow participants to use Dropbox and Skype.

Technology Training

The director of a children's home in Guatemala trained participants on the use of the technology (i.e., webcam, flip video cameras, and Dropbox) being used. The director was fluent in Spanish and had lived in Guatemala for many years. He was chosen to assist in this endeavor for his understanding of technology and experience using it, as well as his relationship with the teachers participating in the study. All participants were familiar with the director because children from the children's home attended the schools in which the participants taught. This training was conducted in person with the opportunity for participants to practice and ask questions. Specific skills included (a) recording video on the flip video camera, (b) uploading video files, (c) downloading video files, (d) viewing videos via YouTube, (e) using Dropbox, and (f) using e-mail. Teachers participated in training with the children's home director who was also available throughout the study for technical assistance as was necessary.

Setting

The instructional settings included three private schools located in Guatemala City, Guatemala. The first school served only students receiving special education services; 100% of the student body was identified as having disabilities. The school housed preschool through high school and serviced students with a range of disabilities including, but not limited to, autism, learning disabilities, cerebral palsy, and emotional/behavioral disorders. The school existed to provide an alternative to public school for students who otherwise might not be successful. The second school was a Christian school, which included one child with a diagnosed disability in the first grade classroom. This school was in an urban setting and was started by missionaries over 100

years ago. Class sizes for elementary grades consisted of approximately 25 students each. It serviced students from preschool through high school with a full range of course offerings and extra-curricular activities. The third school was a private, accredited preschool housed in a children's home. The preschool enrolled the preschool-aged children who lived at the children's home, as well as enrolled children from the community, on a tuition-basis. This preschool serves children 3 to 6 years old with or without disabilities. The teachers conducted all sessions in their classroom in a subject area of their choice.

Materials

Training materials. The researcher created three training videos featuring 1 of 3 targeted teacher behaviors in each video. These targeted teacher behaviors included praise, opportunities to respond, and circulation around the room. Videos included a classroom teacher modeling a lesson in which the targeted teacher behaviors were exhibited. The researcher used a flip video camera to record lessons of a teacher modeling each of the three behaviors in a suburban school close to her university. The completed training videos were no longer than 10 min each.

The teacher featured in the video was a first grade teacher in a suburban school in central Kentucky with 25 students in her classroom. She was chosen to serve as a model teacher for her expertise and reputation for high quality instruction. The researcher had worked with her previously to conduct a research study in her classroom; thus, she also had firsthand knowledge of her teaching. She had over 15 years of teaching experience and had been voted Teacher of the Year at her school for the academic year just prior to video recording. There were six students with identified disabilities. The classroom

population was comprised mainly of Caucasian students with African American and Latino students comprising a minority. Students came from low-income and middle class families. The video was recorded during Language Arts instruction across 3 days. The lessons focused on comprehension strategies. The researcher used these videos to create a training video for each of the three targeted teacher behaviors (i.e., praise, opportunities to respond, and circulation around the room). The researcher used iMovie software for Mac to create the training videos. The completed training videos consisted of two sections. In the first section, the researcher presented a mini-lecture about the specific behavior being addressed in the video which described why the behavior is important and explained how to implement the behavior. This section contained PowerPoint slides in Spanish with an audio lecture, also in Spanish. The researcher hired a Spanish interpreter to translate the PowerPoint slides and to provide the audio lecture. The researcher provided the interpreter with an English script with which the interpreter translated and recorded the audio lecture accompanying the PowerPoint slides. The interpreter saved the audio in a voice memo using an iPhone and emailed the audio file to the researcher. The researcher used this audio file to input over the PowerPoint slides in iMovie. In the second section, participants watched a modeled lesson of the first grade teacher using the specific behaviors. The audio for this section was in English as the instruction used for recording the training videos was conducted in English. The researcher provided a title slide in Spanish prior to each video clip to cue the participant to the specific aspect of the targeted teacher behavior being addressed. In addition, subtitles were provided with the video clips to allow the participants to understand what was being said in the video clips to increase comprehension of the targeted teacher behavior. For example, in the praise

video, the teacher used praise specific to an academic skill. Thus, the introductory slide was titled, "Praise Specific to Good Reading." The subtitles for the accompanying video clip interpreted what students and the teacher said to highlight the praise the teacher provided for that particular academic skill.

In addition to the training videos, the researcher provided participants with a cue card containing key information regarding the implementation of the targeted behavior. Key points from the training video were provided in short paragraphs and bulleted points along with a section for teachers to respond with their plans for implementing the targeted teacher behavior. For example, the praise cue card included a brief definition, a purpose statement, the goal for praise statements per min, and a list of specific praise characteristics. The cue cards for each of the three targeted teacher behaviors are included in Appendix A.

Participants viewed the training videos via YouTube; however, some participants experienced bandwidth difficulties and could not view the video on YouTube. The researcher burned the training video on a DVD and sent it to Guatemala with a co-chair of her doctoral committee when she traveled to there early in the research project. Originally, the YouTube link was planned; however, participants had difficulty accessing the video on YouTube. Therefore, the researcher sent the DVD with the training videos burned on it. Participants were given explicit directions by the co-chair to only view the training videos when prompted by the researcher. The researcher also taped a note to the DVD stating that participants should only view the training videos when prompted by the researcher. To her knowledge, the participants only watched the videos when prompted and did not watch them prior to the intervention phase. This is evidenced by an email

from each participant providing the date in which the video was watched. The researcher encouraged the participants to review these videos as necessary throughout the study, post baseline.

Coaching materials. The researcher developed a coaching protocol to coach participants in the teacher behaviors. The protocol used information from Ruble, Dalrymple, and McGrew (2012) on coaching to ensure that evidence-based coaching practices were used. The items on the protocol included (a) greeting the teacher, (b) asking if the teacher received the information from the previous coaching session via email, (c) reviewing the cue card for the target behavior, (d) asking the teacher for her thoughts on how well the implementation of the target behavior is going, (e) stating a positive example of implementation of the target behavior from the videos, (f) asking the teacher to identify a goal for the coming week for further implementation of the target behavior, and (g) approaching the coaching session in a collaborative manner. The coaching protocol can be found in Appendix B.

Data Collection Procedures

Baseline. Due to a problem with uploading speeds, baseline data were collected from videos ranging from 2:10 to 17:19 min in length. The mean length of videos was 6:19 min; this was shortened from the originally planned 10-min videos.

The researcher used partial interval recording to identify the rate at which participants used specific praise, opportunities to respond, and circulation around the room to determine the behavior with the lowest rate of occurrences to serve as the target behavior during intervention. The researcher used 10-sec intervals in which a tally mark was recorded if the target behavior occurred within the interval. If the target behavior

began in one interval and ended in a second interval, the behavior was recorded to have occurred in the first interval.

Intervention. During the intervention phase, the researcher planned for participants to video record 10-min lessons or parts of a lesson 3 days per week (i.e., Monday, Wednesday, Friday) until criterion was reached. However, due to problems addressed above, the videos were reduced to 3 ó 5 min each. Criterion was defined as an 80% increase over baseline. Participants remained in the intervention phase until they reached criterion for three consecutive sessions. The participants used the provided flip video camera for video recording and uploading the videos or burning them to DVD. The researcher viewed each video to record the intervals for which the targeted teacher behavior occurred in each lesson. The researcher used these data to determine points of discussion during weekly coaching sessions and to determine when criterion was reached in order to begin the next tier.

Maintenance. During the maintenance phase, the researcher planned for participants to video record a 10-min lesson; however, due to problems discussed above, this was changed to a 3 ó 5 min lesson or part of a lesson one time per week every other week. Also, due to delayed retrieval of videos by the researcher as described above, participants often recorded more than one video per week in the maintenance phase because the researcher did not have the ability to communicate in a timely manner with the participants when they moved into the maintenance phase. All videos were recorded in the same subject area which had been video recorded during the intervention phase. Participants recorded and uploaded the videos using the flip video cameras. The researcher viewed each video and used partial interval recording to calculate the

percentage of intervals in which the targeted teacher behaviors were used to assess the participants' ability to maintain the behaviors in the absence of coaching.

Generalization. The researcher planned to gather generalization data from a subject area different from that which was recorded during the intervention phase. Due to the length of time required in the baseline and intervention phases, participants became fatigued with the first targeted teacher behavior (e.g., praise); thus, generalization data were not collected.

Data collection sheet. The researcher completed the top section of the data collection sheet to record important information related to the session. This section included the participant's name, date of the video recording, session number, phase in which the video was recorded, length of the video, and the targeted teacher behavior. The researcher then proceeded to watch the video and use partial interval recording to identify the rate at which the teacher used the targeted teacher behavior (i.e., specific praise, opportunities to respond, or circulation around the room). Once the observation was complete, the researcher counted the total number of intervals in which the targeted teacher behavior occurred and divided the number of intervals in which the targeted teacher behavior occurred by the total intervals observed to calculate percentage of intervals in which the targeted teacher behavior was used. The data collection sheet can be found in Appendix C. The following formula shows the calculation used.

$$\frac{\text{Intervals using targeted teacher behavior}}{\text{Total intervals observed}} = \text{Percentage of intervals in which target behavior occurred.}$$

Instructional Procedures

Video training. Participants were divided into two groups (i.e., Group 1 and Group 2) during the intervention and maintenance phase of the study. When Group 1

began the intervention phase, the researcher sent, via email, the targeted teacher behavior cue card and a YouTube link to access the training video for the first targeted teacher behavior (specific praise). Once participants viewed the training video, they e-mailed the researcher to inform her of training completion. At this time, they could ask questions to clarify their understanding of the concepts. Depending on the questions asked and the response required, a Skype session could be scheduled to address the participants' questions; otherwise, e-mail responses were sent to answer the questions. Once participants informed the researcher that they understood the target behaviors to be implemented, the intervention phase began with Group 1.

