The Effects of Targeted Academic Feedback and General Feedback on Fourth Grade Students'

Achievement at a Selected Elementary School

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Institutional Review Board Decision Tree

Based on your responses, you do not need approval from the IRB.

It looks like your study is exempt because it does not meet the definition of a research activity. Therefore, it does not require approval by the IRB. However, you should follow ethical practices even when just practicing or demonstrating research.

Refer to 45 CFR 46.102(d)

Student researchers may benefit from going through the IRB process even if they are only collecting data to learn techniques.

Return to Beginning

Abstract

The purpose of this research was to investigate the effects of targeted academic feedback and general feedback on student achievement. The sample consisted of 67 students from three fourth grade English Language Arts classrooms. The classes were composed of 38 females and 29 males. Data were collected using four teacher-made tests. Each test was developed from two similar units on English grammar taught in the fourth grade. Each English Language Arts unit was divided in half and was similar in level of comprehension and difficulty. During the first half of unit one, students were given targeted academic feedback during instruction. Throughout the second half of the unit one the teacher provided general feedback during instruction. A test was given after each half unit was taught. The order was reversed for the second unit. Data were then analyzed using a paired samples t-test. The results indicated a significant difference between the two types of feedback given during instruction, targeted academic feedback and general feedback $t(66) = 2.358$, $p < 0.05$, ES = 0.3. The findings of this study suggest that targeted academic feedback during instruction was superior to general feedback during instruction.

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Chapter 1

Introduction

Targeted academic feedback is an essential component of both student learning and achievement. According to researchers, Hattie and Timperley (2007), task related, targeted academic feedback affects achievement more positively than verbal praise. Apparently state policy makers concur. This is evidenced, for example, by the Tennessee Educator Acceleration Model (TEAM) evaluation rubric. The TEAM includes academic feedback as one of its twelve indicators of effective instruction. More specifically, Tennessee's expectation for educators is that oral and written feedback is consistently academically focused, frequent, high-quality and references expectations (TEAM). Tennessee's stance regarding the importance of academic feedback is not at all surprising. Academic feedback to enhance performance and achievement is not only supported by an extensive body of research, but also by classroom teachers (Wiggins, 2012).

However, in spite of this extensive body of research on benefits of academic feedback, classroom teachers rarely implement it. Many teachers do not communicate precisely in writing or verbally to students what they are doing well and what they need to work on (Chappuis, 2012). It seems that meaningful, academically focused comments from teachers are the exception not the rule. Interestingly, Burnett and Mandel's (2010) study of Australian primary-aged students revealed that 77% of all verbal feedback was general, non-targeted. In this particular study the researchers defined general feedback as simple statements of praise. The term feedback is frequently used to describe various types of comments that occur after task completion, including praise and evaluation (Wiggins, 2012).

Current research indicates that effective feedback requires much more than praise or evaluative statements like "Good Job." Researchers Burnett and Mandel (2010) recommended that educators use less general, non-targeted praise and more specific or targeted academic feedback. What is targeted academic feedback? Simply put, targeted academic feedback is information regarding how a learner is doing in their efforts to attain a specific goal (Wiggins, 2012). Effective feedback points out academic strengths and gives guidance for improvement (Chappuis, 2012). In other words, feedback establishes where learners are academically, where they need to go next, and how to get there (Hattie & Timperley, 2007). Ideally, academic feedback provides a road map for learning.

However, does providing a road map for learners actually result in academic gains? After an examination of 131 feedback studies, researchers concluded that only one third of the data demonstrated academic feedback resulted in improved learning (Chappuis, 2012). What then are the effects of targeted academic feedback and general feedback on student achievement? In regard to academic achievement how does targeted and general feedback actually compare?

With today's emphasis on growth, achievement, and high-stakes testing, targeted academic feedback and general feedback are educational practices worthy of comparative and quantitative study. Are students more motivated by feedback that provides specific academic direction or by general feedback characterized by praise and evaluation? Academic feedback and motivating students are inextricably linked. Consequently, student motivation is the heart of the matter. The power of targeted academic feedback is that it addresses cognitive and motivational factors simultaneously. If targeted academic feedback motivates a learner more than general feedback then why is it rarely provided by educators? Why is there a seeming disconnect between what is viewed as best practice and what actually occurs in the classroom? This study

attempts to determine the effects of both targeted academic feedback and general feedback on student achievement.

Problem Statement

Targeted academic feedback is viewed as best practice and one component of effective instruction. One goal of effective instruction is student achievement and growth. Yet the majority of feedback is non-specific and general in nature. Consequently there seems to be a disconnect occurring between what is happening in classrooms and current research recommendations regarding feedback. Therefore, the problem of this study was to determine the effect of targeted academic feedback and general feedback on student achievement.

