Online Theses and Dissertations   Student Scholarship

January 2012

Teacher Perceptions and Knowledge about Stuttering Before and After an In-Service Training

Micha Lachole Hobbs
Eastern Kentucky University

Follow this and additional works at: https://encompass.eku.edu/etd

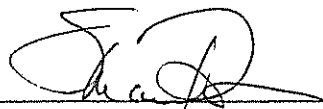Part of the Special Education and Teaching Commons

This Open Access Thesis is brought to you for free and open access by the Student Scholarship at Encompass. It has been accepted for inclusion in Online Theses and Dissertations by an authorized administrator of Encompass. For more information, please contact Linda.Sizemore@eku.edu.

Teacher Perceptions and Knowledge about Stuttering Before and After an In-Service Training

By

Micha Lachole Hobbs

Thesis Approved:

_____
Chair, Advisory Committee

_____
Member, Advisory Committee

_____
Member, Advisory Committee

_____
Dean, Graduate School

STATEMENT OF PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a Master's degree at Eastern Kentucky University, I agree that the Library shall make it available to borrowers under rules of the Library. Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgment of the source is made. Permission for extensive quotation from or reproduction of this thesis may be granted by my major professor, or in her absence, by the Head of Interlibrary Services when, in the opinion of either, the proposed use of the material is for scholarly purposes. Any copying or use of the material in this thesis for financial gain shall not be allowed without my written permission.

Signature _Michael Hobby_

Date _May 31, 2012_

Teacher Perceptions and Knowledge about Stuttering Before and After an In-Service Training

By

Micha Lachole Hobbs

Bachelor of Science
Eastern Kentucky University
Richmond, Kentucky
2009

Submitted to the Faculty of the Graduate School of
Eastern Kentucky University
in partial fulfillment of the requirements
for the degree of
MASTER OF ARTS IN EDUCATION
August, 2012

DEDICATION

This thesis is dedicated to my husband, Brandon Hobbs, for his constant encouragement and support for me throughout my educational endeavors. It is also dedicated to my parents, Mike and Cheri Anes for their unwavering support and teaching me that even the largest task can be accomplished if it is done one step at a time.

ACKNOWLEDGMENTS

ABSTRACT

This study was designed to further investigate the relationship between teachers' knowledge and perceptions of stuttering before and after an in-service training. Specifically, to determine whether providing teachers with training on stuttering increases their knowledge of stuttering and contributes to more positive perceptions towards their students who stutter (SWS). The participants were twenty-three elementary and secondary teachers from Wolfe County Kentucky who currently had students in their classrooms who stuttered and volunteered to participate in this study. The participants' knowledge about stuttering was measured using the *Alabama Stuttering Knowledge Test* (ASK) and their perceptions were measured using the *Teacher Attitudes Toward Stuttering Survey* (TATS). Both instruments were used to measure the teachers' knowledge and perceptions before and after an in-service training was provided. Analysis of the study's results suggested that a statistically significant difference existed between teachers' overall knowledge about stuttering after the in-service training. The results also suggested that a statistically significant difference existed between teachers' perceptions of their SWS after the in-service training. The results of this study suggest that a relationship exists between teachers' knowledge of stuttering and their perceptions of SWS in their classrooms.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I
INTRODUCTION

Negative perceptions of students who stutter (SWS) by classroom teachers may have an adverse affect on the assessment, instruction, and educational progress of these students in their classes (Lass, Ruscello, Schmitt, Pannbacker, Orlando, Dean, Ruziska, & Bradshaw, 1992). Teachers play a crucial role in the educational process; thus, their perceptions are important to the educational progress of their students. Lass et al. (1992) found that teachers typically view stutterers negatively and associate them with negative personality stereotypes. They concluded that an open discussion with teachers concerning their negative perceptions could help eliminate or at least reduce the negative impact of these perceptions toward stutterers in the classroom. Crowe and Cooper (1977) found that having knowledge about specific communication disorders positively influences an individual's attitude toward that disorder. Ebert and Prelock (1994) found that when teachers participated in a collaborative service delivery with speech-language pathologists (SLPs), their perceptions of students with communication disorders and their abilities to interact with those students were more appropriate than teachers who were not trained. Hearne, Packman, Onslow, & Quine (2008) reported that teachers and parents lack awareness and understanding of stuttering, affecting the self-image of students who stutter and the student's willingness to seek help. These studies suggest that teachers lack knowledge of stuttering impacting their overall perceptions of students who stutter (SWS) in their classrooms. Providing training for teachers in order for them to gain the knowledge needed to work with SWS is needed and suggested in the literature.

Even though there is little research in the literature about in-service training on stuttering provided to educators in the existing research, recommendations for in-service trainings, continuing education courses, open discussions, and more are suggested for future studies (Allard & Williams, 2007; Clauson & Kopatic, 1975; Crowe & Cooper, 1977; Crowe & Walton, 1981; Dopheide & Dallinger, 1975; Ebert & Prelock, 1994; Lass et al., 1992; Jenkins, 2010; Roberts, 1998; Yeakle & Cooper, 1986). These studies concluded that teachers lack knowledge in the area of stuttering and do not appropriately interact with SWS in their classrooms, often exhibiting negative perceptions toward those students. The studies also determined that providing teachers with education opportunities in the area of stuttering should increase the teachers' knowledge of stuttering improving their perceptions towards SWS. Interestingly enough, what research has been conducted suggested the need for such in-service training, yet few follow-up studies have been conducted. According to Lass et al. (1992), the negative perceptions of stereotypical behavior associated with stuttering should be addressed through pre-service coursework and continuing education courses. The purpose of the in-service is to make teachers aware of misconceptions about stutterers and the origins of those misconceptions. Crowe and Walton (1981) suggested that a program pairing identification of teacher attitudes toward stuttering with teacher education could set the foundation of positive communicative interactions made within the classroom. In return, this would complement the therapeutic process. Yeakle and Cooper (1986) conducted a study to assess teachers' perceptions of stuttering. They created a survey known as the Teachers' Perceptions of Stuttering Inventory (TPSI) to distribute to teachers in order to analyze their perceptions. The results suggested that the majority of the teachers held

unconfirmed beliefs concerning the etiology of stuttering and personality traits persons who stutter (PWS) demonstrate. Yeakle and Cooper (1986) determined that teachers play an important role in the educational performance of a stutter; therefore in order for teachers to have an adequate understanding of stuttering, an in-service training must be provided to teachers to address the problem of stuttering at hand.

In order to educate teachers about stuttering, it is best that speech-language pathologists conduct in-service trainings within the school district (Ebert and Prelock, 1994). The speech-language pathologist (SLP) can provide adequate information about stuttering regarding etiology, statistics, facts, and tips on how to interact with the SWS including the dos and don'ts. The SLP would be able to provide concrete facts about stuttering including causes, personality traits, types of stuttering, intervention approaches, etc. The statistics would include ratio of males to female stutterers, children and adult stutterers, genetics among others. Tips would be provided to teachers on how to properly interact with SWS. Pre-post testing is important to complete to see if an in-service does in fact increase teachers' knowledge of stuttering and improve their perceptions of CWS in their classrooms (Roberts, 1998). In summary, research has found that teachers have little knowledge about stuttering which in turn causes more negative perceptions of CWS in their classrooms (Allard & Williams, 2007; Clauson & Kopatic, 1975; Crowe & Cooper, 1977; Crowe & Walton, 1981; Dopheide & Dallinger, 1975; Ebert & Prelock, 1994; Lass et al., 1992; Roberts, 1998; Yeakle & Cooper, 1986). The purpose of this study is to further investigate the relationship between teachers' knowledge and perceptions of stuttering before and after an in-service training. Specifically, to determine whether providing teachers with training on stuttering increases their knowledge of stuttering and

contributes to more positive perceptions towards their students who stutter. The research question for this study is: Does in-service training on stuttering increase teachers' knowledge of stuttering and improve their perceptions toward children who stutter in their classrooms?

CHAPTER II

LITERATURE REVIEW

Knowledge and Perceptions

In general, teachers' perceptions towards children who stutter are found to be more negative. The literature suggests that teachers play a crucial role in the education process of their students who stutter and their perceptions of those students can impact this process. Woods (1975) conducted a study on teacher and student perceptions of males who stutter in the classroom. Forty-six teachers consisting of 23 third-grade and 23 sixth-grade teachers were asked to judge the speaking competence of stuttering boys in their classroom. Both teachers and students had more negative perceptions of the male stutterers in the classroom than the male non-stutterers. The teachers and students described the male stutterers as being more aggressive, shy, and poor talkers. The judgments were then compared to judgments made by other children in the classes. Results did not identify a significant difference in the judgments of the teachers compared to those of the children. Reasons for unfavorable judgments by the children in the classes were similar to the reasons of the teachers' judgments such as the SWS demonstrated more undesirable behaviors and poor appearance. The teachers' negative perceptions judged the SWS as poor speakers based on their reading ability and speaking abilities. If the SWS demonstrated behaviors such as mumbling or speaking softly, the teachers' typically judged them as being "poor talkers." Woods (1975) suggested that both teachers and students had an overall impact on the SWS in the classroom.

Clauson and Kopatic (1975) conducted a study on teachers' perceptions of students with communication disorders and their ability to accurately identify those

students. Teachers were asked to listen to normal and disordered audio speech samples of 10 different students ages 7-11 years. After listening to the samples, the teachers were to check "yes" if they believed the child had a speech disorder or "no" if they did not. Part 2 of the study consisted of a three part questionnaire designed to obtain information on the teachers' general knowledge of communication disorders, knowledge of the school speech program, and their attitudes towards children with communication disorders. The researchers found that teachers' perceptions of students with disordered speech were more negative than the normal speaking students. Teachers' demonstrated difficulty recognizing a normal speaker with typical nonfluencies on the recorded speech samples even though the majority felt confident they could. Eighty-two percent of the teachers failed to correctly identify the SWS on the audio recording. Teachers felt that their failure in recognition was normal and did not change their confidence in ability to identify SWS. Seventy-eight percent of the teachers expressed interest in wanting to learn more about communication disorders and how to help those students while in the classroom. In-service training and seminars conducted by speech-language pathologists was recommended by the researchers to help increase teachers' knowledge of communication disorders impacting their attitudes towards their students with communication disorders.

Crowe and Walton (1981) researched teacher perceptions and knowledge of stuttering to determine if a statistically significant relationship existed between teacher attitudes of stuttering based on the Teacher Attitudes Toward Stuttering Survey (TATS) compared to the individual's knowledge of stuttering. The TATS survey consisted of 36 attitudinal statements developed to determine how teachers perceived their students who stutter. The TATS inventory was obtained from 100 elementary school teachers

employed by the Mississippi school district and 33 speech-language pathologists (SLPs). The inventory obtained from the SLPs was used as a scale to determine how to rate the teachers' responses on the TATS. The teachers also took the Alabama Stuttering Knowledge (ASK) test in order to determine the teachers overall knowledge of stuttering. Results indicated a significant negative correlation with the presence of SWS in their classroom and showed that teachers with more knowledge of stuttering had more desirable attitudes and interacted differently with SWS. Teachers with more desirable attitudes and more knowledge of stuttering were also less likely to have SWS in their classroom at the time of the study. The researchers recommended that the assessments be used in further studies coupled with an in-service training to improve teacher perceptions and increase their knowledge of stuttering in order to complement the therapeutic process.

Yeakle and Cooper (1986) conducted a study analyzing 521 K-12 school teachers' attitudes towards stuttering. Attitudes were assessed using the Teachers' Perceptions of Stuttering Inventory (TPSI) developed by the researchers. The TPSI consisted of 10 attitudinal statements in which teachers were asked to indicate their strength of agreement on a Likert scale. Results indicated that the majority of teachers held insignificant beliefs about the etiology of stuttering and viewed personality characteristics of stutterers as negative. Teachers who had experience working with SWS, or had previous coursework or training in the area of stuttering indicated more positive and realistic attitudes toward SWS and demanded more out of the SWS in the classroom. Teachers, who did not have previous experience with SWS or any training in stuttering, exhibited more negative attitudes on the TPSI and demonstrated the need for training in

the area of stuttering. The researchers suggested in-service training addressing stuttering was needed to help to teachers better prepare for working with SWS in their classrooms.