Coaching. Participants agreed to one coaching session per week of approximately 15 - 30 min each during the intervention phase. Scheeler (2010) provided feedback for teachers using bug-in-ear technology two to three times per week for 10 ó 20 min each. For the purposes of this study, the researcher reduced the number of coaching sessions per week due to limitations on the participants' schedules and challenges faced with time zone differences.

Once the intervention phase began, the researcher planned to meet with participants once per week via Skype to review data and discuss the progress of implementing the target behavior and tips for increasing the use of the behavior and provided an opportunity for the participant to ask questions or raise issues she may have had related to the study. The coaching protocol was used during each coaching session to help ensure the researcher used the same procedures for each session and to facilitate a collaborative conversation in which interaction between the participant and researcher was sought.

Each coaching session was expected to last 15 - 30 min. Participants were encouraged to e-mail the researcher at any time during the study in the event they had questions. The researcher responded to e-mails within 24 hrs. In addition, the researcher frequently emailed participants to supplement coaching. The emails asked participants questions about how implementation of the targeted teacher behavior was going, if there were problems with which she could help, and served as a method to check in with participants when she had not received video data in a period of time. These emails were sent in response to the inability to conduct coaching sessions each week. In order to maintain a level of communication between the researcher and the participants, the researcher sent emails in an attempt to assist participants in their understanding of implementation of the target behavior and to help keep lines of communication open in the event they had issues arise that needed addressed.

Social Validity

The researcher assessed the social validity of the independent variables using a survey in which all participants rated their perceptions of the video training and the coaching sessions on changing their teaching behaviors. In addition, teachers rated how they perceived the increased rate of using the target teacher behavior impacted students and their achievement. The researcher created a brief on-line survey consisting of 10 five-point Likert-scale items. The items addressed teacher perceptions of (a) the effectiveness of technology to learn a new skill, (b) the ease of using the training handouts to use the targeted teacher behavior, (c) the frequency the training handouts were used during the intervention phase, (d) the automaticity of use of the targeted teacher behavior, (e) the benefit of using the targeted teacher behavior, (f) the ease in using the targeted teacher

behavior during lessons, (g) the likelihood of continued use of the targeted teacher behavior, (h) improved student behavior as a result of increased use of the targeted teacher behavior, (i) improved student achievement as a result of increased use of the targeted teacher behavior, and (j) the ability to generalize the use of the behaviors to other settings, subjects, and students (See Appendix D). In addition, the researcher highlighted comments made by participants during coaching sessions (training videos, coaching sessions) and its effects on their classrooms to provide more information than the survey was able to provide.

Experimental Design

The researcher used a multiple probe design (Gast & Ledford, 2010) across participants to evaluate the effectiveness of video trainings and coaching sessions on the increased use of three specific teacher behaviors. The researcher chose this design for its ability to validate the effectiveness of interventions across behaviors and settings, for its ability to use intermittent baseline data as opposed to continuous baseline data, and because this design does not require a withdrawal condition (Gast & Ledford, 2010). For the purposes of this study, participants were paired into two groups. The researcher collected baseline data for all 4 participants across a minimum of 3 days. After data were stable, the researcher began the intervention phase by providing video trainings on the teacher behaviors to Group 1 while continuing to collect intermittent baseline data (once per week) on the remaining Group 2. Following meeting criterion on the target behaviors for three consecutive trials for Group 1, the researcher provided video training to the remaining group while continuing to collect maintenance data on the first group (once per week, every other week until Group 2 met criterion in the intervention phase).

This design controlled for several threats to internal validity. First, 4 participants were recruited when replication across 3 participants met the minimal requirement necessary to show experimental control. Enlisting 4 participants allowed for attrition of 1 participant while maintaining the ability to show experimental control. In addition, a multiple probe design controlled for threats to internal validity by nature of maintaining the baseline condition with the next group of participants until criterion was reached with the first group of participants. Staggering introduction of the intervention allowed the researcher to replicate the effect of the intervention. In addition, it was expected that there would be an immediate effect on participants' behavior following introduction of the intervention, which was expected to be replicated across all participants (Gast, 2010). The researcher introduced the next group to the intervention only after the previous group met criterion to control for threats to internal validity, namely maturation and testing. Gast (2010) stated that waiting to introduce the intervention until the previous participant meets criteria is a stronger control for threats to internal validity over staggering introduction of the intervention across a set number of days. Further, each participant was independent of the other in terms of interactions due to being in different schools; thus, the potential threat to history was minimized as it was expected that participants did not have opportunities to learn information about the intervention from each other. Controls for instrumentation and procedural infidelity were in place through the plan for obtaining interobserver agreement and using procedural reliability procedures.

Reliability

Interobserver reliability. The researcher trained a co-chair of her committee for collecting reliability data on the dependent variable (the use of specific praise) The

researcher and the trained observer evaluated videos once per week (33% of sessions) to count the intervals in which the target behavior occurred. The researcher used the point-by-point method for calculating interobserver agreement using the following formula: number of agreements divided by the number of agreements + disagreements multiplied by 100. (Gast, 2010). Acceptable reliability agreement was 80%. The mean of interobserver agreement was 92% with a range of 80% - 100%.

Procedural reliability. The researcher collected reliability data on the independent variable. A trained independent observer evaluated or videotaped coaching sessions once per condition for each participant to ensure procedural reliability. The formula for calculating procedural reliability is dividing the number of observed behaviors by the number of planned behaviors and multiplying by 100 (Gast, 2010). Acceptable reliability agreement was 80%. The researcher referred to the Coaching Protocol (see Appendix D) during coaching sessions to ensure all points were addressed during each session. The Coaching Protocol also was used for procedural reliability. The observer was trained in each step of the protocol and was provided with examples of what might be discussed in each step. The steps on the protocol included (a) greeting the teacher, (b) asking if the teacher received the information from the previous coaching session via email, (c) reviewing the cue card for the target behavior, (d) asking the teacher for her thoughts on how well the implementation of the target behavior is going, (e) stating a positive example of implementation of the target behavior from the videos, (f) asking the teacher to identify a goal for the coming week for further implementation of the target behavior, and (g) approaching the coaching session in a collaborative manner. If acceptable reliability agreement dropped below 80%, the researcher planned

to meet with the observer to address areas where disagreement existed and provide additional examples of how each area could be addressed in coaching sessions. In addition, the researcher would practice mock coaching sessions with the observer to address areas of discrepancy. This was not necessary for this study as procedural reliability was 100% across all 3 participants who participated in the intervention phase. One participant participated only in the baseline phase, thus procedural reliability was not collected for her since coaching sessions occurred only in the intervention phase.

Data Analysis

The researcher used visual analysis during the study to inform decisions related to introduction and implementation of conditions. To calculate effect size, the researcher used Percent of Data Exceeding the Median of Baseline (PEM; Ma, 2006). The researcher chose PEM over Percent of Non-Overlapping Data (PND) due to Ma's findings that PEM tends to closer correlate with researcher judgments over the PND. In addition, the researcher used the Mean Baseline Difference (MBD) to evaluate the change in level of behavior across conditions. The MBD assesses the effectiveness of an intervention to increase desired target behaviors. The researcher calculated PEM and MBD for each tier. To calculate PEM, the researcher divided the number of treatment data points that exceeded the median of the baseline condition by the total number of intervention data points. To calculate MBD, the researcher subtracted the mean of baseline observations from the mean of treatment observations and divided by the mean of baseline observations, then multiplied by 100 as described by Campbell and Herzinger (2010).

Chapter Three

Results

The purpose of this chapter is to report the results of the data for each research question. For each question, the researcher provided a description of the data collected, the methods used to analyze the data, and the results.

Study Changes

The proposed study sought to use a multiple probe design across participants replicated across three targeted teacher behaviors. Four participants were to be divided into two groups, and the procedures would be replicated for each group. Participant fatigue created a challenge, which precluded the possibility of training teachers in all three planned targeted teacher behaviors. This fatigue resulted from the length of time required for participants to move from baseline to intervention and into maintenance. The length of time required to move participants into various phases of the study was a result of lagged data collection. This lagged data collection was caused by delays in video data being received by the researcher from participants due to school breaks, student testing, and Internet outages. This caused the researcher to have periods of time in which no videos were received from participants while also having periods of time in which multiple videos were received at one time from individual participants. Second, as a result of the first challenge, data collection took much longer than was first expected. This extended data collection procedure began to overtax participants, and they voiced weariness during coaching sessions and in email. Due to these challenges, the research team decided to pare down the study and end it after two participants reached criterion on specific praise and two participants' data indicated it would require a greater length of

time to reach criterion. Due to the communication received from participants indicating that they were getting fatigued, the research team believed participant attrition could become a problem. Therefore, the data presented here include implementation of one targeted teacher behavior only, that of specific praise. Thus, the results of this study should be interpreted cautiously as experimental control was not established as is required for a multiple probe design. The results of this study indicate a time-lagged intervention across two participants and a replication across another. In essence, the data indicate three AB designs that should be viewed as replicated case studies.