Purpose Statement

The purpose of this study was to investigate the effects of targeted academic feedback and general feedback on student achievement.

Significance

High quality academic feedback is viewed as an essential component of effective teaching. In recent years researchers have investigated various aspects of academic feedback (Chappuis, 2012; Hattie & Timperley, 2007; Wiggins, 2012). Hattie and Timperley (2007) asserted that providing specific information about academic tasks has a dramatic effect on student achievement. In contrast Chappuis (2012) indicated that academic feedback rarely improves learning. Research results seem inconsistent. Quantitative data gleaned from measuring the effects of targeted academic feedback and general feedback on student achievement might prove invaluable to the educator. Is student achievement greater when learners receive targeted academic feedback? How does student achievement compare when only general feedback is given? Is there a measurable difference in achievement? Academic

achievement is one way teachers can ascertain if learning has occurred. Educators use achievement data to make modifications to their own instructional practices. One component of instruction is feedback. Consequently, it is imperative educators know how both types of feedback, targeted and general, impacts learners and ultimately student achievement.

Limitations

1. The sample was not randomly selected and therefore the results cannot be generalized to other settings.

2. Testing instrument: Teacher-made instrument not tested for reliability and validity.

Definitions

General Feedback: Teacher to student verbal and written communication related to academic tasks. General Feedback includes: praise, evaluative comments and grades, negative comments, and statements related to ability or effort (Burnett & Mandel, 2010; Wiggins, 2012).

Student Achievement: The status of subject-matter knowledge, understanding, and skills at one point in time (National Board for Professional Teaching Standards, n.d., p. 11).

Student Learning: The growth in subject-matter knowledge, understanding, and skills over time (National Board for Professional Teaching Standards, n.d., p. 11).

Targeted Academic Feedback: Teacher to student verbal and written communication related to academic tasks. Targeted Academic Feedback establishes where learners are academically, where they are going next, and how to get there (Hattie & Timperley, 2007).

TEAM: Tennessee Educator Acceleration Model. A comprehensive, student outcomes-based, statewide educator evaluation system.

Overview of Study

The purpose of this study was to investigate the effects of both targeted academic feedback and general feedback on student achievement. This thesis comprises five chapters. Chapter I consists of the introduction, the problem statement, purpose statement, significance, limitations, definitions, and overview of study. Chapter II provides a review of the literature. The research methods employed are outlined in Chapter III. Chapter IV presents the findings of the study. Finally, Chapter V incorporates a brief review of the study, a summary and discussion of the findings, conclusions, and recommendations for future study.

Chapter 2

Review of the Literature

Children have an intrinsic desire to learn. An essential component of student learning and achievement is receiving effective feedback from teachers. However, ineffective feedback can hinder rather than nurture a student's natural curiosity and desire to learn. Teachers provide feedback to students in two forms: targeted and general. Targeted feedback is specific and establishes where learners are academically, where they are going next, and how to get there (Hattie & Timperley, 2007). On the other hand, general feedback includes praise or evaluative statements related to student ability or effort (Burnett & Mandel, 2010; Wiggins, 2012). How do general and targeted feedback compare? Is one type of feedback more or less effective than the other?

General feedback, or praise, frequently focuses student attention on extrinsic rather than the intrinsic rewards associated with discovery and learning. In contrast, teachers who provide targeted academic feedback can create learning environments where students do not have to fear continuous personal evaluation. Important to note is that students do not view all evaluative statements made by their teachers negatively. Do students thrive academically in encouraging, praise-filled environments? Or does targeted academic feedback foster more positive self-esteem, feelings of competence, and ultimately higher achievement? The focus of this study was to measure the effects of both targeted academic feedback and general feedback on student achievement.

To better understand both forms of feedback and their effects on academic achievement this literature review attempts to analyze and synthesize several topics of relevance. First, the more extensive literature regarding praise is considered. As the discussion develops both the

literature on praise for ability and praise for effort are examined more closely. Students'

preferences for and responses to praise are also evaluated. The section concludes with a

discussion of what constitutes effective praise. Second, targeted academic feedback is examined.

Finally, academic achievement is discussed.

General Feedback

For the purposes of this study general feedback is praise related to student ability or

effort. By definition, praise is "the act of expressing approval or admiration" (Merriam-Webster,

2005). Most educators believe that praise builds student self-esteem and reinforces successful

academic performance. Yet some teachers dislike praise because it functions as an extrinsic

reward. In their opinion learning is intrinsically rewarding. These teachers contend that

rewarding students with praise is not only unnecessary but also detrimental to learning and

achievement. An extrinsic reward such as praise is thought to have the potential of decreasing

rather than increasing learner motivation. Students expecting to receive a reward for completing

a task do not perform as well as intrinsically motivated learners who expect nothing for working.