Lass et.al (1992) found that teachers described students who stutter with more negative attributes than those students who do not stutter. Elementary and secondary school teachers (N=103) were given four different scenarios of people who stutter and asked to describe them with as many adjectives as possible. Nearly 63% (63.1) of the respondents had SWS in their classrooms at the time of the study. The study investigated teachers' perceptions of female and male child stutterers and adult stutterers. The scenarios consisted of four hypothetical stutterers (a typical 8-year-old female, 8-year-old male, adult female, and adult male stutterer). The majority of adjectives listed were deemed to be indicative of negative attitudes toward persons who stutter (PWS). Out of the 287 adjectives listed for all four hypothetical speakers, 192 were negative in nature (67.2%). The reported traits were broken into five categories: personality, physical appearance, intelligence, speech behavior, and other. Of the five categories, personality had the most adjectives listed for each of the four speakers. The most frequently reported personality traits teachers identified to describe SWS were shy, nervous, and insecure. The researchers suggested that open discussions of negative perceptions be employed to help eliminate or reduce these teacher perceptions. In-service training and/or coursework about stuttering was recommended for future studies to help inform teachers of perceptions and how they impact their SWS.

Dorsey and Guenther (2000) studied the perceptions of college professors and college students toward hypothetical college students who stutter. The participants were asked to fill out a questionnaire containing 20 personality traits to be judged on a Likert

scale from 1 to 7. The questions asked the participant to rate the degree to which either a hypothetical college student who stutters or hypothetical average student possessed the personality trait in question. Results revealed that participants rated the hypothetical SWS more negatively on the personality traits than the hypothetical average student. For example, personality traits of self-conscious, dull, incompetent, and nervous were more often identified than positive traits of self-assured, competent, intelligent, and bright. Results also suggested that the college professors rated the hypothetical SWS more negatively than the college students rated them. The professor participants rated the SWS more negatively on 15 out of 20 traits while the student participants rated the SWS more negatively on 13 out of 20 traits. Student participants rated the hypothetical SWS as more intelligent, and less incompetent than the hypothetical average student. Professor participants did not. A significant difference reported with regard to the tendency for professors to rate SWS more negatively than average students. College students rated SWS significantly more negatively compared to ratings for average students. The results of the study reinforce the need for stuttering in-service training for teachers, professors, and students to provide education about negative stereotypes in order to diminish them.

Allard and Williams (2007) investigated listeners' perceptions of speech and language disorders through the use of audio-taped speech samples from five different individuals. Only one sample depicted a normal speaking individual without a disorder, while the other four portrayed some type of communication disorder in the area(s) of articulation, language, voice, and fluency. Adult college students (N=445) were recruited to participate in the study. The study assessed attitudes toward a broad range of communication disorders to determine if they were affected by age, gender, exposure to

students with communication disorders, and residency. Results indicated that the fluency disordered speech samples were rated significantly lower and more negatively than that of the normal speech sample. The speech sample with the disordered speech of a person who stutters (PWS) was rated as having a higher stress level and lower self esteem than the sample of other communication disorders. This suggested that PWS are at higher stress level as perceived by college students.

Irani and Gabel (2008) conducted a study to assess teachers' attitudes toward PWS compared to fluent speakers. Participants were K-12 school teachers who were randomly selected across all 50 states. Participants were mailed a demographic questionnaire, a 14-item differential scale assessing attitudes towards PWS, informed consent form, a cover letter and a postage paid return envelope. Out of 1,100 survey packets mailed, 178 were deemed complete and usable. The 14-item questionnaire was a questionnaire provided 14 adjectives paired with their antonyms that described teachers' attitudes toward PWS. Using a 7-point- Likert scale between the antonyms, participants were asked to circle the number on the scale that best described the PWS. Results suggested participants did not present with negative attitudes toward PWS. Both the PWS and fluent speakers were described more positively for each item listed on the questionnaire, generating a positive result for the overall score. Participants were not given the option to generate their own adjective for the speakers listed on the questionnaire, nor were they provided with a definition of stuttering. It was also noted that the teachers may have not completed the questionnaire with their honest perceptions thinking that reporting negative attitudes towards PWS would be unacceptable in their profession. In addition, teachers were not excluded from this study based on previous

training in the field of fluency. Therefore, results could have been skewed if teachers had knowledge of stuttering prior to participating.

All of these studies used different methodologies but had similar results. The majority of the results indicated teacher perceptions are more negative toward SWS. All of the studies (Allard & Williams, 2007; Clauson & Kopatic, 1975; Crowe & Walton, 1981; Dorsey & Guenther, 2000; Irani & Gabel, 2008; Lass et al., 1992; Woods, 1975; Yeakle & Cooper, 1986 stated that teacher attitudes and perceptions play a major role in the educational process of children in their classrooms who stutter. Negative perceptions of SWS can cause children to have academic issues along with increased anxiety. All of the studies also recommended that in-service training or a continuing education course be provided to teachers to help eliminate or reduce the impact of negative perceptions on teachers' interactions with their SWS in the classroom as well as the educational progress of SWS.

In-Service Training

Recommendations for in-service training have been included in the literature for the past 35 years (Allard & Williams, 2007; Clauson & Kopatic, 1975; Crowe & Cooper, 1977; Crowe & Walton, 1981; Dopheide & Dallinger, 1975; Ebert & Prelock, 1994; Lass et al., 1992; Jenkins, 2010; Roberts, 1998; Yeakle & Cooper, 1986). These studies investigated teacher perceptions of children who stutter in the classroom, but did not provide an in-service training to determine if a change occurred after teachers receive training.

Dopheide and Dallinger (1975) investigated whether or not teacher in-service training led by an SLP would improve teacher's ability in identifying and working with

children with speech, language, and hearing disorders. Teachers were asked to participate in a workshop at the beginning of the 1973-1974 school year to provide training about speech, language, and hearing disorders by certified speech-language pathologists. Out of 61 teachers in the school district, 24 signed up to complete the workshop. Only 19 completed the entire workshop. The workshop consisted of multiple sessions in which teachers familiarized themselves with different types of communicative disorders, signs of communication disorders, and how to react toward students with communication disorders. Videotapes of children with communication disorders were used as a teaching method. Teachers responded to short surveys at the end of each session asking questions about communication disorders. Improvement in teacher-clinician cooperation and a better understanding of children with communication disorders and ways to help them in the classroom was demonstrated following the sessions. Results indicated that in-service training in the schools about communication disorders is needed and provides positive benefits. The researchers recommended that in-service training be provided by a certified speech-language pathologist.

Ebert and Prelock (1994) investigated the impact in-service training had on teachers' perceptions of their students with communication disorders. Sixteen elementary school teachers from Ohio City participated in the study. Eight teachers received the Language-in-the-Classroom (LIC) training while the other eight teachers did not. The LIC program was conducted by speech-language pathologists (SLP). The SLP trained teachers how to identify and work with children in their classrooms who have communication disorders. Results suggested that when teachers participated in a collaborative service delivery, their perceptions of students with communication

disorders, and their abilities to interact with those students were more accurate than teachers who were not trained. It was recommended that speech-language pathologists take the opportunity to educate teachers on various characteristics of speech and language development as important in the educational process in the classroom for children with communication disorders. By doing so, the negative perceptions of students with communication disorders' academic abilities may be minimized or diminished.

Roberts (1998) examined the impact in-service training had on elementary teachers' abilities to accurately identify students' with articulation, voice, and stuttering disorders. Thirteen teachers from K-5 were selected to participate in the study. The teachers were randomly divided into an experimental or control group for the study. Teachers of both groups completed the Speech Disorder Identification Quiz developed for the study after watching 16 videos of normal and speech disordered children speakers. The quiz instructed participants to circle "yes" or "no" as to whether they perceived the speaker to have a communication disorder. The experimental group was then provided an in-service training on speech disorder identification. Following the in-service training, both groups were provided the Speech Disorder Identification Quiz a second time. No significant difference from pretest-posttest in the experimental group was reported. However, a significant difference was reported for the experimental group's ability to identify the specific type of disorder. Voice disorders were least identified (67.8%) and articulation disorders were the most identified (92.8%). It was recommended that in-service trainings centered on specific disorders would be more beneficial in helping teachers accurately identify, perceive, and refer students with a communication disorder in their classrooms.

Jenkins (2010) obtained views from teachers in the United Kingdom (UK) about their current training in and awareness of stuttering resources to support school aged SWS. Twenty schools in the UK were contacted about participation in the study. A questionnaire was developed to investigate teacher resources on stuttering and training models. The questionnaire consisted of seven questions aimed at obtaining additional information to address the research study. Seventy-two questionnaires were returned. Results revealed that 89% of respondents had not had any type of training in stuttering; 94% stated they would like to receive more information about stuttering disorders. Sixty-five percent of respondents indicated a desire to participate in in-service training conducted by a speech-language pathologist (SLP). The findings offered new information regarding teachers' views of stuttering training and resources as well as their opinions for future trainings.

Clauson and Kopatic (1975), reported that 90% of teachers agreed that in-service training is a necessity concerning speech and language disorders. Crowe and Cooper (1977) found that having knowledge about specific communication disorders positively influenced attitudes toward that disorder. According to Crowe and Walton (1981), identification of teacher attitudes toward stuttering, paired with a teacher education program, could set the foundation for positive communicative interactions made within the classroom, as well as, complement the therapeutic process. Yeakle and Cooper (1986) suggested that a type of in-service training be provided to address the problem of stuttering. Negative perceptions of stereotypical behavior associated with stuttering should be addressed through in-service training and continuing education courses (Lass et al., 1992). The purposes of the in-service would be to make teachers aware of

misconceptions about stutterers and the origins of those misconceptions. In-service trainings could also cover the etiology of stuttering, tips for working with SWS, and treatments typically used with SWS. Allard and Williams (2007) suggested further public education in the area of stuttering is needed in order to increase awareness of communication deficits and diminish stereotypes that may be associated with the disorder as well as other communication disorders. Bennett (2003) discussed the need for teacher in-service trainings about stuttering disorders as a means of altering the negative perceptions teachers may have toward people who stutter. Strategies for in-service planning were also recommended including keeping the program simple while one engages, encourages, and empathizes with teachers.

CHAPTER III
METHODOLOGY

Research Design

The current study was a prospective study that was a replication, in part, of a study conducted by Crowe and Walton (1981) examining the relationship between teacher attitudes toward stuttering and overall knowledge about stuttering. The current study was designed to further investigate the relationship between teacher knowledge and perceptions before and after an in-service training using pre-post testing data analyses.

Participants

A convenience sample of participants was obtained from Wolfe County School District in Kentucky. Participants were K-12 teachers (n=23) who had SWS in their classrooms during the 2010-2011 school year. Wolfe County School District was chosen as the study setting due to the investigator working for the school district. Potential participants were considered for inclusion if they currently had students in their classrooms who stuttered and had not previously received any type of training on stuttering prior to the study. Participation in the study was completely voluntary. Participants attended an in-service training conducted by the Primary Investigator (PI) at Rogers Elementary on May 27, 2011.

Instrumentation

Three instruments were used to gather data. A demographic questionnaire was developed by the PI and provided to the participants prior to the in-service training. The demographic questionnaire consisted of questions to indicate highest degree obtained, age, number of years of teaching experience, gender, previous training on stuttering, number of years highest degree obtained, number of fluency students during career,

different geographic areas of teaching employment and if the individual was a parent (Appendix A).

The *Teacher Attitudes Toward Stuttering Survey* (TATS) was adapted from the original survey used by Crowe and Walton (1981). Statements on the TATS survey were originally structured to assess teacher attitudes towards stuttering and their behaviors for handling situations in the classroom when students stutter. The survey used a 5-point Likert scale where "5" indicated strongly agree, "4" somewhat agree, "3" undecided, "2" somewhat disagree and "1" strongly disagree. For example, question 8 asked "consistently applied, interruptions and commands "not to stutter" are useful techniques in increasing fluency." The PI modified the survey by omitting or altering test items determined redundant in nature. This resulted in a change from 45 to 30 statements (Appendix B).

The *Alabama Stuttering Knowledge Test* (ASK; Crowe & Cooper, 1977) was used to assess teacher knowledge about stuttering. The ASK consists of 26 true/false questions that measure an individual's knowledge of stuttering (Appendix C). No changes or modifications were made to the ASK questions. The ASK assesses knowledge of stuttering in the areas of etiologies, statistics, characteristics, and interventions. For example, question 1 asked "More girls than boys stutter: true or false?" Correct responses received 1 point and incorrect responses received 0 points. The total score was obtained from the sum of all correct responses with a possible maximum score of 26 or a minimum score of 0. Each participant was assigned a number for each instrument. The number corresponded directly to the participant, but was stored in a locked box to protect confidentiality. To distinguish the difference between pre-and post-testing data, the

TATS survey and the ASK test were identified with the number-letter correspondence. For example, 1A corresponded to participant number 1 and "A" to pre-test-data; 1B corresponded to participant number 1 and post-test data.