As a result of the length of time required for obtaining videos and analyzing them, the researcher decided to move the first participant in Group 2 into the intervention phase prior to both participants in Group 1 meeting criterion. This change reduced the chances of participant attrition due to inactivity.

In addition to formal coaching sessions, which were planned to occur each week during the intervention phase, the researcher maintained regular contact with participants through email. Because participants were not able to participate in coaching sessions via Skype each week, email communication provided an effective alternative to maintaining continual communication with them. The quantity of emails varied among participants. Sixty-three emails were sent to Miss Martinez. In turn, Miss Martinez sent 37 emails to the researcher in response to her emails. Forty-six emails were sent to Miss Provencia in which she responded to 34 of those emails. Twenty-eight emails were sent to Miss Valentino with five responses received by the researcher from her. Finally, 10 emails were sent to Miss Gonzalez with her responding to five of those sent.

Virtual Coaching: Research Question 1

The first research question sought to answer whether virtual coaching would be effective for increasing teachers' implementation of three targeted teacher behaviors to reach criterion. As discussed above, this question changed to answer whether virtual coaching would be effective for increasing teachers' implementation of one targeted teacher behavior, that of specific praise. Originally, the researcher defined praise as a verbal affirmation provided to an individual student or a group of students. Upon initial analysis of video data, data indicated a high rate of general praise used by the participants. The researcher decided to change the definition to reflect that of specific praise as participants were not using high rates. The research team felt that participants could benefit from training in specific praise to increase student achievement rather than to increase the rates of general praise they were already using in their instruction.

Criterion was set as an 80% increase over baseline in intervals in which the target behavior was used. For Miss Martinez, an 80% increase over baseline meant criterion was calculated as 17.8%, meaning that a session met criterion if specific praise was present in at least 17.8% of intervals. For Miss Provencia, criterion was calculated as 3.1%; therefore, Miss Provencia needed to use specific praise for at least 3.1% of intervals. Criterion was set for Miss Valentino at 8.1% of intervals in which specific praise was used. Each participant needed to reach criterion for three consecutive sessions to move into the maintenance phase. The researcher calculated an 80% increase over baseline for criterion by multiplying the mean of baseline by .80 and adding the product to the mean of baseline to calculate criterion for each participant.

The following graphs in Figures 3.1 and 3.2 show the percentage of intervals in which participants used specific praise. Group 1 (Figure 3.1) included Miss Martinez and Miss Provencia. The data for Miss Martinez indicate an immediate change in level; however, a change in trend did not occur. Data continued to be unstable and criterion was not met for three consecutive sessions to allow her to move into the maintenance phase of the study. Miss Martinez, however, met criterion for two consecutive sessions (sessions 89 and 94). In all, Miss Martinez met criterion during four sessions (i.e., 48, 60, 89, and 94). The data for Miss Provencia indicate an immediate change in level from the last session in baseline to the first session in the intervention phase. While the trend after the first intervention session shows a decelerating trend, criterion was met with the first three consecutive sessions. She met criterion in the maintenance phase for 3 sessions (i.e., 95, 96, and 104). Group 2 (Figure 3.2) included Miss Valentino and Miss Gonzalez. The data for Miss Valentino indicate a decline in trend between the last session of baseline and the first session of intervention; however, her next three sessions show a significant increase in level and trend. These three sessions were consecutive and met criterion; therefore, the maintenance phase began. She met criterion for three sessions in maintenance (i.e., 111, 120, and 125). Miss Gonzalez participated in the baseline phase only, therefore, there is no intervention or maintenance data shown for her. Table 3.1 shows the baseline mean and intervention mean for each participant. Each of the three participants who participated in the intervention phase made significant gains in the average intervals in which a specific praise statement was provided to students.

Table 3.1 Baseline Mean and Intervention Mean

Participant	Baseline Mean	Intervention Mean
Miss Martinez	9.9	13.08
Miss Provencia	1.71	11.33
Miss Valentino	4.5	16
Miss Gonzalez	0	Not Applicable

Figure 3.1 Group 1: Percentage of Intervals in which Specific Praise Occurred

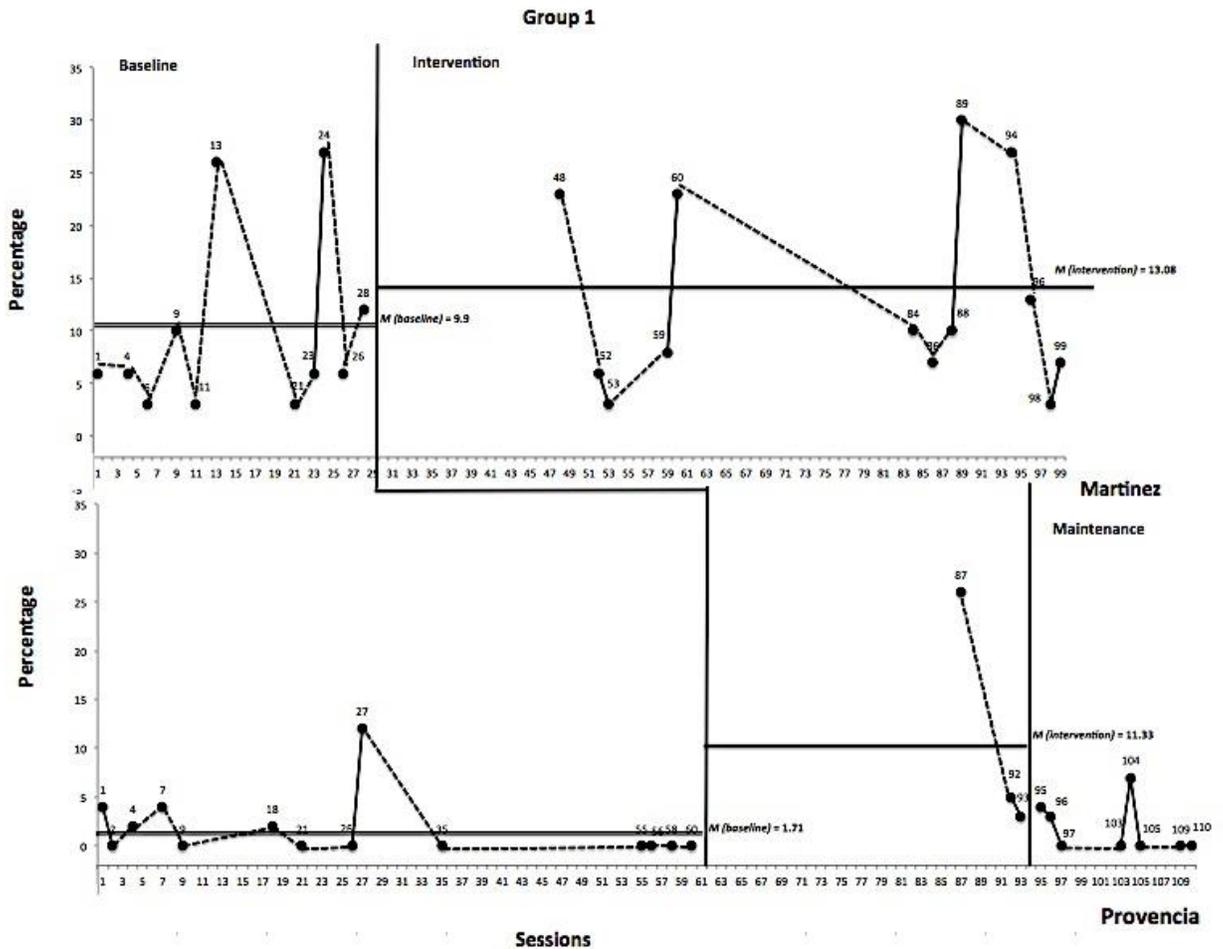
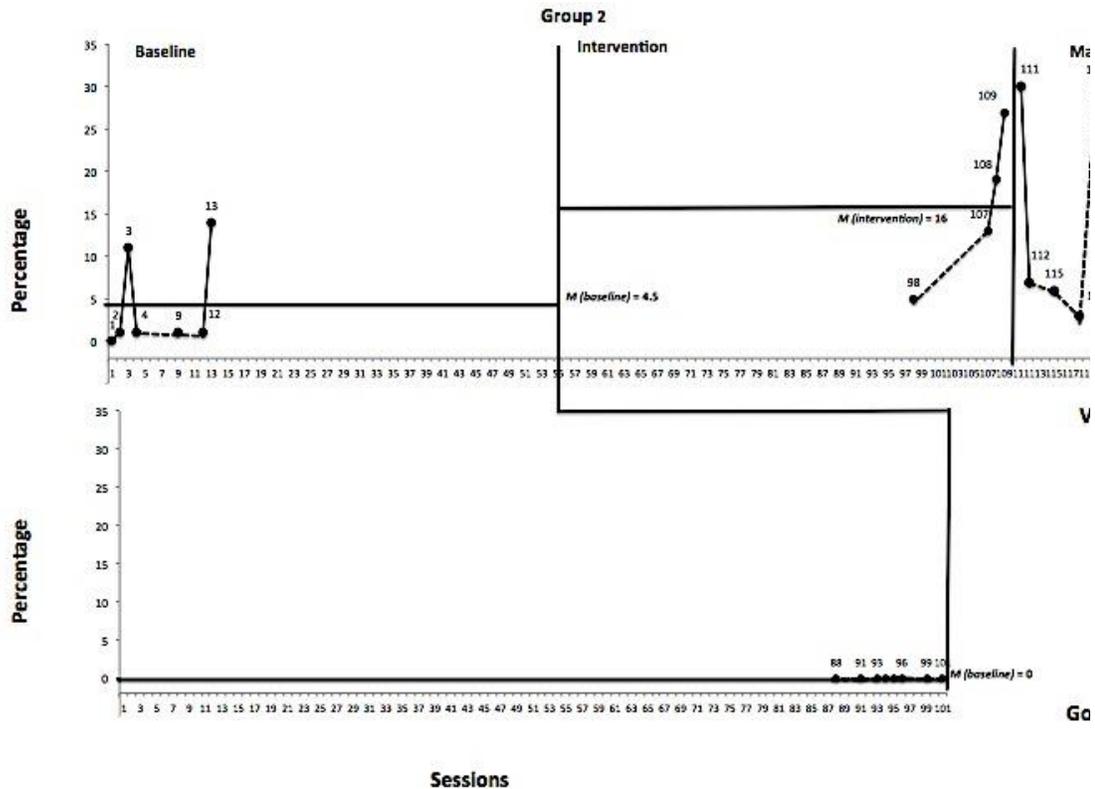


Figure 3.2 Group 2: Percentage of Intervals in which Specific Praise Occurred



To calculate effect size, the researcher calculated the Percent of Data Exceeding the Median of Baseline (PEM; Ma, 2006). PEM is calculated by dividing the number of intervention data points that exceed the median of baseline over the total number of intervention data points. Three of the four participants had intervention data with which the PEM could be calculated. The PEM for Miss Martinez was calculated to be .85 while PEM for Miss Provencia and Miss Valentino was calculated to be 1.00 for both.

To calculate the level of change between conditions, the researcher calculated the Mean Baseline Difference (MBD; Campbel & Herzinger, 2010). Three of the 4 participants had intervention data with which the MBD could be calculated. The MBD

for Miss Martinez was calculated to be .00, and the MBD for Miss Valentino was calculated at 15.99. Finally, the MBD for Miss Provencia was calculated at 10.33.

Chen and Ma (2007) identified the mean PEM score for effective interventions to be higher than 0.9 and a mean PEM score of 0.645 indicated that the intervention was partially effective. Using Chen and Ma's criteria, the intervention was effective for 2 participants, and partially effective for 1 participant. The MBD indicates minimal improvement for 2 participants and no improvement for 1 participant.

Three of the 4 participants reached the intervention phase in which coaching sessions occurred. Miss Martinez participated in three coaching sessions throughout the intervention phase. Miss Provencia participated in one coaching session, and Miss Valentino participated in two coaching sessions. Miss Gonzalez did not participate in coaching sessions because the study concluded prior to her moving into the intervention phase.

A visual analysis of the data indicates limited or minimal effectiveness for the intervention for 2 participants. Two participants, Miss Provencia and Miss Valentino, reached criterion after three and four consecutive sessions, respectively. Miss Martinez and Miss Provencia experienced an immediate and abrupt level change in the intended direction from baseline to the first session of the intervention phase; however, Miss Martinez dropped below criterion for the second through fourth sessions. Miss Provencia maintained criterion levels for three consecutive sessions, reaching the maintenance phase. During the maintenance phase, Miss Provencia maintained criterion level for the first session. She continued sending videos to the researcher; yet, in the next seven sessions, she only met criterion once. Miss Valentino met criterion for the last 3 of the

first 4 intervention sessions. She sent maintenance video for eight sessions and reached criterion 3 of the 8 sessions. None of these sessions were consecutive sessions.

By visual analysis, results indicate the intervention was effective for Miss Valentino and Miss Provencia. The intervention was somewhat effective for Miss Martinez. Statistical analyses verify the visual analyses, with some inconsistent results due to highly variable data. The PEM indicates that the intervention was highly effective for Miss Valentino and Miss Provencia (i.e., 1.0) and partially effective for Miss Martinez. (.85). In addition, the MBD indicates the highest level of change for Miss Valentino (i.e., 15.99), a high level of change for Miss Provencia (i.e., 10.33) and no level change for Miss Martinez (i.e., .00). Considering that the baseline median is low (i.e., 1) for Miss Valentino and the level change between baseline and the first session of intervention is in the negative direction, even the slightest change in rates of specific praise will increase the PEM, thus suggesting a larger effect size. However, the MBD calculations indicate a higher index in the level of change. The data show that the behavior did not return to the lowest levels of baseline. These results indicate that the intervention was effective for Miss Valentino. The PEM for Miss Martinez indicated that the intervention was somewhat effective while the MBD showed no level of change. The first intervention session shows a change in level; however, the change does not continue and is inconsistent. The PEM for Miss Provencia indicated that the intervention was effective while the MBD indicates a high level change. Data analyses support the intervention was effective for Miss Valentino and Miss Provencia and not effective for Miss Provencia.

Implementation of the Targeted Teacher Behavior: Research Question 2

The second question sought to identify the fidelity in which teachers implemented the targeted teacher behaviors. Figure 3.1 shows the percentage of intervals in which teachers used specific praise to criterion. General praise statements (e.g., very good, good) were commonly used by participants, but these statements were not recorded unless they were coupled with a specific statement related to the students' behavior. Two of the 4 participants reached criterion for three consecutive sessions to move into the maintenance phase. One participant did not reach criterion for three consecutive sessions; thus, she did not move into the maintenance phase. One participant did not move into the intervention phase of the study; thus, it is unknown if she would have implemented specific praise to criterion.

Virtual Coaching: Research Question 3

The third research question sought to identify the fidelity with which virtual coaching occurred in this study. The proposed research indicated that procedural reliability would occur once per condition for each participant through video recorded sessions. Also, the proposed research assumed procedural reliability data would be collected throughout the research study. Two challenges occurred with the proposed procedural reliability guidelines. First, Skype sessions with Participants 2 and 3 occurred through instant messaging via written text instead of through live video feed. This occurred as a result of poor sound quality. While video could not be obtained, the researcher saved the typed script from the instant messaging to be analyzed for procedural reliability. Procedural reliability agreement was calculated from the typed scripts. Miss Valentino's coaching sessions occurred through live video feed however for

the two coaching sessions in which she participated, the researcher experienced technical difficulties with the video camera set up to record the session. Both sessions' recordings were lost. Therefore, the interpreter for the coaching sessions analyzed data for procedural reliability. The criteria for analyzing procedural reliability for coaching sessions, which occurred only during the intervention phase, was set at 33% of coaching sessions. Miss Martinez participated in three coaching sessions; therefore, one session was analyzed for procedural reliability. Miss Provencia participated in one coaching session; thus, 100% of her sessions were analyzed. Miss Valentino participated in two coaching sessions. Procedural reliability was analyzed for one session, meaning 50% of coaching sessions for Miss Valentino were analyzed. Finally, Miss Gonzalez did not participate in the intervention phase; therefore, she did not participate in coaching sessions. No procedural reliability data could be collected for her. Procedural reliability was 100% for all three participants who participated in coaching sessions.

Social Validity: Research Question 4

The fourth research question sought to identify the value participants placed on the coaching process and their satisfaction with virtual coaching. The researcher sent a survey to each of the three participants who participated in the intervention phase. The survey contained 10 questions and a comment section about which participants could respond to their experience participating in this research project. The survey can be found in Appendix D. Participants rated each item on a five-point scale with five being "Very much" to one being "Not at all." Table 3.1 shows the number of responses and the mean response.

Table 3.2 Social Validity Survey Results

N = 3

Survey Item	Range	Mean
1. The video and Skype sessions helped me to learn to use specific praise.	3 - 4	3.7
2. The training handouts were helpful for learning to implement the specific praise.	4 - 5	4.3
3. I referred to the trainings (video and handouts) to help me implement specific praise.	4 - 5	4.3
4. I will continue to use specific praise in my teaching.	5	5
5. I will use specific praise in other subjects, at other times of the school day, and with other students.	5	5
6. Specific praise is important for student learning and appropriate behavior.	5	5
7. It is easy to use specific praise in my teaching.	4 - 5	4.7
8. I think I will continue to use specific praise.	5	5
9. Student learning improved as a result of my use of specific praise.	5	5
10. Student behavior improved as a result of my use of specific praise.	5	5

Three of the 4 participants participated in completing the survey. One participant did not participate in the survey because she did not complete the intervention phase of

the study. All 3 participants who completed the survey chose to comment at the conclusion. One participant stated that it was a good project to implement at a general level in a school. Another participant noted that learning to use specific praise has been a very useful tool in her work as a teacher. It provided a lot of encouragement to her students to work in a better way and to have appropriate behavior both inside and outside the classroom. Finally, she stated that it was good for her and her students to participate in this project. The third participant stated that using praise motivated her students and she saw a change in their behavior.