Procedures

A list of teachers who met the inclusion criteria was obtained from the Wolfe County Director of Special Education Director (DOSE). Teachers listed were sent an email including a brief description of the study purpose, methodology, participation requirements, contact information for the PI, and a description of an incentive opportunity (Appendix D). Participants were informed that there were no consequences for not participating and that the study was completely voluntary. The DOSE did not contact or influence participation by any of the potential participants in any way. Participants were offered an incentive for participating in the study. Time spent participating had been approved by the DOSE to allow the in-service training to be counted as a "G-Day" or "PD-Day." A G-Day is time spent working in the district after school hours or on days when school is not in session that is permitted to make up for missed school days during the school year. A PD-day is when a teacher attends an event considered professional development. All full time employees are required to have 7 G-days and 4 PD days per school year for the Wolfe County School District. The in-service training conducted by the PI could be counted for one of those days. The only cost to the participant would be associated with travel to the Board of Education in Wolfe County and their time spent.

The introductory email was sent to 40 teachers throughout the district represented in five schools. The teachers were asked to email the PI with a response within 7 days if

interested in participating. Twenty-three teachers (57%) responded to the email indicating a desire to participate. All email respondents participated after signing a consent form; no one dropped out of the study after agreeing to participate (Appendix E).

The participants attended a 2.5 hour in-service training conducted by the Primary Investigator (PI) at Rogers Elementary on May 27, 2011. Demographic data were obtained prior to initiation of the pre-test data collection. Once the demographic questionnaire was distributed to each participant, instructions were provided to assign a specific number to the questionnaire as an identifier. The PI composed a list of each participant's name and corresponding number to protect the integrity of pre/post-test data. No duplicate numbers were assigned. The number assigned was also used on the TATS survey and the ASK test responses. Test protocols were explained by the PI to the participants prior to administration of the TATS survey and the ASK test. Participants stated their understanding of the instructions and that their answers would be confidential. Next, the TATS survey (Crowe & Walton, 1981) was given to the participants to complete, followed by the ASK test.

Administrations were completed in the library at Rogers Elementary. Tables were arranged in a "U" formation. Participants sat on the outer and inner sides of the tables, but not directly in front of one another. Both instruments were administered via paper and pencil format. Temperature and lighting were judged appropriate and the environment comfortable. No time limit was set for completion of the instruments. Mean response time was 22.5 minutes (range 20-25 minutes) to complete the TATS survey and 15 minutes to complete the ASK test. Some questions on the TATS survey precipitated questions from the participants. Questions 5, 9, 10, 12, and 18 required clarification for

19

some participants. The PI addressed these questions without providing answers or personal bias on the particular questions.

Following instrument completions, the PI began the in-service training. The in-service training lasted 2.5 hours and included a variety of teaching methods: handouts, role-playing, and lecture. An overview of stuttering including causes and treatments, tips for teachers on how to deal with students who stutter in their classrooms, role play activities that allowed teachers to learn how to properly interact with their students who stutter, and answers to the most frequently asked questions about stuttering were provided. Handouts that summarized of the topics presented during the in-service training activities were to each participant. The handouts were reviewed extensively and specifically covered multiple topics relative to stuttering. The handouts included "*8 Tips for Teachers*", "*Notes to the Teacher*", and "*Stuttering Facts*" that were obtained by the PI from the Stuttering Foundation of America (Appendix F). After the in-service training was completed, participants were verbally instructed to return to the Wolfe County Board of Education on June 10, 2011 to complete post-training data collection for the TATS survey and ASK test. The report time was set for 8:30 a.m. prior to a mandated Professional Development (PD) day for all staff in the district. In order for the participants to receive PD time for participation in the study, they were required to complete the follow-up survey and test data collection.

Instructions were reviewed with to the participants for instrument completions and then distributed. The TATS survey was administered first followed by the ASK test. Both instruments were labeled with the participant's identification number from the initial testing and the letter "B" for post-testing. The TATS survey response time was

approximately 15 minutes. The ASK test took approximately 10 minutes to complete. As during pre-test collections, both instruments were completed via paper and pencil/pen. Once completed, the PI asked if participants had any questions; there were none. The PI expressed appreciation for their participation and then dismissed them.

Data Collection

Data from the TATS survey were charted and analyzed by calculating mean ratings for each question pre-post test. Means were compared using t-tests to determine if there was a significant relationship between pre-post test data due to the in-service. Data from the ASK test were charted and analyzed also by reviewing the average mean response for each pre-post test question and compared using t-test analysis to determine whether there was a significant difference in the data sets. Data were analyzed using SPSS predictive analytics software and solutions version 9.0 (SPSS Inc., Chicago IL). Data collected were stored in a locked box in a locked file cabinet in the office of the PI's EKU faculty advisor.

RESULTS

Introduction

The primary purpose of this study was to determine whether providing in-service training on stuttering increases teachers' knowledge of stuttering and contributes to more positive perceptions toward children who stutter in their classrooms. Twenty-three participants took part in the study and were given two assessments and a demographic questionnaire to complete. The TATS survey and the ASK test (Crowe & Walton, 1981) were provided to the participants' before and after an in-service training was conducted. The following sections will outline the results of this study.

Demographics

This section specifically reviews different demographics including age, gender, number of years teaching experience, highest degree obtained, and total number of fluency students during teaching career to see if any of these variables had an influence on the TATS pre-test and post-test scores.

TATS.

There was no significant difference in the linear relationship between participants' education level and their perceptions on the TATS survey. This means that the participants' education level did not contribute to their responses on the TATS survey (See Figure 4.1).
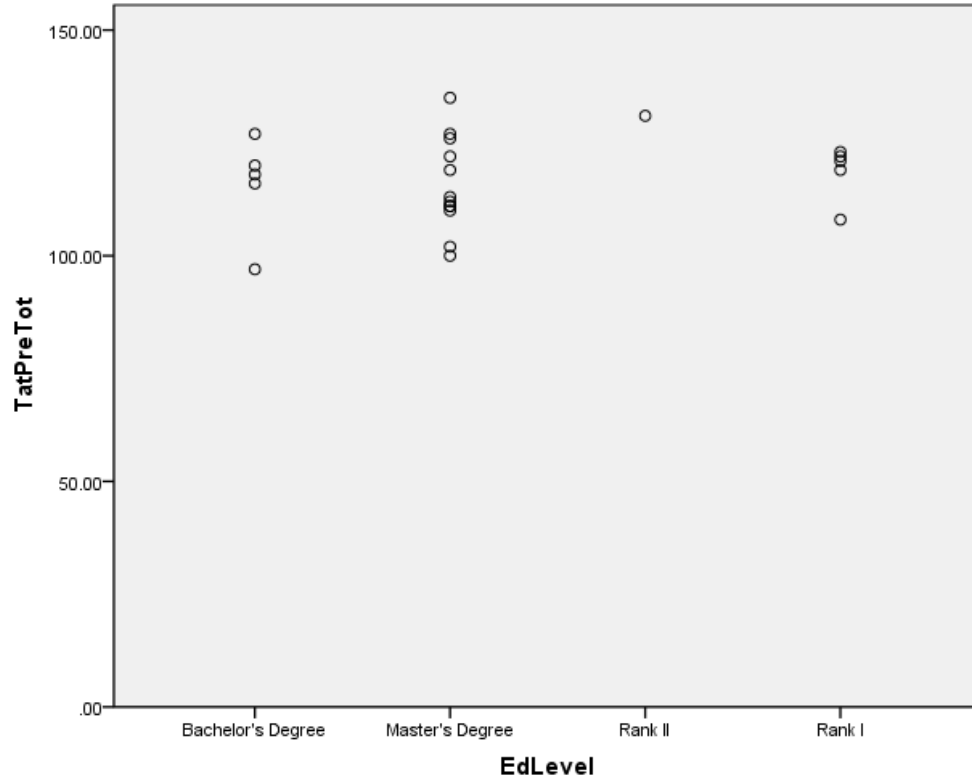
Figure 4.1 Relationship between Education Level and TATS pre-test responses.

There was no significant difference in the linear relationship number years teaching experience and the participants responses on the TATS survey *(r=0.117)*. This means that the number of years the participants' had in the field of education did not impact their overall responses on the TATS survey (See Figure 4.2).
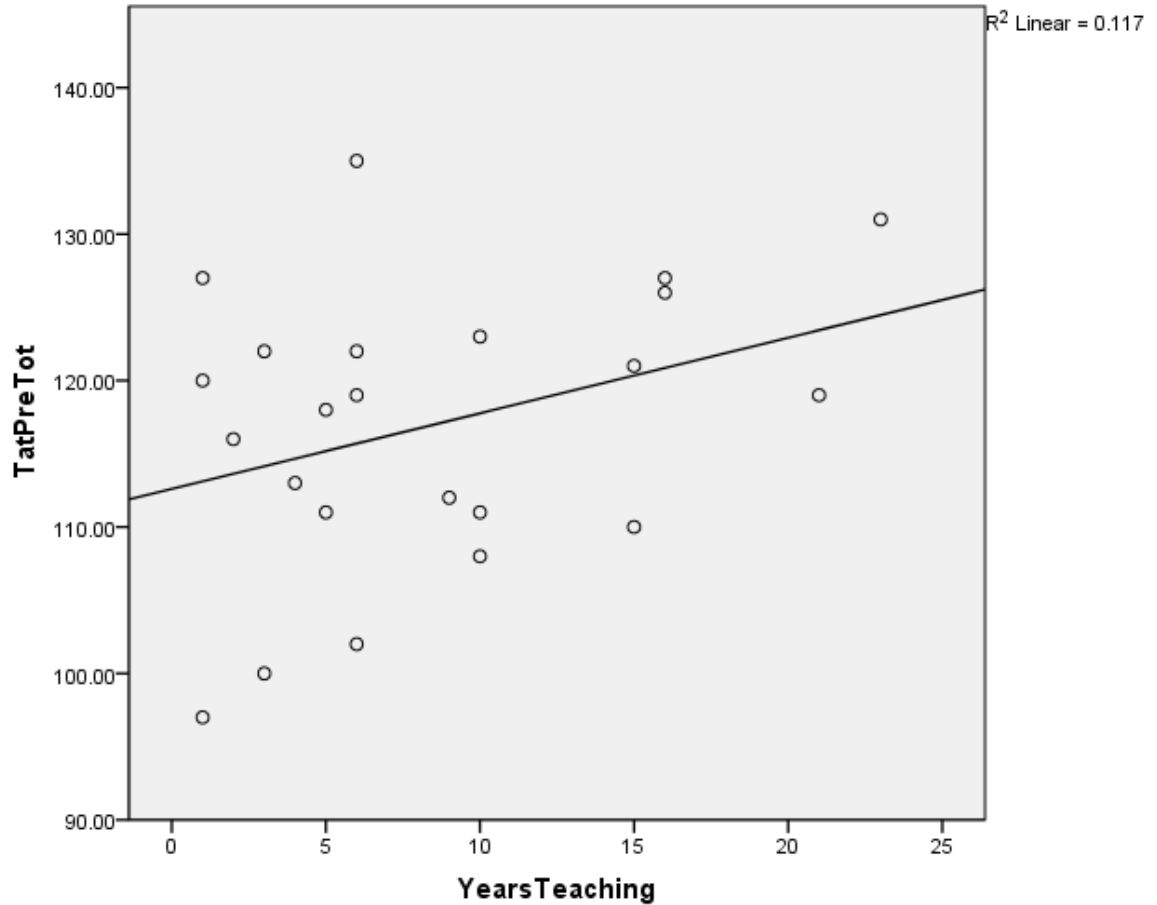
Figure 4.2 Relationship between number of years teaching experience and TATS pre-test responses.