Chapter 4

Discussion

In the current investigation, the researcher addressed four questions. First, could virtual coaching be effective for increasing teachers' implementation of three target behaviors to reach criterion who teach in three urban schools in Guatemala? The investigation changed from three target behaviors to one due to participant fatigue. Participants faced challenges in recording video and sending it to the researcher in a timely manner. This was a result of several factors including Internet outages due to irregular availability in Guatemala, school and classroom schedules, examination schedules, and school breaks. These challenges resulted in delays for the researcher to receive the data and analyze it in a timely manner, which created a delay for participants to receive feedback. There were several times when participants could not upload to Dropbox and a person was visiting Guatemala who could burn the videos to DVD and bring them back to the United States to mail to the researcher. This also resulted in delays as it could be as long as 4 weeks before the contact person returned to the United States and could mail the DVDs. Over the course of 6 months, two interns at one of the schools assisted the researcher in recording video and mailing DVDs of the videos to her when they returned to the United States. In addition, the Internet capabilities at the schools created challenges with the ability to upload video in a timely manner. Often, teachers could not upload video each day that they recorded but, rather, would wait until the Internet worked to upload several videos.

The teachers' challenges in uploading video resulted in sporadic data collection and subsequent challenges to analyze the video in a timely manner to verify that data

were stable, and move participants into the next phase in a timely manner. To reduce participant fatigue in future studies, participants could be directed to record three videos for baseline only and then wait for further directions from the researcher. After analyzing the three videos, the researcher could determine if further baseline data are needed or direct participants to begin the intervention phase. This revised procedure could result in decreasing the amount of baseline data collected and potentially improve the process by allowing participants breaks in between gathering data and relaying the data to the researcher. Intervention could be conducted in a similar manner. Participants could be directed to watch the training video, record 3 days of intervention data, send it to the researcher, and await further instructions.

In addition to the challenges of timely data collection, the delayed collection and analysis of data prevented the researcher from addressing current video in coaching sessions. Thus, in the results section, the graphs show many more data points for baseline than what would be necessary in most cases. Also, participants' timidity with technology use and sporadic Internet outages caused challenges with timely coaching sessions. One participant only participated in coaching sessions when an intern could assist her, which limited the opportunities for coaching sessions. It is possible that the high level of poverty contributes to participants' lack of confidence with technology as their ability to access technology could be diminished due to the lack of available funds. Two participants responded to 50% or fewer emails sent by the researcher. This could be an issue of accessibility to computers with Internet or wifi accessibility or a result of timidity with email or internet use. These implementation challenges may have affected the data in this study.

The researcher originally planned for one coaching session per week throughout the intervention phase; however, several challenges prevented sessions from occurring weekly. Primarily, technology challenges and scheduling conflicts created these challenges for conducting consistent weekly coaching sessions. First, several occurrences of Internet outages in the schools prevented participants from logging onto Skype for coaching sessions. However, when the technology worked and participants were able to log onto Skype, coaching sessions occurred with no problems. The participants were able to talk with the researcher, providing an opportunity for them to clarify ideas and ask questions. Second, teachers' schedules often conflicted with the researcher's schedule. These challenges occurred because of the time difference due to the researcher being in a different time zone than the participants, school day scheduling differences, frequent school-wide testing, and subsequent school breaks after the testing. Coaching sessions could not occur during testing weeks or during school breaks. Finally, as mentioned previously, Miss Valentino participated in coaching sessions only when an intern was present. Interestingly, Miss Provencia met criterion for three consecutive sessions with the least amount of intervention sessions and participated in only one coaching session, the least of all participants. Miss Martinez participated in the most coaching sessions (i.e., three) yet did not reach criterion in 13 sessions. This raises questions about whether coaching was effective for evoking change or if the video, coupled with the cue card, could have made the difference. Also, despite the low number of coaching sessions, the researcher attempted to maintain continuous contact with participants by emailing them at least every two weeks. Participants did not always respond to the emails, thus it is impossible to determine if these emails impacted the study in any way.

In conclusion, the answer to whether virtual coaching can be effective for changing teachers' behaviors may not be simple. The data show an increase in the use of specific praise, suggesting a behavior change on the part of the 3 participants who participated in the intervention phase. The baseline means and intervention means indicate marked improvement from baseline to intervention. However, inconsistent data indicate that confounding variables, such as participant fatigue due to technology challenges, could have affected performance. Thus, the answer to this research question could be "no" or "maybe"; the answer appears to be dependent on the technology. If the technology works and participants are able to record video and upload it and the researcher is able to download the videos to analyze data, the question is more easily answered. Coaching sessions can occur more consistently when the technology works, allowing for consistent feedback. The technology serves as a large component in the ability to answer the research question affirmatively.

The second research question asked whether teachers could implement the targeted teacher behaviors with high rates of fidelity. As already addressed, one targeted teacher behavior was evaluated due to participant fatigue. Results indicate that teachers could implement the targeted teacher behavior (i.e., specific praise) yet did not do so with consistency. This could be explained by the inconsistency and infrequent number of coaching sessions. With more consistent and frequent coaching sessions, it is possible that the teachers could use specific praise at higher rates with more consistency. It is also possible that having a coach at a distance posed a challenge for participants that could not be overcome. It may be necessary for coaches to be physically present in participants' classrooms for coaching sessions and data collection. If coaches are not able to be

physically present, coaching could occur via synchronous technology, such as BIE, if time zone differences, Internet bandwidth, and foreign language challenges could be overcome. At a minimum, having a contact person physically present in the area where the research is being conducted and who is committed to the success of the research may be necessary for successful implementation of research of this type. For this study, participants did not receive incentives for participating nor was there a consistent contact person available to assist them as needs arose. Various volunteers in the area assisted as available; however, they were not in a position to be fully invested in the project to work toward its absolute success. These may be factors that could impact results in the future. While intervention data indicated inconsistent performance among the 3 participants who participated in the intervention phase, these 3 participants showed significant improvement between baseline and intervention as indicated by the means (shown in Table 3.1). Therefore, while coaching did not occur weekly as originally planned, there is an indication that the training video and the coaching sessions may have impacted behavior change.

Further, the type of lesson implemented during recorded sessions may have impacted performance and contributed to inconsistent performance. The researcher anecdotally noted that teacher-directed lessons included more specific praise statements than did independent activities. Teacher-directed lessons tended to include the teacher asking more questions in which students responded and the teacher praised these responses. The teacher often sat at her desk during independent activities and did not interact with students until they approached her to correct their work. Few praise statements were provided during the teacher's checking of student work.

The third research question asked if coaching could occur with a high rate of fidelity. Technology challenges prevented the coaching sessions from being conducted in the manner in which the researcher first envisioned. With the use of iPads, the researcher anticipated ease with viewing videos during coaching sessions because desktop sharing could have been more readily available; however, with the use of Skype, this was a bit more of a challenge. In addition, the participants' overall lack of confidence in technology use caused the researcher to make the decision to simplify the coaching sessions and not show video of the participants' classroom observation sessions. This automatically rendered one aspect of the coaching protocol obsolete. The coaching protocol in Appendix B reflects this change. In conclusion, when the technology worked, coaching sessions were conducted with a high rate of fidelity. On the other hand, when technology did not work, coaching sessions could not occur, resulting in inconsistent feedback to participants. This inconsistent feedback could explain the inconsistent performance shown in the intervention data.

The fourth research question asked whether participants would find value in the coaching process and be satisfied with participation in virtual coaching. Interestingly, the participants highly valued the use of specific praise as indicated by their high scores of items related to its use in their teaching practice. On the other hand, the item that participants consistently scored the lowest was the training video and coaching sessions. Participants' lower scores for the training videos and coaching sessions could be a result of the participants' overall lack of confidence with technology use, their preference for face-to-face communication, or the fact that the researcher's first language is not Spanish.

The coaching sessions may have been more beneficial if conducted with someone who is fully fluent in Spanish and better understands the culture.

The researcher sent a follow-up email to participants asking what could be done to help improve the training video and coaching sessions. Miss Provencia responded that she thought the praise video was a very help and a useful tool; however, her work schedule made it more difficult to Skype, resulting in having to Skype later at night when she was tired. Miss Valentino responded that the DVD was helpful and she reviewed it multiple times. She suggested putting all the information we discussed in the coaching sessions, including more examples, on a DVD.

Challenges Addressed

The researcher faced multiple logistical challenges throughout the research study. First, the study design included the use of distance education technologies to facilitate the research. However, it was necessary for someone to deliver equipment, explain the study, and obtain consent. A member of the research team who regularly travels to Guatemala filled this role. The flip video cameras used more battery power than the researcher expected; thus, it was necessary to provide more batteries to participants than had originally been sent. It was more cost effective to purchase batteries in the United States and send them with individuals traveling to Guatemala rather than wiring funds. The researcher had established a relationship with a children's home in Guatemala, which is near the schools in which participants worked; thus, interns and team members for work teams volunteered to take batteries to the participants when necessary.

A second challenge occurred with the lack of bandwidth availability for each participant. When the researcher had tested the use of YouTube during one of her visits to

Guatemala, it seemed that accessibility to YouTube and the availability of adequate bandwidth was accessible to teachers; however, this was not always the case. To resolve this issue, the researcher prepared for two methods in which participants could access the training videos. The participants could access them through a private YouTube channel or by DVDs, which were sent with a student teacher who traveled to the children's home for her student teaching semester. The student teacher willingly disseminated the DVDs to each participant. Bandwidth issues also caused challenges for participants to upload 10-min videos to Dropbox; thus, the video length was dropped to no less than 3 min and no more than 5 min. This caused the problem of videos being too long for uploading. The receipt of sporadic video data from participants to the researcher caused changes in the research design to be implemented.