There was no significant difference in the linear relationship in the number of fluency

students' participants' had in their teaching career and their responses on the TATS

survey pre-test *(r=0.047).* This means that the number of SWS the participants' had over

their teaching career did not impact their overall responses on the TATS survey (See

Figure 4.3).
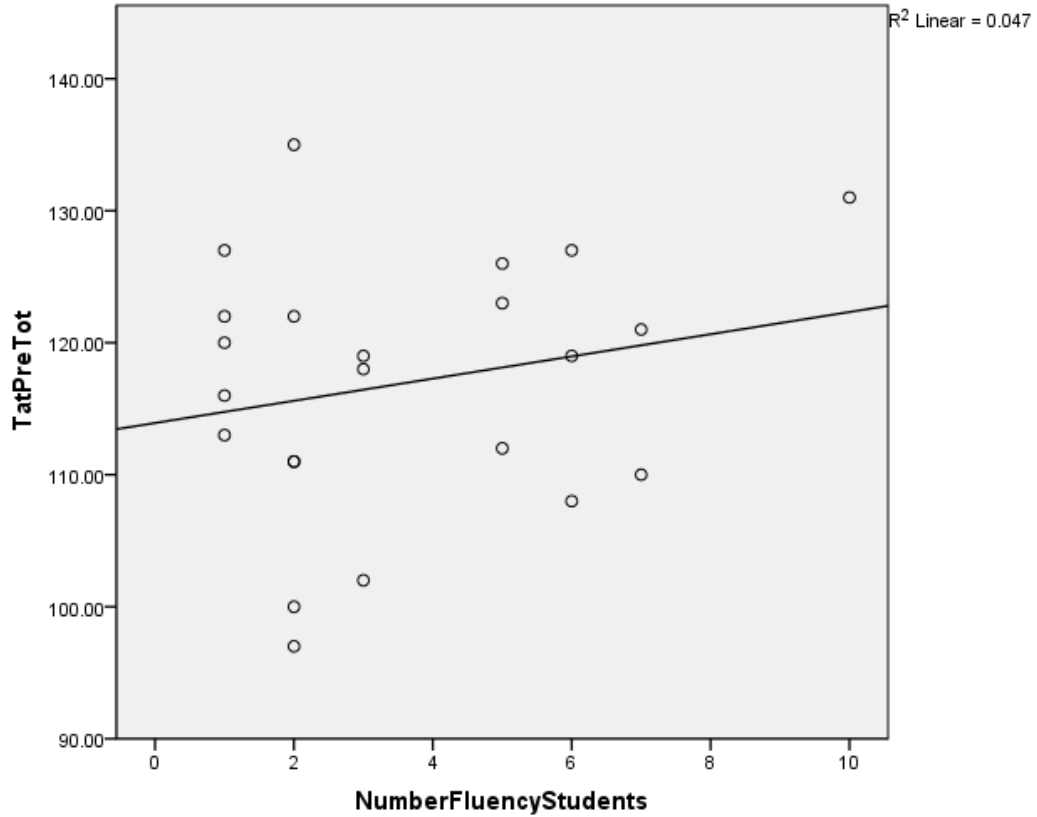
Figure 4.3 Relationship between number of fluency cases throughout participants' career and TATS pre-test responses.

ASK.

There was no significant difference in the linear relationship in the number of fluency students' participants' had in their teaching career and their responses on the ASK pre-test *(r=8.624E-5).* This means that the number of SWS the participants' had over their teaching career did not impact their overall responses on the ASK survey (See Figure 4.4).
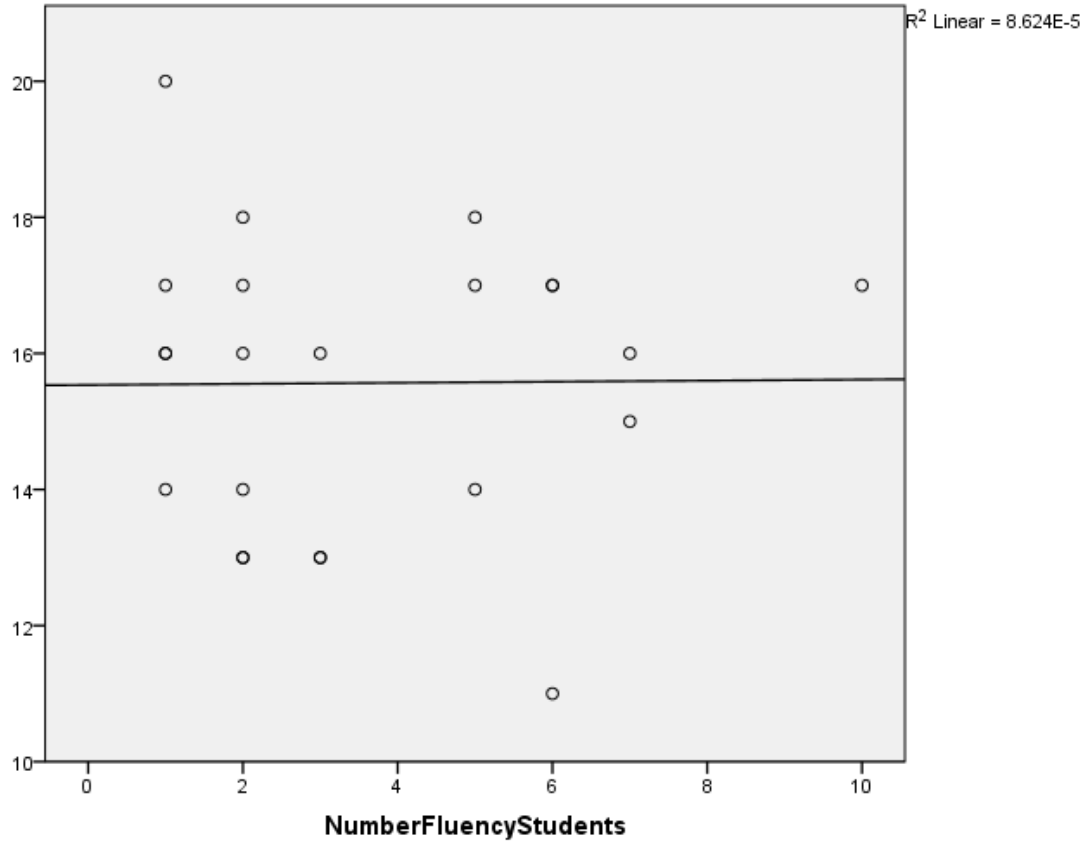
Figure 4.4 Relationship between number of fluency cases throughout participants' career and ASK pre-test responses.

There was no significant difference in the linear relationship between number of

years teaching experience and the participants' responses on the ASK test *(r=0.056)*. This

means that the number of years the participants' had in the field of education did not

impact their overall responses on the ASK test (See Figure 4.5).
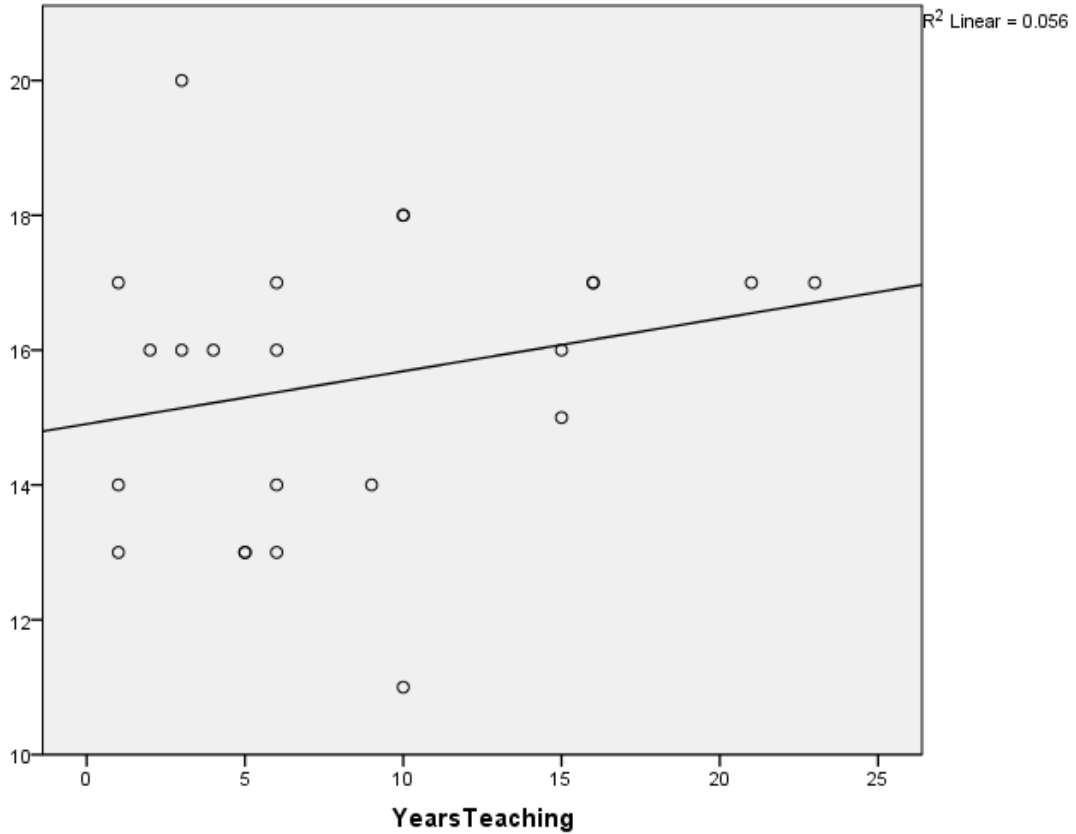
Figure 4.5 Relationship between number of years teaching experience and responses on the ASK pre-test.

Comparison of Pre-Post TATS Scores

The TATS survey was used to assess overall perceptions teachers' demonstrated on stuttering and SWS. A paired samples t-test was conducted to compare teachers' perceptions' of stuttering measured on the TATS after in-service training. The difference between TATS pre- and post-test group mean scores were statistically significant, $t (22) =$ -3.577, $p=.002$ (Table 4.4, Appendix G). This means that a positive change occurred with teachers' perceptions after an in-service training was provided (Figure 4.6).
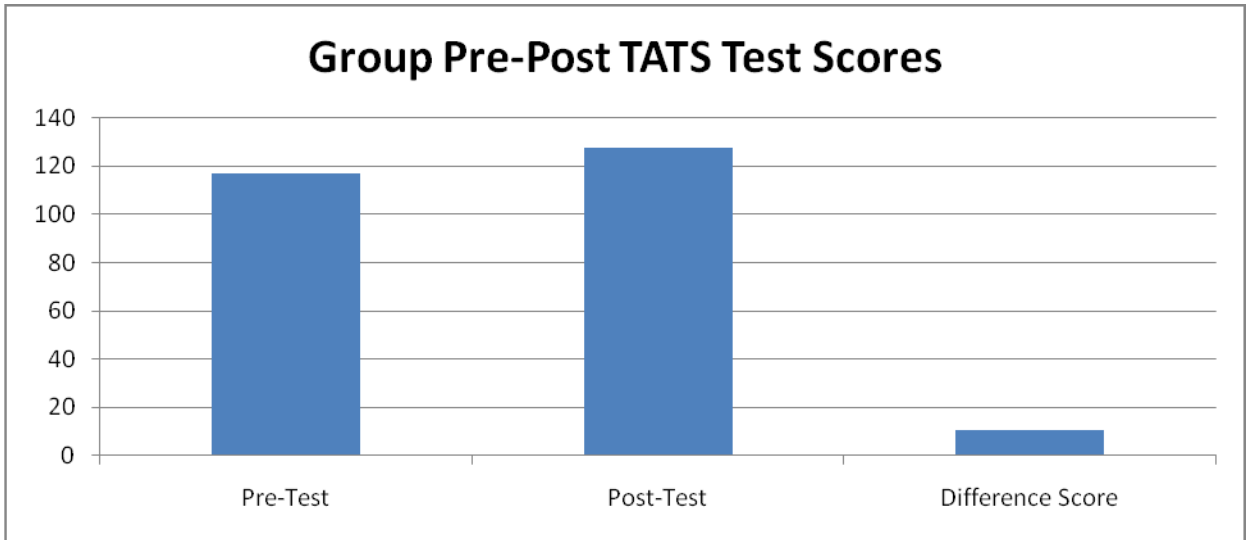
Figure 4.6 Group Pre-Post TATS Test Scores. The Group Mean Pre-Test score was 116.96 and the Group Mean Post-Test score was 127.61 for a difference of 10.65. The chart demonstrates the difference from pre-post test after an in-service training.

Individual Variability

Even though the results indicated a positive change with teachers' perceptions, there was individual variability that should be taken into consideration. Total scores indicated that an overall change in perception was observed in each participant. Figure 4.7 illustrates these changes by participant. Out of twenty-three participants, twenty had an overall positive change in perception while three had a slight negative change. Scores ranged from 111 to 144 with 111 being the lowest and 144 being the highest score post-test. Participant five had the lowest score post-test while participant twenty had the lowest change. Participant twenty-three had the greatest change from pre-to-post test and the highest score on post-test. There were also some participants that demonstrated negative change from pre-post test. Participant eleven had a pre-test score of 129 and a post-test score of 126 for a difference of 3 points. Participant twelve had a pre-test score of 126 and a post-test score of 117 for a difference of 9 points. Participant eighteen had a pre-test score of 118 and a post-test score of 112 for a difference of 6 points. After

comparing the demographics of these participants, there was no relationship between the demographics and the negative change on the pre-post test. None of the participants had ever worked as a teacher out of the state of Kentucky.
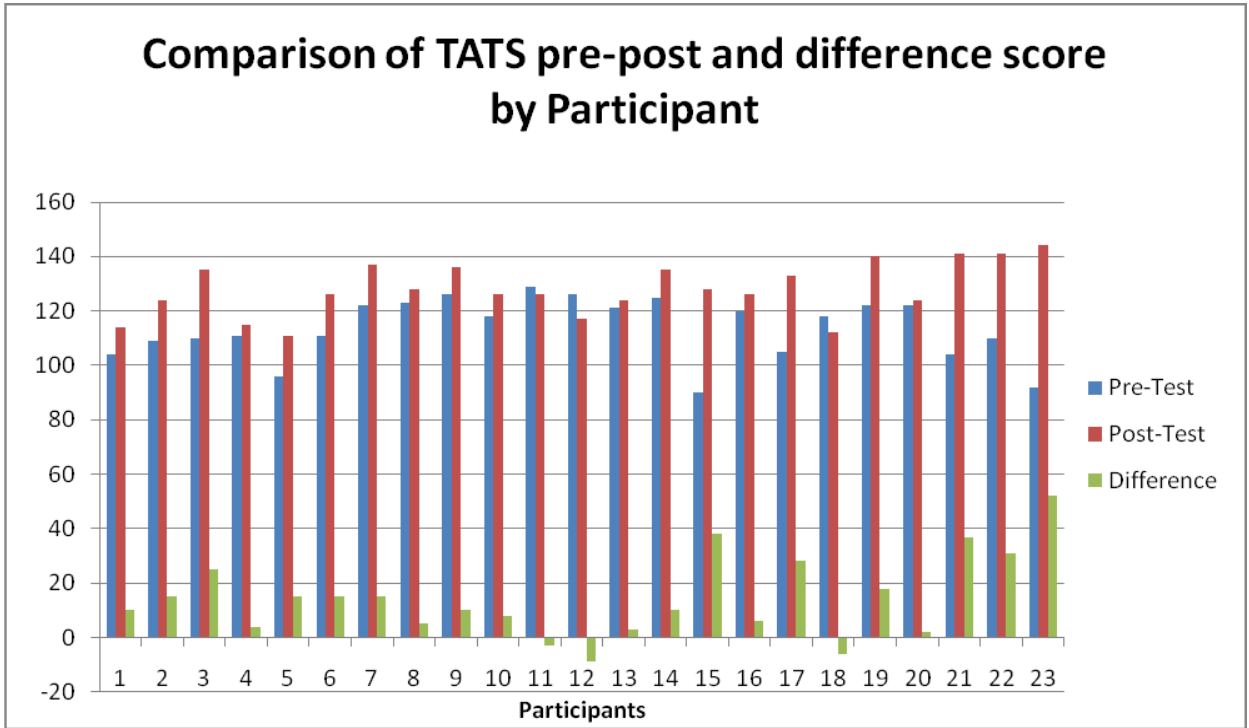
Figure 4.7 Comparison of TATS pre-post and difference score by Participant.

Question Variability

When analyzing the questions on the TATS pre-test, six questions showed an overall negative perception as a group. Questions 5, 9, 10, 25, 26, and 28 showed that the group as a whole demonstrated more negative perceptions towards those statements. This group included questions related to strategies to minimize stuttering, disciplining actions for SWS, and if stuttering can be cured. These questions started off as the most negative but post-test revealed that all of these questions changed to a more positive perception (See table 4.1).

Table 4.1. *Questions that Demonstrated Negative Perceptions Pre-Test to Positive Perceptions Post-Test*

Question Number	TATS Pre-Test Score	TATS Post-Test Score
5-Stuttering can never be completely cured.	2.13	3.96
9- Children are more fluent when teachers insist in relaxation in the child's behavior.	2.00	4.61
10-Teachers need to exercise extra patience in disciplining children who stutter.	2.65	4.30
25-Punishment of the stuttering child could create a worsening of the speech problem.	1.74	2.57
26-Teachers should caution the child to think before he/she speaks.	2.70	3.70
28-teachers should advise the child to take a deep breath before speaking.	2.52	3.13

There were seven questions that showed an overall group decrease from pre-test leading toward a more negative perception. This group of questions included questions related to direct perceptions of SWS, academic performance, punishment, and strategies used to minimize stuttering. Only three of these questions demonstrated enough of a decrease that it changed the overall perception. The other four questions had a slight decrease but the overall perception remained constant. This means there was no relationship between the question type and the overall perception participants' held about the statement. Table 4.2 shows the difference in group perception from pre-test to post.

Table 4.2 *Questions that Showed Negative Change*

Question Number	TATS Pre-Test Score	TATS Post-Test Score
1-A teacher should exempt a stutterer from oral or group discussions.	4.0	3.96
7-Stutterers should be made aware that they are different from other children.	4.78	4.0
11-It is important for teachers to be good listeners in dealing with stutterers.	4.83	4.30
12- Ridicule is a common human reaction to stuttering and may not affect the stutterer's speech. Therefore, the stuttering child should learn to accept and expect it.	4.39	3.83
18-Punishing stuttering behavior will increase fluent speech.	4.83	3.74
20-Stutterers cannot be expected to perform as well academically as non-stutterers.	4.74	4.22
29-Teachers are important influences in the overall process of helping the child adjust to his/her speech problem.	4.43	4.30

Note: Questions 7, 11, 20, and 29 decreased in average score however the overall perception remained constant. Questions 1 and 18 changed from an overall positive perception to an overall "undecided" perception.

There were five questions that showed the most significant change in perception from pre-test to post-test. For questions 5, 9, and 10 the overall perception pre-test was negative. On the Likert scale the number "2" represents "somewhat disagree" which translates to a negative perception. Questions 18 and 30 the overall perception pre-test was positive. On the Likert Scale the number "4" represents "somewhat agree" which

translates to a positive perception for those questions. Post-test revealed an overall

positive change for questions 5, 9, and 10 changing from "somewhat negative" to

"somewhat positive." Question 18 changed from "somewhat positive" to "undecided."

Question 30 remained constant from pre-to post-test however post-test revealed a change

closer to "strongly agree" which is a more positive perception. The group of questions

included questions related to strategies used to minimize stuttering, if there is a cure for

stuttering, and academics. The overall change of perception was positive for each of these

questions except for question number 18. Table 4.3 shows the difference in overall group

perception from pre- to post-test.

Table 4.3 *Questions that Demonstrated Most Significant Change*

Question Number	TATS Pre-Test Score	TATS Post-Test Score	*P* Value
5- Stuttering can never be completely cured.	2.13	3.96	.000
9- Children are more fluent when teachers insist in relaxation in the child's behavior.	2.00	4.96	.000
10- Teachers need to exercise extra patience in disciplining children who stutter.	2.65	4.30	.000
18- Punishing stuttering behavior will increase fluent speech.	4.83	3.74	.000
30-Typically, stutterers are below average academically compared to the non-stutterer.	4.17	4.96	.001

Comparison Pre-Post ASK Test Scores

The ASK test was used to assess the amount of knowledge teachers had about stuttering. A paired samples t-test was conducted to compare teachers' knowledge of stuttering measured on the ASK after in-service training. The difference between ASK pre- and post-test group mean scores were statistically significant, $t(22) = -13.162$, $p=.000$. This means that the teachers' knowledge on stuttering increased after the in-service training was provided (See Figure 4.8).
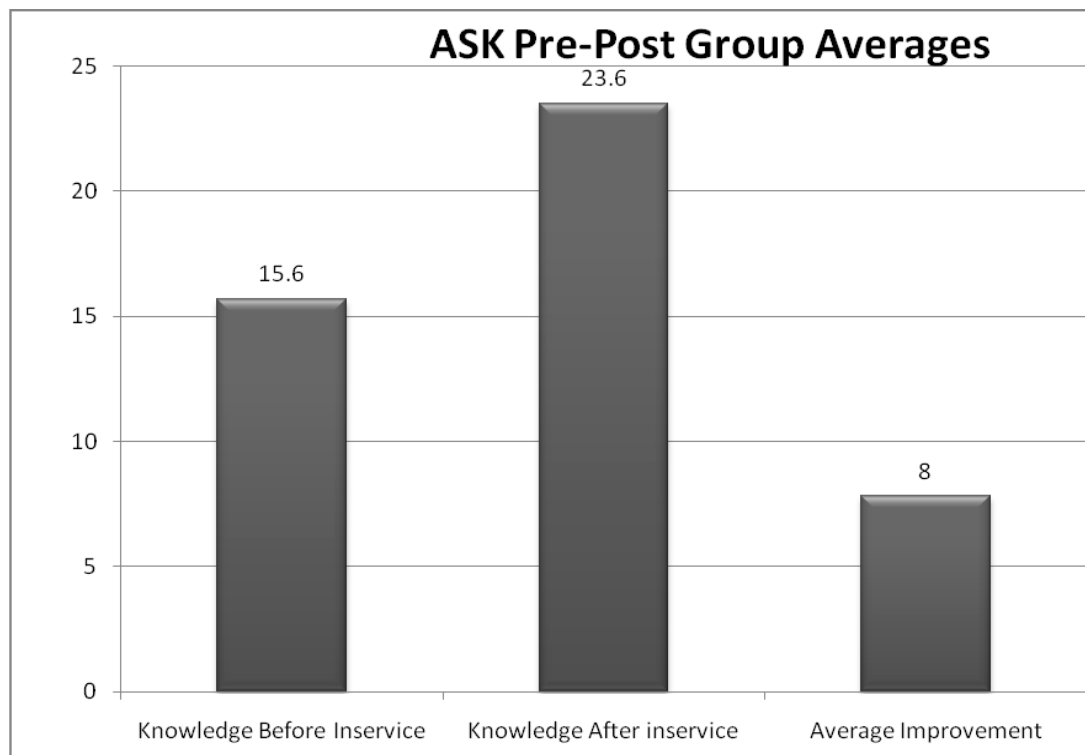
Figure 4.8 ASK Pre-Post Group Averages. The Group Mean Pre-Test score was 15.6 and the Group Mean Post-Test score was 23.6 for a difference of 8. The chart demonstrates the difference from pre-post test after an in-service training.

Individual Variability

Even though the results indicated a positive change with teachers' perceptions, there was individual variability that should be taken into consideration. Total scores

indicated that an overall increase in knowledge was observed in each participant. Out of twenty-three participants, all participants' had an average improvement of 8 points. Scores ranged from 11 to 20 pre-test and 21 to 26 post-test. The highest score that could be obtained was 26. Participants eight and twelve had the lowest score post-test while participant eight had the lowest change. Participant twenty-one and twenty-three had the greatest change from pre-to-post test and participants twenty-two and twenty-three had the highest score post-test. Figure 4.9 illustrates these changes by participant.
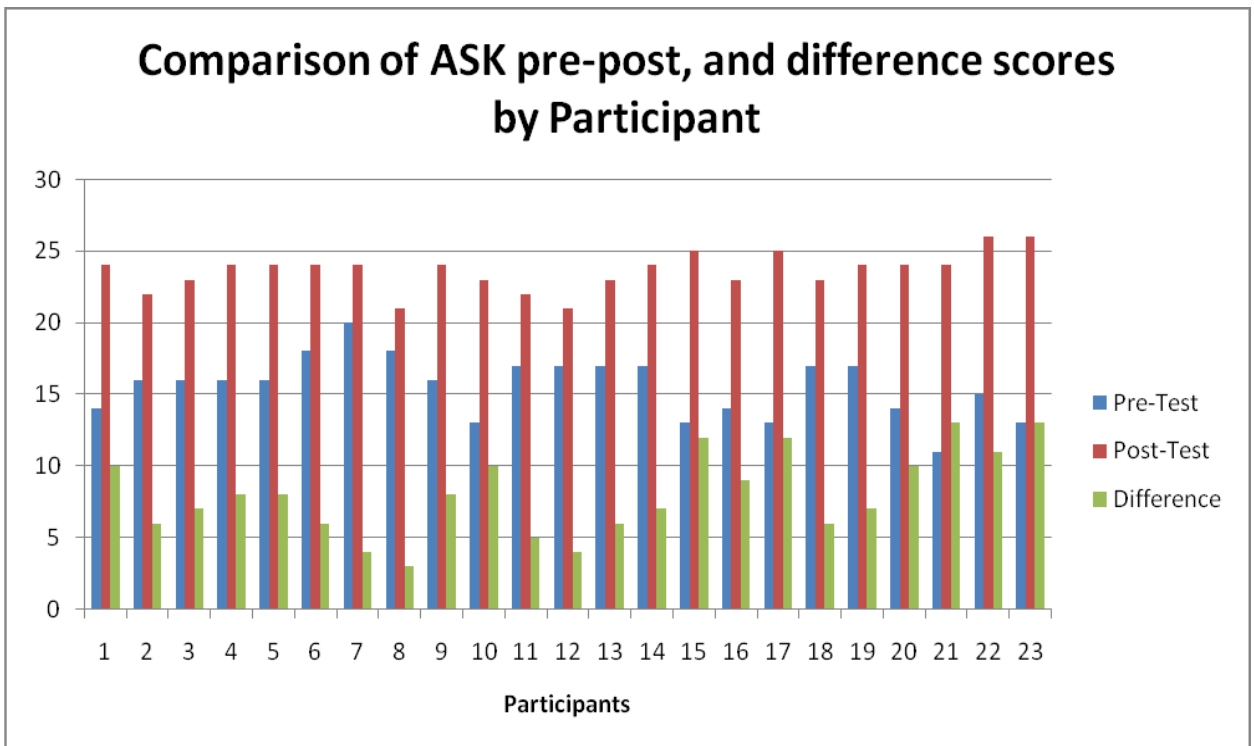
Figure 4.9 Comparison of ASK pre-post, and difference scores by Participant.