A third challenge resulted from the length of time required for Group 1 to reach criterion. Ms. Valentino met criteria within the first four sessions of the intervention phase; however, after 13 sessions, Ms. Martinez had not met criterion. The researcher with the co-chairs of her doctoral committee made the decision to begin the intervention phase for Ms. Provenencia due to time concerns. In addition, Ms. Provenencia had emailed the researcher to ask when she could watch the videos and begin getting feedback from the researcher. This indicated to the researcher Ms. Provenencia's eagerness to begin the intervention phase and fears of attrition added to the decision to begin the intervention phase.

The fourth challenge resulted from not having a direct contact person in Guatemala who could fully participate in assisting with the research. This created a challenge in moving through the steps of the research project in a timely manner. The

results of the study may, in part, be a result of the lack of a contact person on the ground who was fully committed to the success of the research. Because the researcher was not present throughout the study, she relied on others who live there or traveled there to help with logistical issues. However, these individuals who willingly assisted, were not able to devote major efforts to the project due to their own responsibilities; thus, their participation was based upon their availability. Having a person fully devoted to the project in Guatemala may have changed the results of the study; however, this also helps to answer the main research question: Can virtual coaching be effective in changing the target behavior of teachers? The answer, as per the results of this particular study, is mixed. Solely relying on technology to conduct the research was not effective in this study. A physical presence was required to answer questions, gather video data, and solve problems. An alternative to having a physical presence in country could be to combine an incentive with participation to help ensure requirements of the study are fulfilled. The challenge of needing a person in Guatemala to assist with the research was exacerbated by the participants' apparent lack of confidence in using technology and a perceived lack of motivation to participate in the project. A physical presence helped to keep participants on task with the procedures of the research. In addition, the researcher sent small gifts (i.e., pens, sticky note pads) to the participants on two occasions throughout the study to assist with motivation and helping to alleviate threats of attrition.

In addition to logistical challenges faced, the researcher faced cultural and language barriers as well. The researcher understood Spanish to the extent that she was able to converse with relative fluency, yet did not have an understanding of the language to be fully fluent. Thus, when available, the researcher used a translator or interpreter.

The researcher hired a professional interpreter/translator to assist with accurate translation of the training videos. In addition, the sound quality for Miss Valentino during coaching sessions with Skype created a situation in which it was difficult to hear and fully understand; thus, an intern at the children's home volunteered to assist with translating. The intern was not available to translate for Participants 2 and 3; therefore, the researcher relied on written transcripts for coaching sessions, which provided a greater opportunity for the researcher to think through responses and seek a dictionary as needed.

A fifth challenge that occurred throughout the study was that of cultural differences. During the study, the researcher's co-chair traveled three times to Guatemala and met individually with each participant. In addition, the researcher emailed each participant regularly and talked with participants during coaching sessions; however, this one-on-one contact with the research team did not always prevent challenges in communication. It was expected that participants would communicate to the researcher or a co-chair of her doctoral committee, with whom they have had previous interactions, when a need arose. This behavior is expected in the United States; however, several times throughout the study, participants faced problems in which they did not communicate with the researcher or the co-chair, despite being asked specifically if they needed anything, both by email and in person. They most often only voiced a need when a person within Guatemala asked them specifically about a particular issue in which the researcher asked a contact to follow up with participants. In part, this could be explained as a cultural issue based upon Guatemala's history of indigenous oppression; in addition, the culture of education in Guatemala does not appear to lend itself to teachers being self-

advocates in many cases. When conducting international research, it is important to consider cultural issues and address those effectively. The researcher for this study relied upon input from her own experiences in Guatemala, her co-chair, and in-country contacts for insight into cultural issues before the research began and during the data collection process. The researcher found that her in-country contacts could identify challenges more easily than she could from a distance; with this knowledge, the researcher plans to secure an in-country consultant for future research to more intentionally seek expertise during the planning process and to serve as a contact person for participants. Based on the experiences in this research study, having a person on the ground that is available to meet with participants seems to be a more efficient method of communicating with participants than relying on email or Skype alone. Further, identification of an in-country consultant could allow the researcher to understand cultural implications as they arise since the consultant could provide background knowledge that would otherwise be lacking.

A sixth challenge occurred with sporadic data collection, which created a challenge for the researcher to conduct quality coaching sessions specific to the most current video data from each teacher. Participants, as mentioned previously, experienced challenges in collecting video data for uploading to Dropbox for the researcher to retrieve. Often, participants would have multiple days, and sometimes weeks, in which they could not video record a lesson. Once lessons were recorded, participants also experienced difficulty in uploading videos to Dropbox. This resulted in the researcher receiving data sporadically. Sometimes multiple videos were received at one time, while other times only a few or no videos were received. Also, sometimes the videos were received on the same day that a coaching session was scheduled or no recent videos were received for a

coaching session. This caused the researcher to not have current videos by which to refer during coaching sessions. Having the ability to refer to current videos may have enhanced the quality of coaching sessions by providing teachers with current and relevant examples from their teaching from which they could base improvement on or have ideas on how to change their methods of providing praise to increase the rates at which they were providing praise to students.

A final challenge occurred in conducting coaching sessions regularly. Coaching sessions were planned for once per week throughout the intervention phase. Due to scheduling difficulties, technical difficulties, educational testing, and school breaks, sessions did not occur once per week. Thus, the researcher met with participants through Skype as often as possible.

Limitations

This study failed to establish experimental control. Therefore, it should be viewed only as a case study. This study could be viewed as a pilot study in that the researcher sought to identify an effective means to conduct international research using distance technology.

Future Research

Difficulty in identifying a clear design when the researcher does not have full control, due to being present only from a distance should be addressed in future research. The question of reliability for a study conducted from a distance is an issue for quality research. Future research should involve locals in the research to promote being fully invested in the project. This research study imposed targeted teacher behaviors on participants. Future research should include allowing participants to identify which

behaviors they may wish to improve upon in their classrooms. Furthermore, due to the nature of this study seeking to identify effective means by which to conduct virtual coaching, student data was not collected. Future research should seek to identify if teacher behavior changes by participants indeed impact student achievement or social behaviors and whether these impacts produce positive or negative effects.

In addition, future research should focus on effective strategies for cross-cultural mentoring. It is important for researchers to understand the culture in which they are working and include members of their research team who understand the culture fully.

Finally, the use of more current technology, which may reduce the technological challenges faced in this study, should be addressed. For example, this study required the use of multiple technologies (e.g., video conferencing, video recording, video uploading, accessing the Internet, etc.) across two devices (flip video camera and desktop computer), and for one participant a webcam was also used. Research focused around one device (i.e., iPads or iPhones) that has the capacity to perform all functions required (i.e., video conferencing, video recording, etc.) for successful implementation of the study, may assist researchers in identifying technologies that are more conducive to coaching and mentoring. It is important to remember that one cannot assume that the same technology, which works well in the United States, will work well in another country.

Conclusion

This study sought to identify if virtual coaching could be effective for increasing the use of a targeted teacher behavior. The results are mixed, yet this study adds to the literature on distance education and coaching. Technology can be used to improve

teacher behaviors in other countries. More research remains to identify the most effective methods for virtual coaching.

Appendix A

Cue Cards: Opportunities to Respond, Praise, Circulating Around the Room

Opportunities to Respond Cue Card

Definition: An opportunity to respond occurs when the teacher asks a question for students to respond orally or in writing, chorally or individually. Individual responding should include a variety of students (Rosenshine & Stevens, 1986; Stenhoff et al., 2004).

Remember:

- State a concept with a couple sentences, ask a question.
- Require some questions to be answered by the whole class.
 - Use your signal to alert students when the whole class is to respond.
- Require some questions to be answered by individuals.
 - State the question, and then say the student's name.
 - Vary which students are expected to respond.
- Goal: Ask a question about every 10 seconds.
- Ask a variety of questions
 - Who
 - What
 - When
 - Where
 - Why
 - How
- Asking frequent questions aids in increased student achievement.

Sample Questions:

- 1.
- 2.
- 3.
- 4.
- 5.

Praise Cue Card

Praise is a verbal statement recognizing a student's (or students') appropriate academic achievement or appropriate behavior.

Purpose: To reinforce the behaviors (social and academic) that you wish to see repeated.

Goal: One praise statement about every 10 seconds.

A quality praise statement is:

- a. Contingent (base on a correct response, behaviorally or academically)
- b. Specific to the behavior (describe exactly what was done well)
- c. Varied (provide for academic and behavior; use a variety of statements)
- d. Non-disruptive (maintain the flow of the lesson; students are not distracted; statements are short)
- e. Given with sincerity (mean what you say and let students know that by the tone of your voice and facial expression)
- f. Appropriately distributed (praise every student as often as possible)

My Sample Praise Statements:

- 1.
- 2.
- 3.
- 4.
- 5.

Circulating Around the Room Cue Card

Remember:

1. Monitor students:
 - during active instruction
 - during independent practice by circulating among students (within 1 foot; 30 centimeters) to
 - a. provide verbal feedback
 - b. ask a question
 - c. provide tactile feedback, such as a pat on the back
 - d. point out information in students' workbooks on their desks
2. Circulate around the room moving close to individual students (within 1 foot; 30 centimeters) throughout the lesson, including active instruction and independent work.
3. Can lightly touch their shoulder or back

Goal: Make contact with every student throughout active instruction AND during independent practice

My plan for circulating around the room is:

Appendix B
Coaching Protocol

Coaching Protocol

Participant Name: _____ Date: _____

1. Greet the teacher.	Yes	No
2. Ask if the teacher received the information from the previous coaching session. (Not applicable for first coaching session.)	Yes	No
3. Review the cue card for the target behavior. (During first coaching session, ask the teacher to share his/her example of how to implement the behavior from the bottom of the cue card.)	Yes	No
4. Ask teacher for his/her thoughts on how implementing the target behavior is going.	Yes	No
5. State a positive example of implementation of the target behavior.	Yes	No
6. Ask the teacher what his/her goal is for the coming week in implementing the target behavior with higher accuracy and at higher rates (Coach: Have an idea in mind, in case the teacher does not suggest a goal)	Yes	No
7. The consultant approaches the session as a partner with the teacher in a collaborative manner (i.e., sets positive tone, gives positive feedback, guides teacher through questioning, shares equally in the conversation)	Yes	No

Adapted from:

Ruble, L. A., et al. (2012).

Appendix C
Data Collection Sheet

Teacher Behaviors: Partial Interval Recording

Teacher: _____ Date: _____
 Session Number: _____ Condition: _____
 Start Time: _____ Stop Time: _____ = Total Time: _____

Circle target skill below for each condition:

Code: R = occurrence of an opportunity to respond; C = occurrence of circulating around the room;

P = occurrence of providing praise

NOTES:

1g						2g					
10ö											
3g						4g					
10ö											

5g						6g					
10ö											
7ö						8ö					
10ö											
9g						10g					
10ö											

Reliability percentage _____

Teacher Behaviors: Operational Definitions

	<i>Behavior</i>	<i>Definition</i>
1	Opportunities to respond	<p>Teacher asks an academic question or otherwise prompts an academic response, to a student or group of students.</p> <p>An opportunity to respond can include a written response or verbal response. In oral story reading, each sentence counts as a response.</p> <p>Only opportunities to respond directly related to the lesson may be counted as an opportunity.</p>
2	Circulates around the room	<p>Teacher moves in close proximity of students during active instruction and independent practice to actively monitor student responses</p> <p>Includes: Walking among students; making eye contact with students, or visually scanning the assigned task; sitting in a location in which all students are in close proximity, such as at a small table in which the teacher is sitting with students ó includes actively monitoring students and their work</p> <p>Does not include: Sitting in a location where there is no visible access to studentsø work; sitting when moving around the room would be more appropriate, such as would be the case in a larger classroom</p>

3	Praise	<p>Teacher states a specific affirmation to student or group of students</p> <p>A specific praise statement is:</p> <ol style="list-style-type: none"> a. Contingent (based on a correct response, behaviorally or academically) b. Specific to the behavior (describe exactly what was done well) c. Varied (provide for academic and behavior; use a variety of statements) d. Non-disruptive (maintain the flow of the lesson; students are not distracted; statements are short) e. Given with sincerity (mean what you say and let students know that by the tone of your voice and facial expression) f. Appropriately distributed (praise every student as often as possible) <p>•OKö is not counted as praise, nor is teacher repetition of pupil answer. •Yes, _____ö Giving a quick affirmation followed by the correct answer is counted.</p>
---	--------	---

Definitions taken from:

Stenhoff, D. M., et al. (2004).

Appendix D
Social Validity Survey

Social Validity Survey

Directions: Please think about your experience in training, coaching, and implementing the target behaviors during this research project. Rate the following items, by filling in the corresponding circle, according to your perceptions according to a 5-point scale (5=Very much, 4 = A lot, 3 = Somewhat, 2 = A little, 1 = Not at all).

	5	4	3	2	1
1. The video and Skype sessions helped me to learn to use specific praise.	<input type="radio"/>				
2. The training handouts were helpful for learning to implement the specific praise.	<input type="radio"/>				
3. I referred to the trainings (video and handouts) to help me implement specific praise.	<input type="radio"/>				
4. I will continue to use specific praise in my teaching.	<input type="radio"/>				
5. I will use specific praise in other subjects, at other times of the school day, and with other students.	<input type="radio"/>				
6. Specific praise is important for student learning and appropriate behavior.	<input type="radio"/>				
7. It is easy to use specific praise in my teaching.	<input type="radio"/>				
8. I think I will continue to use specific praise.	<input type="radio"/>				
9. Student learning improved as a result of my use of specific praise.	<input type="radio"/>				
10. Student behavior improved as a result of my use of specific praise.	<input type="radio"/>				

Comments:

References

- Amadio, M. (2009). Inclusive education in Latin America and the Caribbean: Exploratory analysis of the national reports presented at the 2008 international conference on education. doi: 10.1007/s11125-009-9114-1
- Billingsley, B., Israel, M., & Smith, S. (2011). Supporting new special education teachers: How online resources and web 2.0 technologies can help. *TEACHing Exceptional Children*, 43, 20-29.
- Brophy, J., & Good, T. L. (1986). Teacher behavior and student achievement. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 328-375). New York: Macmillan.
- Campbell, J. M., & Herzinger, C. V. (2010). Statistics and single subject research. In D.L. Gast (Ed.), *Single subject research methodology in behavioral sciences*. (pp. 440-441).
- Chen, C. W., & Ma, H. H. (2007). Effects on treatment on disruptive behaviors: A quantitative synthesis of single-subject researches using the PEM approach. *The Behavior Analyst Today*, 8, 380-397.
- Coleman, M., Duy, S., Freeland, N., Kane-West, J., & McCloskey, M. (2004). *Sociological aspects of children in Guatemala*. Retrieved August 2, 2010 from <http://www.tulane.edu/~rouxbee/kids04/Guatemala/nfreela/guatoverview.html>
- Couch, R. H., Goetz, J. P., & Baud, H. (1991). Living with disability in Guatemala. *Journal of Rehabilitation*, 57, 46-52.
- de Cacacho, J. (2007). *Building momentum for inclusions*. Retrieved August 2, 2010 from [http://www.usaid.gov/gt/docs/building%20 momentum inclusion feb19.pdf](http://www.usaid.gov/gt/docs/building%20momentum%20inclusion%20feb19.pdf)
- Dempsey, I., Arthur-Kelly, M., & Carty, B. (2009). Mentoring early career special education teachers. *Australian Journal of Education*, 53, 294-305.
- Denton, C. A., & Hasbrouck, J. (2009). A description of instructional coaching and its relationship to consultation. *Journal of Educational and Psychological Consultation*, 19, 150-175. doi: 10.1080/10474410802463296
- Falconer, K. B., & Lignugaris-Kraft, B. (2002). A qualitative analysis of the benefits and limitations of using two-way conferencing technology to supervise preservice teachers in remote locations. *Teacher Education and Special Education*, 25, 368-384.
- Gast, D. L. (2010). General factors in measurement and evaluation. In D. L. Gast (Ed.), *Single subject research methodology in behavioral sciences*. (pp. 91-109). New York, NY: Routledge.
- Gast, D. L. & Ledford, J. (2010). Multiple baseline and multiple probe designs. In D. L. Gast (Ed.), *Single subject research methodology in behavioral sciences*. (pp. 320-321). New York, NY: Routledge.
- Grandin, G. (2004). *The last colonial massacre: Latin America in the Cold War*. Chicago: The University of Chicago Press.
- Guskey, T. R., & Yoon, K. S. (2009). What works in professional development? *Phi Delta Kappan*, 90, 495-500.
- Jiménez, J.E., García de la Cadena, C. (2007). Learning disabilities in Guatemala and

- Spain: A cross-national study of the prevalence and cognitive processes associated with reading and spelling disabilities. *Learning Disabilities Research & Practice*, 22, 161-169.
- Knight, J. (2011). What good coaches do. *Educational Leadership*, 69, 18-22.
- Koch, S. P. (2007). Training rural special educators online to teach social skills. *Rural Special Education Quarterly*, 26, 16-20.
- Kretlow, A. G., & Bartholomew, C. C. (2010). Using coaching to improve fidelity of evidence-based practices: A review of studies. *Teacher Education and Special Education*, 33, 279-299.
- Ma, H. (2006). An alternative method for quantitative synthesis of single subject researches: Percentage of data points exceeding the median. *Behavior Modification*, 30, 598-617.
- Manz, B. (2005). *Paradise in ashes: A Guatemalan journey of courage, terror, and hope*. Berkeley: University of California Press.
- Poppema, M. (2009). Guatemala, the Peace Accords and education: A post-conflict struggle for equal opportunities, cultural recognition and participation in education. *Globalisation, Societies and Education*, 7, 383-408.
- Rock, M. L., Gregg, M., Thead, B. K., Acker, S. E., Gable, R. A., Zigmond, N. P. (2009). Can you hear me now? Evaluation of an online wireless feedback technology to provide real-time feedback to special education teachers-in-training. *Teacher Education and Special Education*, 32, 64-82.
- Rock, M. L., Zigmond, N. P., Gregg, M., Gable, R. A. (2011). The power of virtual coaching. *Educational Leadership*, 69, 42-47.
- Rodriquez, D., Espinosa de Gaitan, R., & Luterbach, K. J. (2008). Understanding the complexities of special education in Guatemala. *Journal of International Special Needs Education*, 11, 31-37.
- Rosenshine, B., & Stevens, R. (1986). Teaching functions. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 376-391). New York: Macmillan.
- Ruble, L. A., Dalrymple, N. J., & McGrew, J. H. (2012). *Collaborative model for promoting competence and success for students with ASD*. New York: Springer.
- Scheeler, M. C., Congdon, M., & Stansbery, S. (2010). Providing immediate feedback to co-teachers through bug-in-ear technology: An effective method of peer coaching in inclusion classrooms. *Teacher Education and Special Education*, 33, 83-96.
- Scheeler, M. C., McKinon, K., & Stout, J. (2012). Effects of immediate feedback delivered via webcam and bug-in-ear technology on preservice teacher performance. *Teacher Education and Special Education*, 35, 7-90.
- Schlessinger, S. & Kinzer, S. (2005). *Bitter Fruit: The Story of the American Coup in Guatemala*. Cambridge: The President and Fellows of Harvard College.
- Shidler, L. (2009). The impact of time spent coaching for teacher efficacy on student achievement. *Early Childhood Education*, 36, 453-460. doi: 10.1007/s10643008-0298-4
- Stenhoff, D. M., Davey, B. J., Slocum, T. A., Lignugaris-Kraft, B., & Salzberg, C. L. (2004). *The Teacher Performance Measure (TPM)* (Tech. Rep. No. 1). Logan, UT: Utah State University, Department of Special Education and Rehabilitation.
- United Nations Children Fund (2008). *At a glance: Guatemala*. Retrieved August 2, 2010 from <http://www.unicef.org/infobycountry/guatemala.html>.