Question Variability

When analyzing the questions on the ASK post-test, thirteen questions showed a mean score of 1 meaning that all participants got those questions correct. Those questions

were 1, 2, 6, 8, 9, 10, 11, 14, 17, 18, 22, 24, and 26. Fourteen questions showed

significant improvement from pre-test to post-test. Questions 4, 5, 6, 8, 9, 11, 12, 16, 17,

18, 21, 22, 23, and 26 demonstrated significant improvement. There was also a question

that the majority of participants incorrectly answered post-test. Question 3 which asked

"In many cases, the cause of stuttering can be traced to a specific event in the child's life:

True or False" was found to get the most incorrect responses by the participants post-test.

All of the other questions showed an average correct response after the in-service by the

participants compared to pre-test. Table 4.5 shows overall change from pre-test to post-

test by each question (Table 4.5, Appendix H).

Chapter Summary

In summary, the findings suggest that in-service training did influence the overall

perceptions teachers' exhibit towards SWS and increased their knowledge on stuttering.

The results supported the research question, indicating that in-service training does

influence teacher perceptions of SWS and increase their knowledge on stuttering.

CHAPTER V

DISCUSSION AND CONCLUSION

This study investigated whether in-service training on stuttering increases teachers' knowledge of stuttering and contributes to more positive perceptions toward children who stutter in their classrooms. This chapter provides a discussion of study limitations, implications, and conclusions.

Discussion

This study investigated teachers overall knowledge and perceptions of stuttering before and after an in-service training was provided. The TATS survey and ASK test were used to assess teachers' knowledge and measure their perceptions towards SWS in their classrooms. The findings of this study were in agreement with previous studies conducted. This study found that teachers demonstrate an overall lack of knowledge in the area of stuttering impacting their perceptions of SWS in their classrooms. The analysis of the TATS survey before the in-service training showed that the majority of teachers held negative perceptions and misconceptions about SWS. Although the study was not designed to investigate correlations between demographic variables such as years experience teaching or highest level of education, cursory interpretation of the findings do suggest a lack of knowledge about stuttering ultimately impacting the teachers' perceptions. In the study conducted by Crowe and Walton (1981), teachers' TATS scores directly correlated with whether they currently had SWS in their classroom. The researchers concluded that teachers who had more positive and desirable attitudes on the TATS survey were less likely to have SWS in their classroom, while teachers who had more negative attitudes were more likely to have SWS in their classroom. The findings in

the study conducted by Crowe and Walton (1981) are in agreement with the findings of the current study suggesting that teachers' lack of knowledge in the area of stuttering has a direct impact on their overall perceptions of SWS in their classrooms. The current study was successful in finding a relationship between teacher knowledge and perceptions of SWS and improving those perceptions when provided in-service training in the area of stuttering. These findings demonstrate the need for teacher education in the area of stuttering and were suggested in future studies by Crowe and Walton (1981).

After looking at the demographic data, the mean age of the participants in this study was 40 years old, the mean number of years teaching experience was 8 years, and grades taught were broken into three levels: elementary, middle, and high school. Only 3 participants had experience teaching at different levels. The majority of participants taught elementary school (*n*=19), and 2 participants taught middle school and 2 participants were high school teachers. This demographic information shows the overall population of this study as being middle-aged elementary school teachers. There are a variety of influences that could impact teachers' perceptions of their SWS including movies, books, and television shows. Depending on what the teacher grew up watching or reading as a young child and even in their adulthood could impact how they perceive individuals who stutter. This also brings up an interesting thought. It could be argued that teachers' familiarity with famous people who stutter also impacts their perceptions of SWS. Just how influential are celebrities who stutter? Is the dysfluent speech minimized in relationship to the celebrity status of that speaker? Is the dysfluent celebrity more readily accepted and not perceived with any negative connotation because of his or her speech? The issue is raised with regard to the generalization to non-celebrity speakers

who stutter. Is a child perceived in the same manner or does the dysfluent speech convey/project negative perceptions? The findings of this present study did not investigate the correlation between familiarity and perceptions. A review of the literature does not identify any or a limited number of studies investigating the relationship between these variables.

Upon analysis of the data post-testing revealed a significant change in the participants' TATS scores and ASK scores from pre-testing. These findings suggest that in-service training has a great influence on increasing teachers' knowledge of stuttering creating more positive perceptions towards SWS in the classroom.

Limitations

After completing the study, there were several factors that could have potentially impacted the results. Several of these factors are related to basic human error and may have negatively impacted the reliability of the results. For example, if the participant did not read the entirety of the question before responding, they may have chosen a different answer than they would have if they had fully read the question. Participants may have had difficulty keeping track of the numbers on the Likert scale, and could inadvertently select the wrong number that they intended to. Formatting changes could have also impacted the overall outcome of the study. The TATS survey format was changed after the in-service training to save paper and make it simpler for the participants to read. The original TATS survey consisted of 4 one-sided pages. The revised format was one page front and back (Appendix H). No wording was changed and the chart was still the same as the previous survey. The new format could have confused some participants and they could have again made a mistake with the Likert scale when responding to the questions.

38

When conducting a study of this nature there is also no guarantee that participants will be honest. Even though their identity was completely anonymous, there is no way to prove if a participant will answer questions truthfully or provide their true perceptions on a topic. The TATS portion of the study required participants to rate their perceptions about stuttering and SWS in their classroom based on a 5-point Likert scale. Participants could have rated questions higher than they really felt because they did not want to be perceived negatively themselves. This could have had a negative impact on the study as well.

Due to the study being conducted in a small rural county and with a limited number of participants, the ability to generalize the results among a larger population is limited. There was also two weeks in-between pre-test and post-test allowing time for participants to absorb the information obtained from the in-service training. The participants were encouraged by the PI to not review or research any information about stuttering on their own until after post-testing was complete. The PI cannot guarantee that the participants did not research stuttering on their own time prior to completing post-testing which would impact the results of the study. If participants had in fact researched on their own time between pre-post testing, the in-service training would not be able to be determined the sole cause of change in perceptions and knowledge of stuttering. Despite the number of factors that would have potentially impacted the outcome results of this study, a method of determining the impact was not feasible.

Clinical Implications

The findings of this study indicate a strong need for in-service trainings for teachers in the area of stuttering. Results of this study suggest that teachers have overall

negative perceptions of SWS and little knowledge about stuttering. This study found that in-service training is successful in increasing the knowledge teachers have about stuttering which can impact their overall perceptions of SWS in a positive manner. It is important that in-service trainings be conducted by a speech-language pathologist or by a fluency specialist to ensure quality and factual information is used in the training. The in-service training should cover facts about stuttering, statistics, ideology, behaviors, do's/don'ts in the classroom, helpful tips and more. The information should be presented in variety of ways including; lecture, PowerPoint presentation, videos, role-play, and discussion. The PI plans to use the findings of this study to further educate teachers in the future by holding in-service trainings in those school districts that the PI may work in. The PI will also use this information to pass along to colleagues to try and generate a positive outlook on stuttering and increase teacher education trainings on stuttering in other areas.

Implications for Future Research

Implications for future research should try to address a larger and a more diverse population of participants. It is recommended that not only teachers with SWS who in their classrooms be included in the study, but other school-based professionals such as counselors, therapists, lunchroom personnel, paraprofessionals and others that may work with SWS. Another variable to consider is the size of a school district itself. The study was conducted in a small/medium sized rural school district. A larger school district would allow for comparison and ultimately more generalizability, which is needed. This study could also be repeated using the same methodology but using a more even ratio between males and females or similar demographics to further assess demographic

characteristics and perceptions and knowledge of stuttering. It is recommended that

correlation tests be conducted in future studies to obtain a more accurate analysis of the

relationship between teacher perceptions and knowledge pre/post-testing after in-service

training. Data obtained would be instrumental in determining if a significant difference

can be determined based solely on in-service training.

LIST OF REFERENCES

Allard, E.R. & Williams, D.F. (2007). Listeners' perceptions of speech and language disorders. *Journal of Communication Disorders, 41,* 108-123.

Clauson G. M. & Kopatic, N.J. (1975). Teacher attitudes and knowledge of remedial speech programs. *Language, Speech, and Hearing Services in Schools, 6,* 206-211.

Crowe, T. A. & Cooper, E. B. (1977). Parental attitudes toward and knowledge of stuttering. *Journal of Communication Disorders, 10*(4), 343-357.

Crowe, T. A. & Walton, J. H. (1981). Teacher attitudes toward stuttering. *Journal of Fluency Disorders, 6*, 163-174.

Dopheide, W.R. & Dallinger, J.R. (1975). Improving remedial speech and language services through clinician-teacher in-service interaction. *Language, Speech, and Hearing Services in Schools, 6,* 196-205.

Dorsey, M. & Guenther, R. K. (2000). Attitudes of professors and students toward college students who stutter. *Journal of Fluency Disorders, 25*(1), 77-83.

Ebert, K.A. & Prelock, P.A. (1994). Teachers perceptions of their students with communication disorders. *Language, Speech, and Hearing Services in Schools, 25,* 211-214.

Hearne, A., Packman, A., Onslow, M., & Quine, S. (2008). Stuttering and its treatment in adolescence: the perceptions of those who stutter. *Journal of Fluency Disorders, 33*(2), 81-98.

Irani, F. & Gabel, R. (2008). Schoolteachers' attitudes towards people who stutter: results

of a mail survey. *Canadian Journal of Speech-Language Pathology and*

Audiology, 32(3), 129-134.

Jenkins, H. (2010). Attitudes of teachers towards of dysfluency training and resources.

International Journal of Speech-Language Pathology, 12(3), 253-258.

Lass, N. J., Ruscello, D. M., Schmitt, J. F., Pannbacker, M. D., Orlando, M. B., Dean, K.

A., Bradshaw, & K. H. (1992). Teachers' perceptions of stutterers. *Language,*

Speech, and Hearing Services in Schools, 23, 73-81.

Ramig, P. R. & Bennett, E. M. (1995). Working with 7-to 12-year-old children who

stutter: ideas for intervention in the public schools. *Language, Speech, and*

Hearing Services in Schools, 26, 138-150.

Roberts, M.E. (1998). The effect of teacher training on speech disorder identification.

Ruscello, D. M., Lass, N. J., Schmitt, J. F., Pannbacker, M. D. (1994). Special educators'

perceptions of stuttering. *Journal of Fluency Disorders, 19*(2), 125-132.

The Stuttering Foundation. (n. d.) Questions teachers may have about stuttering.

Retrieved from http://www.stutteringhelp.org/Default.aspx?tabid=137

The Stuttering Foundation. (2008). 8 Tips for teachers. Retrieved from

http://www.stutteringhelp.org/portals/english/tips_for_teachers4_08.pdf

The Stuttering Foundation. (2011). Notes to the teacher. Retrieved from

http://www.stutteringhelp.org/Portals/english/0042NT.pdf

Woods, C. L. (1975). Teachers' predictions of the social position and speaking

competence of stuttering students. *Language, Speech, and Hearing Services in*

Schools, 6, 177-182.