United States Agency for International Development Guatemala (n.d.). *Health and Education*. Retrieved August 2, 2010 from http://www.usaid.gov/gt/health_education.htm

Vaillant, D. (2011). Preparing teachers for inclusive education in Latin America. *Quarterly Review of Comparative Education*, 41, 385-398doi: 10.1007/s11125-011-9196-4.

Vita

Ruby L. Owiny

PROFESSIONAL PREPARATION

- 2006 ó 2013 *Doctor of Philosophy in Special Education, Doctoral Candidate*
University of Kentucky, Lexington, KY
- Certificate in Distance Education
 - Emphasis: Personnel preparation in learning/behavior disorders and Applied Behavior Analysis
 - Outside Area: International Studies
- 2001 ó 2003 *Master's of Arts Degree*
Asbury University, Wilmore, Kentucky
- Emphasis: Learning and behavior disorders (P-12)
- 1992 ó 1996 *Bachelor of Arts Degree*
Asbury University, Wilmore, Kentucky
- Major: Elementary Education (P-5)
 - Emphasis: Spanish

CERTIFICATION

- 1996 ó 2018 Kentucky Teaching Certificate (K-5)
- 2003 ó 2018 Kentucky Teaching Certificate (Special Education,
Learning/Behavior Disorders)

PROFESSIONAL EXPERIENCE: Employment

- 2013 ó present *Trinity International University, Assistant Professor of Education*
- 2010- 2012 *University of Kentucky, Part-time Instructor*
- 2003ó 2009 *Fayette County Public Schools, Special Education Teacher*
- 1998 ó 2003 *Fayette County Public Schools, Second/Third Grade Classroom Teacher*
- 1997ó 1998 *Assembly Christian School, Lexington, Kentucky, Fifth Grade Classroom Teacher*

PROFESSIONAL EXPERIENCE: Teaching Assistant/Practicum Experiences

- 2011 **University of Kentucky**
Co-taught with Dr. Allan Allday
- 2010 **University of Kentucky**
Co-taught with Dr. Belva Collins
- 2010 **University of Kentucky**
Co-taught with Dr. William Gustashaw
- 2009 **University of Kentucky**

AWARDS

- 2012 Arvle and Ellen Turner Thacker Research Fund Scholarship,
University of Kentucky, Principal Investigator; approximately
\$1,000 for dissertation research
- 2010 International research programs, University of Kentucky, College
of Education's International Initiatives Advisory Committee,
Principal Investigator; approximately \$1,500 to conduct survey
research in Guatemala

PUBLICATIONS: Published

- Owiny, R., & Mills, J. R. (2010) International mentoring: A model for U.S. rural schools.
ACRES Conference Proceedings.

PUBLICATIONS: Book Chapter in press

- Hudson, T., Hinkson-Lee, K., Owiny, R., & Stenhoff, D. (in press). Video Conferencing
for
Consulting Schools BISTA IN AZ Behavior Support Services. In Ludlow, B. L.,
& Collins, B. C. (Eds.). *Online in real time: Using Web 2.0 for distance education
in rural special education.* The American Council on Rural Special Education.

PUBLICATIONS: Manuscripts in revision

- Owiny, R., Grisham-Brown, J., & McKenzie, R. G. *Using effective teaching strategies to
meet Guatemala students' learning needs.* Manuscript in revision.
- Owiny, R., Sartini, E., & McKenzie, R. G. *Effective teaching in inclusive settings.*
Manuscript in revision.

PUBLICATIONS: Manuscripts in preparation

- Owiny, R., & Knight, V. *Simultaneous prompting in an inclusive small group.*
Manuscript in preparation.
- Owiny, R., & Knight, V. *Is the use of response cards an evidence-based practice?*
Manuscript in preparation.
- Owiny, R., McKenzie, R., & Brennan, S. *Merged programs in teacher preparation.*
Manuscript in preparation.
- Owiny, R., Collins, B.C. *Virtual mentoring: A literature review.* Manuscript in preparation.
- Owiny, R., & Grisham-Brown, J. *Training needs for improved inclusive classrooms in Guatemala.* Manuscript in preparation.
- Owiny, R., & Goldstein, B. *Teacher behaviors used in an inclusive classroom: A qualitative study.* Manuscript in preparation.

PROFESSIONAL EXPERIENCE: Presentations

- 11/13 Presentation for the Teacher Education Division Annual Conference, Fort Lauderdale, FL: Virtual Coaching in Guatemala: "Can it be Effective?"
- 04/13 Presentation for the Council for Exceptional Children Annual Conference, San Antonio, TX: "Increasing Specific Teacher Behaviors for Educators in Guatemala"
- 11/12 Presentation for the Teacher Education Division Annual Conference, Grand Rapids, MI: "Enhancing Inclusive Instruction through Unified Pre-service Training of General and Special Educators"
- 11/11 Poster presentation for the Teacher Education Division Student Kaleidoscope at the Annual Conference, Austin, TX: "Improving Collaboration among General Educators and Special Educators through Pre-Service Training"
- 04/11 Poster presentation with Mark Butler for the Council for Exceptional Children Annual Convention, Washington, D.C.: "Making FBA Relevant to the Classroom"
- 04/11 Poster presentation for the Council for the Exceptional Children Annual Convention, Washington, D.C.: "Simultaneous Prompting in Inclusive Settings"

- 11/10 Presentation with Mark Butler for the Kentucky Council for Exceptional Children Annual Conference, Louisville, KY: “An Assessment of Behavior: Toward a Practitioner’s Model:
- 03/10 Presentation with Jeremy Mills for the American Council on Rural Special Education Annual Conference, Memphis, TN: “International Mentoring: A Model for U.S. Rural Schools”

SERVICE

- 2013 **Reviewer**
Teacher Education Division Kaleidoscope Poster Presentations
- Teacher Education Division Annual Conference, November 2013
- 2013 **Guest Reviewer**
Teacher Education Division Kaleidoscope Poster Presentations
- Council for Exceptional Children Annual Conference, April 2013
- 2012 **Guest Reviewer**
SAGE Open
- 2011 ó 2013 **Committee for Inclusion, Chair**
Church of the Savior, Nicholasville, KY
- Developing and implementing programs for improved inclusion opportunities for members of the congregation with disabilities
- 2010 - 2013 **College of Education Internationalization Advisory Committee**
Student Representative, University of Kentucky, Lexington, KY
- 2010 ó 2013 **Kentucky Teacher Internship Program**
University Supervisor, University of Kentucky, Lexington, KY
- 2003 ó present **Co-founder and Director**
Project REACH with GO International Ministries, Wilmore, KY
- Mentoring program for teachers in third-world countries
- 2003 ó 2013 **Graduate Education Committee**
Asbury University, Wilmore, KY
- Reviewer for graduate thesis work
- 2011 ó 2012 **Consultant**
St. Leo Catholic School, Versailles, KY

- Provided consultation services on the development of policies for children with special needs for inclusion in the school

2010 ó 2011

Learning and Behavior Disabilities Program Faculty
Doctoral Student Representative, University of Kentucky, Lexington, KY

- Assisting with student admissions interviews, portfolio reviews

2010

Department of Special Education and Rehabilitation Counseling
Faculty Search Committee
Student Representative

PROFESSIONAL AFFILIATIONS

2014

Small Special Education Programs Caucus of the Teacher Education Division of the Council for Exceptional Children
Communications Editor, Two-year term

2011 ó 2013

Small Special Education Programs Caucus of the Teacher Education Division of the Council for Exceptional Children
Student Representative

2001 ó present

Council for Exceptional Children
Member

- Council for Children with Behavioral Disorders
- Division for Culturally and Linguistically Diverse Learners
- Division of International Special Education and Services
- Division for Learning Disabilities
- Teacher Education Division

2009 - 2010

American Council on Rural Special Education
Member

2003 ó 2009

Association for Direct Instruction
Member

1997 ó 2009

National Education Association
Member

1997 ó 2009

Kentucky Education Association
Member

1997 ó 2009

Fayette County Education Association
Memb