Yeakle, M. K. & Cooper, E. B. (1986). Teacher perceptions of stuttering. *Journal of*

    Fluency Disorders, 11(4), 345-359.

APPENDIX A:

Demographic Questionnaire

Demographic Questionnaire

"Teacher Perceptions and Knowledge about Stuttering Before and After an In-Service Training"

1. What is your highest degree obtained?_____

2. How long have you had your highest degree? _____

3. Number of years teaching experience: _____

4. Number of years teaching Elementary_____, Middle_____, High_____

5. Please circle your gender: Male   Female

6. What is your age?_____

7. How much PD have you obtained in stuttering? _____

8. What is the number of fluency students you have had while teaching?_____

9. Have you always taught in Kentucky? If not, please list other states you were employed as a teacher.

   _____

10. Are you a parent? Yes   No

APPENDIX B:

Teacher Attitudes Toward Stuttering Survey (TATS)

Teacher Attitudes Toward Stuttering Survey (TATS)

Date:_____

Education: Highest Degree_____

Number of years Teaching Experience:_____

Circle Age-Group: 20-29 30-39 40-49 50+

Grade level in which you teach:_____

INSTRUCTIONS: Circle one response following each statement which best indicates your reaction to the statement.

1. A teacher should exempt a stutterer from oral or group discussions.

    Strongly   Somewhat   Undecided   Somewhat   Strongly
    Agree   Agree   Disagree   Disagree

2. Teachers would do best to ignore the stuttering of their disfluent students.

    Strongly   Somewhat   Undecided   Somewhat   Strongly
    Agree   Agree   Disagree   Disagree

3. Teachers should encourage stutterers to pursue careers that demand little speaking.

    Strongly   Somewhat   Undecided   Somewhat   Strongly
    Agree   Agree   Disagree   Disagree

4. It is helpful to the stutterer for his/her teacher to complete words on which he experiences pronounced disfluency.

    Strongly   Somewhat   Undecided   Somewhat   Strongly
    Agree   Agree   Disagree   Disagree

5. Stuttering can never be completely cured.

    Strongly   Somewhat   Undecided   Somewhat   Strongly
    Agree   Agree   Disagree   Disagree

6. It is a good policy for teachers to make children repeat stuttered words until they can speak them fluently.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

7. Stutterers should be made aware that they are different from other children.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

8. Consistently applied, interruptions and commands "not to stutter" are useful techniques in increasing fluency.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

9. Children are more fluent when teachers insist on relaxation in the child's behavior.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

10. Teachers need to exercise extra patience in disciplining children who stutter.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

11. It is important for teachers to be good listeners in dealing with stutterers.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

12. Ridicule is a common human reaction to stuttering and may not significantly affect the stutterer's speech. Therefore, the stuttering child should learn to accept and expect it.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

13. Teachers have relatively little influence on the stutterer's attitudes toward stuttering; the child develops most of his own attitudes independently.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

14. Children who stutter will probably make a better adjustment to their problem if they are encouraged to discuss openly their feelings about stuttering.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

15. It is natural for teachers to feel embarrassment when speaking to a stuttering child.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

16. It is advisable for teachers to suggest that stutterers avoid certain difficult speaking situations.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

17. It is helpful to encourage the stutterer to speak rapidly so that people will notice the stuttering less.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

18. Punishing stuttering behavior will increase fluent speech.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

19. Teachers should avoid eye contact when a stutterer is speaking to them.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

20. Stutterers cannot be expected to perform as well academically as non-stutterers.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

21. There are various degrees of stuttering severity.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

22. There is no relationship between fear and stuttering.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

23. Stutterers can in general be considered as being psychologically different from normal speaking students.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

24. Many children stutter as an attention getting device.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

25. Punishment of the stuttering child could create a worsening of the speech problem.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

26. Teachers should caution the stutterer to think before he/she speaks.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

27. Teachers should avoid calling on their students who stutter in class.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

28. Teachers should advise the stutterer to take a deep breath before speaking.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

29. Teachers are important influences in the overall process of helping the child adjust to his/her speech problem.

Strongly   Somewhat   Undecided   Somewhat   Strongly
Agree   Agree   Disagree   Disagree

30. Typically, stutterers are below average academically compared to the non-stutterer.

Strongly Agree	Somewhat Agree	Undecided	Somewhat Disagree	Strongly Disagree

APPENDIX C:

Alabama Stuttering Knowledge Test (ASK)

Alabama Stuttering Knowledge Test (ASK)

Instructions: Circle the letter "T" if you believe the statement to be True and circle the letter "F" if you believe the statement to be False.

TRUE	FALSE	
T	F	1. More girls than boys stutter.
T	F	2. Most stutterers find that they are totally fluent in a few situations.
T	F	3. In many cases, the cause of stuttering can be traced to a specific event in the child's life.
T	F	4. The onset of stuttering is usually sudden in nature.
T	F	5. The average stutterer stutters on approximately one-third of the words spoken.
T	F	6. Most moments of stuttering (the time it takes to complete the word) are less than two seconds in duration.
T	F	7. Approximately 5 percent of the population will stutter at some time in their lives.
T	F	8. In general, stutterers have about the same amount of difficulty with all the speech sounds.
T	F	9. A stutterer tends to stutter on the same words.
T	F	10. Stuttering and intelligence are not related.
T	F	11. Stutterers frequently are able to predict the words on which they will stutter.
T	F	12. If stutterers read aloud the same passage several times in a row, their stuttering decreases with each reading.
T	F	13. Stuttering generally is thought to be the result of a physical problem.

T	F	14. Because most stutterers begin stuttering in early childhood and stop stuttering before adulthood, most authorities consider stuttering primarily to be a disorder of childhood.
T	F	15. Most specialists think that there are different kinds of stuttering.
T	F	16. Stutterers have been found to talk less than non-stutterers.
T	F	17. At any given time, slightly less than one percent of the population stutters.
T	F	18. Stuttering occurs most frequently on the middle or second syllable of words with more than one syllable.
T	F	19. Speaking in singsong rhythm will usually help the stutterer be more fluent.
T	F	20. The louder a stutterer speaks, the more he/she stutters.
T	F	21. The majority of stutterers begin stuttering before the age of three.
T	F	22. It appears that as many as four out of five stutterers recover from stuttering without help.
T	F	23. Stuttering seems to "run in families."
T	F	24. Stuttering is more commonly found among families of the highest social and economic levels.
T	F	25. Stutterers may recover from stuttering at any age.
T	F	26. Stutterers have been found to exhibit certain identifiable personality traits.

APPENDIX D:
Recruit Email

Dear Wolfe County Teachers,

You are invited to participate in a research study designed to investigate the perceptions and knowledge of teachers before and after an in-service training is provided. Teachers who choose to participate will complete a survey and a short test on stuttering prior to an in-service training about stuttering. This will be conducted at the Wolfe County Board of Education. Two weeks after the in-service, teachers will be asked to complete the same survey and test again, to see if there were in changes in their knowledge and perceptions. This will take place at the Board of Education also.

To participate in this study, you must currently have students in your classroom who stutter, and have not had any previous training on stuttering. Your participation is completely voluntary, and you may choose to drop out at any time. Any and all identifying information (name, e-mail address, age, etc.) will be kept confidential and will not be included in the final report. Once the research results have been analyzed, all identifying information will be destroyed.

If you choose to participate in this study, the time spent completing the surveys and the in-service training can be counted as either a PD day or G day. If you have any questions concerning this study, please contact me at micha_hobbs12@eku.edu or by phone at 859-749-4930. Thank you for your time and participation.

Sincerely,

Micha Hobbs
Eastern Kentucky University

APPENDIX E:
Consent Form

Consent to Participate in a Research Study

Teacher Perceptions and Knowledge about Stuttering Before and After an In-Service Training

Why am I being asked to participate in this research?
You are being invited to take part in a research study about Teacher Perceptions and Knowledge about Stuttering. You are being invited to participate in this research study because you currently have students in your classroom who stutter and have not had any previous training on stuttering. If you take part in this study, you will be one of about 30 people to do so.

Who is doing the study?
The person in charge of this study is Micha Hobbs from Eastern Kentucky University. She is being guided in this research by Dr. Stephanie Adamovich. There may be other people on the research team assisting at different times during the study.

What is the purpose of the study?
This study has two research objectives. The main purpose of this study is to compare teachers' perceptions and knowledge of stuttering before and after an in-service training is provided. The second purpose of the study is to see if providing teachers with training about stuttering increases their knowledge about stuttering, as well as, changes their perceptions about their students who stutter.

Where is the study going to take place and how long will it last?
The research procedures will be conducted at Wolfe County Board of Education. You will need to come to this location two times during the study. The initial visit will take about 5 hours. The second visit will take about 15 minutes. The total amount of time you will be asked to volunteer for this study is 5 hours and 15 minutes over the next two weeks.

What will I be asked to do?
This study involves pre-post testing and a 4-hour in-service training focusing on stuttering. The participants will gather at the Wolfe County Board of Education to participate in the study. First, all participants will be asked to voluntarily and anonymously fill out a *Teacher Attitudes Towards Stuttering survey* (TATS). The participants will also be asked to take the *Alabama Stuttering Knowledge Test* (ASK). The survey and test will be administered by the primary investigator (PI) to the participants in person prior to the in-service training. The TATS survey consists of 30 questions that measure teachers' attitudes toward stuttering. The ASK will be

administered to the participants by the PI. The ASK consists of 26 true/false questions that measure knowledge of stuttering.

Next, the PI will conduct an in-service training about stuttering for the participants directly after they have completed the ASK test and the TATS survey. The training will include tips for teachers on how to properly interact with their students who stutter in the classroom and provide information and facts about stuttering.

Lastly, the PI will gather the participants together two weeks after the in-service training at the Wolfe County Board of Education, to administer the TATS survey and ASK test again. After the data are charted, the PI will compare the results of the TATS survey and the ASK test from before and after the in-service training, in order to determine if there was a significant difference in teachers' attitudes toward stuttering and an increase of their knowledge about stuttering after the training.

Are there reasons why I should not take part in this study?
If you do not currently have students' in your classroom who stutter, or you do, but have received training on stuttering, you should not take part in this study.

What are the possible risks and discomforts?
To the best of our knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life.

You may, however, experience a previously unknown risk or side effect.

Will I benefit from taking part in this study?
There is no guarantee that you will get any benefit from taking part in this study. We cannot and do not guarantee that you will receive any benefits from this study.

You will receive credit for a "g-day" or a "PD-day" if you choose to participate in this study.

Do I have to take part in this study?
If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering.

If I don't take part in this study, are there other choices?
If you do not want to be in the study, there are no other choices except to not take part in the study.

What will it cost me to participate?
The only cost to you would be your gas to the Wolfe County Board of Education and your time.

Will I receive any payment or rewards for taking part in the study?
You will receive credit for a "g-day" or a "PD-day" if you choose to participate in this study. If you should have to quit before the study is finished, the amount of time you were in the study will have to be determined before credit can be awarded.

Who will see the information I give?
Your information will be combined with information from other people taking part in the study. When we write up the study to share it with other researchers, we will write about this combined information. You will not be identified in these written materials.
We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. For example, your name will be kept separate from the information you give, and these two things will be stored in different places under lock and key.

Can my taking part in the study end early?
If you decide to take part in the study, you still have the right to decide at any time that you no longer want to participate. You will not be treated differently if you decide to stop taking part in the study.

The individuals conducting the study may need to end your participation in the study. They may do this if you are not able to follow the directions they give you, if they find that your being in the study is more risk than benefit to you, or if the agency funding the study decides to stop the study early for a variety of scientific reasons.

What happens if I get hurt or sick during the study?
If you believe you are hurt or if you get sick because of something that is done during the study, you should call Micha Hobbs at 859-749-4930 immediately. It is important for you to understand that Eastern Kentucky University will not pay for the cost of any care or treatment that might be necessary because you get hurt or sick while taking part in this study. That cost will be your responsibility. Also, Eastern Kentucky University will not pay for any wages you may lose if you are harmed by this study.

What if I have questions?
Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the investigator, Micha Hobbs at micha_hobbs12@eku.edu or 859-749-4930. If you have any questions about your rights as a research volunteer, contact the staff in the Division of Sponsored Programs at Eastern Kentucky University at 859-622-3636. We will give you a copy of this consent form to take with you.

What else do I need to know?
You will be told if any new information is learned which may affect your condition or influence your willingness to continue taking part in this study.

I have thoroughly read this document, understand its contents, have been given an opportunity to have my questions answered, and agree to participate in this research project.

_____   _____
Signature of person agreeing to take part in the study   Date

_____
Printed name of person taking part in the study

_____
Name of person providing information to subject

APPENDIX F:
Handouts for In-Service Training

8 Tips for Teachers

1. **Don't tell the child "slow down" or " just relax."**
2. **Don't complete words for the child or talk for him or her.**
3. **Help all members of the class learn to take turns talking and listening.** All children — and especially those who stutter— find it much easier to talk when there are few interruptions and they have the listener's attention.
4. **Expect the same quality and quantity of work from the student who stutters as the one who doesn't.**
5. **Speak with the student in an unhurried way, pausing frequently.**
6. **Convey that you are listening to the content of the message, not how it is said.**
7. **Have a one-on-one conversation with the student who stutters about needed accommodations in the classroom.** Respect the student's needs, but do not be enabling.
8. **Don't make stuttering something to be ashamed of.** Talk about stuttering just like any other matter.

Stuttering Facts and Information

What is stuttering? Stuttering is a communication disorder in which the flow of speech is broken by repetitions (li-li-like this), prolongations (lllllike this), or abnormal stoppages (no sound) of sounds and syllables. There may also be unusual facial and body movements associated with the effort to speak. Stuttering is also referred to as stammering.

What causes stuttering? There are four factors most likely to contribute to the development of stuttering: genetics (approximately 60% of those who stutter have a family member who does also); child development (children with other speech and language problems or developmental delays are more likely to stutter); neurophysiology (recent neurological research has shown that people who stutter process speech and language slightly differently than those who do not stutter); and family dynamics (high expectations and fast-paced lifestyles can contribute to stuttering).

Stuttering may occur when a combination of factors comes together and may have different causes in different people. It is probable that what causes stuttering differs from what makes it continue or get worse.

How many people stutter? More than 68 million people worldwide stutter, which is about 1% of the population. In the United States, that's over 3 million Americans who stutter.

What is the ratio of males to females who stutter? Stuttering affects four times as many males as females.

How many children stutter? Approximately 5 percent of all children go through a period of stuttering that lasts six months or more. Three-quarters of those will recover by late childhood, leaving about 1% with a long-term problem. The best prevention tool is early intervention.

Is stuttering caused by emotional or psychological problems? Children and adults who stutter are no more likely to have psychological or emotional problems than children and adults who do not. There is no reason to believe that emotional trauma causes stuttering.

I think my child is beginning to stutter. Should I wait or seek help? It is best to seek ways that you, the parents, can help as soon as possible. (click on If You Think Your Child is Stuttering for ways to help immediately) If the stuttering persists beyond three to six months or is particularly severe, you may want to seek help from a speech-language pathologist who specializes in stuttering right away. (click on speech-language pathologists for listings by state or country.)

65

Can stuttering be treated? Yes, there are a variety of successful approaches for treating both children and adults (click on <u>Why Speech Therapy?</u> for some guidelines). In general, the earlier, the better is good advice.

Are there any famous people who stutter? Emily Blunt, James Earl Jones, John Stossel, Bill Walton, Mel Tillis, Winston Churchill, Marilyn Monroe, Carly Simon, Annie Glenn, Nicholas Brendon, Ken Venturi, Bob Love, John Updike, King George VI -- all are <u>famous people</u> who stuttered and went on to have successful lives.

I read about a new cure for stuttering. Is there such a thing? There are no instant miracle cures for stuttering. Therapy, electronic devices, and even drugs are not an overnight process. However, a specialist in stuttering can help not only children but also teenagers, young adults and even older adults make significant progress toward fluency.

These stuttering facts and stuttering information are provided by the Stuttering Foundation of America.

Questions Teachers May Have About Stuttering

What should I do when a child stutters in my class?

The most important thing to do when a child is stuttering is be a good communicator yourself.

- Keep eye contact and give the child enough time to finish speaking.
- Try not to fill in words or sentences.
- Let the child know by your manner and actions that you are listening to what she says—not how she says it.
- Model wait time – taking two seconds before you answer a child's question – and insert more pauses into your own speech to help reduce speech pressure.

These suggestions will benefit all of the children in your class.

Do not make remarks like "slow down," "take a deep breath," "relax," or "think about what you're going to say, then say it." We often say these things to children because slowing down, relaxing, or thinking about what we are going to say helps us when we feel like we're having a problem tripping over our words. Stuttering, though, is a different kind of speaking problem and this kind of advice is simply not helpful to the child who stutters.

Should I remind the child to use his stuttering therapy techniques in class?

Unless the child or a SLP specifically asks you to help remind the child, it may be best not to.

In therapy, children who stutter learn several different techniques, sometimes called speech tools, to manage their stuttering. However, learning to use these speech tools in different situations (e.g., the classroom vs. the therapy room) takes considerable time and practice. Many young children who stutter do not have the maturity to monitor their speech in all situations. Therefore, it may be unrealistic to expect the child to use her tools in your classroom.

What should I do when the child is having a difficult speaking day?

It's always best to check with the child about what he would like you to do on days when talking is more difficult.

Children who stutter vary greatly in how they want their teachers and peers to respond when they are having an especially difficult time talking. One child may prefer that his

teacher treat him in the same way as she would any other day, by spontaneously calling on him or asking him to read aloud.

On the other hand, another child may want his teacher to temporarily reduce her expectations for his verbal participation, by calling on him only if his hand is raised or allowing him to take a pass during activities such as round-robin reading.

What should I do when the child who stutters interrupts another child?

Handle interruptions the same way that you would for a child who doesn't stutter. Children who stutter sometimes interrupt others because it's easier to get speech going while others are talking. We're not sure exactly why it's easier to talk over others, but it may be because less attention is called to the child at the beginning of her turn when stuttering is most likely to occur.

Even though it may be easier to get her speech going by interrupting a peer, it's important for the child who stutters to learn the rules for good communication just like all the other children in your class.

How can I make oral reports easier for the stuttering child?

There are many things you can do to help make oral reports a positive experience for the child who stutters. Together, you and the child can develop a plan, considering factors such as:

- Order – whether he wants to be one of the first to present, in the middle, or one of the last to present;
- Practice opportunities – ways he can practice that will help him feel more comfortable, such as at home, with you, with a friend, or at a speech therapy session;
- Audience size – whether to give the oral report in private, in a small group, or in front of the entire class; and
- Other issues – whether he should be timed, or whether grading criteria should be modified because of his stuttering.

Should I talk to the entire class about stuttering?

It depends on the child in question. Some children won't mind if you talk to his or her peers about stuttering. Others, however, will feel that stuttering is a private matter and should not be discussed openly with the other children in class.

Sometimes, a child who stutters will make a classroom presentation about stuttering. This presentation allows the child to teach her peers facts about stuttering, names of famous people who stutter, offer suggestions about how she would like her peers to react when she is stuttering, and even teach the others different ways to stutter.

One of the benefits we've observed from having a child who stutters make a classroom presentation about stuttering is a reduction in teasing. If other children understand more about the problem, they are less likely to ridicule or tease the child who stutters.

This is not an appropriate activity for all children who stutter, as some may not be ready yet to deal with stuttering in such an open way. Giving a presentation about stuttering is one component of stuttering therapy, typically done in conjunction with a classroom visit by the SLP. If you have questions about whether the child in your class is ready to give such a presentation, consult the SLP.

If a child in your class is going to make a presentation about stuttering, we offer a Classroom Presentation Packet (#0130) with brochures, information, and posters you and the child can use.

How should I handle teasing?

Deal with teasing as you would with any other child who is being teased. Teasing is an experience common to many children, not just those who stutter.

As mentioned earlier, classroom presentations can be a powerful way to reduce teasing if the child who stutters is ready to make such a presentation. At other times, teasing will be stopped only with your intervention. Many school districts now have written policies for handling teasing in the classroom, and school counselors or social workers are excellent sources of information. A list of additional resources for teasing can be found at the end of this handbook; there are listings for teachers, children, and parents.

What types of things can I say to encourage the child who stutters to talk in my class?

The best way to encourage a child who stutters to talk in your class is to let him know through your words and actions that what he says is important, not the way he says it. Other ways you can encourage the child:

- Praise him for sharing his ideas;
- Tell him that stuttering does not bother you;
- Give him opportunities to talk, such as calling on him to give an answer or asking him for his opinion; and,
- Let him know it's ok to stutter.

You may have other general questions about stuttering, the child who stutters in your class, or what to say to parents of children who stutter. We encourage you to contact the SLP in your building. If you don't have a SLP in your building or access to one through your school system, contact us for more information.

Adapted from *Stuttering: Straight Talk for Teachers* by L. Scott Trautman, C. Guitar, K. Chmela, and W. Murphy

APPENDIX G:
Table 4.4 Paired Sample Statistics on Pre-Post TATS

Table 4.4

Paired Sample Statistics on Pre-Post TATS					
		Paired Differences				
		95% Confidence Interval of the Difference				Sig. (2-tailed)
		Lower	Upper	t	df	
Pair 1	TatPreTot - TatPostTot	-16.82801	-4.47634	-3.577	22	.002

APPENDIX H:
Table 4.5 Pre-Post Test Mean per Question

Table 4.5 Pre-Post Test Mean per Question

Question Number	Pre-Test Mean	Post-Test Mean	P Value
1	.74	1.00	.011
2	.87	1.00	.083
3	.48	.30	.295
4	.43	.91	.000
5	.30	.74	.005
6	.43	1.00	.000
7	.74	.61	.377
8	.61	1.00	.001
9	.61	1.00	.001
10	.87	1.00	.083
11	.48	1.00	.000
12	.43	.87	.002
13	.57	.74	.162
14	.78	1.00	.022
15	.91	.96	.575
16	.26	.87	.000
17	.65	1.00	.002
18	.61	1.00	.001
19	.83	.96	.186
20	.57	.91	.017
21	.39	.83	.002
22	.52	1.00	.000
23	.22	.96	.000
24	.96	1.00	.328
25	.61	.96	.008

Table 4.5 Pre-Post Test Mean per Question (Continued)

Question Number	Pre-Test Mean	Post-Test Mean	*P* Value
26	.70	1.00	.005

APPENDIX I:
Revised TATS Survey used Post-Test

INSTRUCTIONS: Check the box that best indicates your reaction to the statement.

Question	Strongly Agree	Somewhat Agree	Undecided	Somewhat Disagree	Strongly Disagree
	5	4	3	2	1
1.A teacher should exempt a stutterer from oral or group discussions.					
2. Teachers would do best to ignore the stuttering of their disfluent students.					
3. Teachers should encourage stutterers to pursue careers that demand little speaking.					
4. It is helpful to the stutterer for his/her teacher to complete words on which he experiences pronounced disfluency.					
5. Stuttering can never be completely cured.					
6. It is a good policy for teachers to make children repeat stuttered words until they can speak them fluently.					
7. Stutterers should be made aware that they are different from other children.					
8. Consistently applied, interruptions and commands "not to stutter" are useful techniques in increasing fluency.					
9. Children are more fluent when teachers insist on relaxation in the child's behavior.					
10. Teachers need to exercise extra patience in disciplining					

children who stutter.					
11. It is important for teachers to be good listeners in dealing with stutterers.					
12, Ridicule is a common human reaction to stuttering and may not significantly affect the stutterer's speech. Therefore, the stuttering child should learn to accept and expect it.					
13. Teachers have relatively little influence on the stutterer's attitudes toward stuttering; the child develops most of his own attitudes independently.					
14. Children who stutter will probably make a better adjustment to their problem if they are encouraged to discuss openly their feelings about stuttering.					
15. It is natural for teachers to feel embarrassment when speaking to a stuttering child.					
16. It is advisable for teachers to suggest that stutterers avoid certain difficult speaking situations.					
17. It is helpful to encourage the stutterer to speak rapidly so that people will notice the stuttering less.					
18. Punishing stuttering behavior will increase fluent speech.					

19. Teachers should avoid eye contact when a stutterer is speaking to them.					
20. Stutterers cannot be expected to perform as well academically as non-stutterers.					
21. There are various degrees of stuttering severity.					
22. There is no relationship between fear and stuttering.					
23. Stutterers can in general be considered as being psychologically different from normal speaking students.					
24. Many children stutter as an attention getting device.					
25. Punishment of the stuttering child could create a worsening of the speech problem.					
26. Teachers should caution the stutterer to think before he/she speaks.					
27. Teachers should avoid calling on their students who stutter in class.					
28. Teachers should advise the stutterer to take a deep breath before speaking.					
29. Teachers are important influences in the overall process of helping the child adjust to his/her speech problem.					
30. Typically, stutterers are below average academically					

compared to the non-stutterer.					

Have you received any training on stuttering in the last 2 weeks? YES   NO