It is possible that students previously focused on the intrinsic value of a learning task are even

demotivated when teachers reward them with praise statements. Other educators oppose praise

because it implies differential status. Educators in this camp feel that by judging the student

being praised the teacher takes on the role of expert rather than facilitator of learning (Brophy,

1981).

Regardless of teacher opinion it is imperative to ascertain whether or not praise reinforces

academic performance. Understanding how students are motivated is the key. In his landmark

study, Brophy (1981) asserted that praise is rarely even used as academic reinforcement. Instead

praise is typically employed to control student behavior. Findings indicated that teacher praise is

rather infrequent and lacks specificity. Also, the quality of student achievement rarely influences praise distribution. Rather students' personal qualities or teachers' perceptions of students' needs for praise are the major determinants. For instance, Brophy found that praise was frequently directed to more immature and teacher dependent students. Well-meaning teachers used praise in an attempt to encourage students who lacked self-confidence.

Yet praise can potentially embarrass students and even lower their self-confidence. Praise can inadvertently set up some high achieving students for failure. In an effort to avoid negative feedback capable students may avoid attempting difficult tasks or taking academic risks. Again, many educators hold to the idea that praising a student's intelligence maximizes confidence in a learner's abilities. On the contrary, praising a learner's intellect may only provide a short burst of pride followed by negative consequences (Dweck, 2007). What then are the negative consequences of praising intelligence?

In Dweck's (2007) study researchers asked students to define intelligence. Students that received praise for their ability believed it was an innate trait. Conversely, students praised for effort focused on skills and knowledge rather than innate ability. A subsequent study provided students an opportunity to work on either a challenging task that could increase learning or an easy task that guaranteed error-free performance. The majority of students praised for intelligence opted for the easy task. In contrast, students praised for effort accepted the challenging task and welcomed an opportunity to learn (Dweck, 2007). Praising ability may not have the intended positive results and may actually decrease student motivation. This discussion will now examine more closely two types of praise: ability and effort.

Ability praise.

As already discussed, students who receive praise for their ability frequently believe their intelligence is a fixed trait. This type of learner's focal point is how smart they are. Consequently, students prioritize maintaining the perception of their ability in the minds of others as well as maintaining their own positive self-concept. Students focused on their ability oftentimes embrace tasks that simply prove to themselves as well as to others that they are indeed smart. These students avoid and reject learning opportunities that provide challenge. Learning is not the goal; being smart is. Students with this mind-set fear judgment and reject the fact that mistakes provide invaluable learning opportunities. Instead when they make mistakes they attempt to hide errors rather than make corrections or request assistance from others. Exerting effort exacerbates their feelings of insecurity and unintelligence. Some learners may internalize effort feedback as an indicator that they are not academically proficient (Burnett, 2003). Students focused on ability often believe that effort is not required. In their opinion ability is all that should be necessary to achieve academically (Dweck, 2007). This type of thinking can cause capable students to stop working when curriculum increases in difficulty. The end result is a student with decreased motivation and unrealized potential.

At this juncture it is important to note that other factors may account for capable students' selection of easier tasks. The students investigated by Dweck (2007) may have experienced other mediating factors like fatigue, boredom, laziness, or disinterest in the more challenging task. The students' task choice does not necessarily indicate an effort to maintain their personal feelings of intelligence.

Effort praise.

Students that receive praise for effort focus more frequently on intellectual growth and learning. In Dweck's (2007) recent study indicated students viewed effort as a positive and the primary mechanism for increased learning and academic achievement. Rather than concern themselves with appearing smart, learners focused on effort embrace new challenges and persevere through them. When facing failure, these students do not quit. Instead personal effort is increased and new learning strategies are sought (Dweck, 2007). As a result of academic effort students' intellectual capabilities increase as well as personal achievement.

In summary, teachers frequently hold two beliefs that have the potential to impact student academic achievement negatively. Many teachers believe that praising a student's intelligence builds self-confidence and consequently develops their motivation to learn. Teachers also conclude that a student's inherent intelligence results in academic achievement (Dweck, 2007). As a result, students' perception of their own intelligence often reflects the same point of view as their teacher's. Student motivation and achievement is then connected to the ability praise they receive. Yet regardless of praise's potential negative consequences many students seek teachers' reassurance and recognition. Do learners then have praise preferences? This literature review will now turn its attention to studies that attempt to answer this question.

Students' praise preferences.

Do students prefer general feedback focused on ability or effort? Burnett's (2001) study of students' perceptions of praise and feedback attempted to answer this important question. A sample of 747 students at six rural elementary schools in New South Wales, Australia participated in Burnett's study. Learners completed a questionnaire that measured the following: how frequently students wanted to receive praise, their preference for either ability or effort

praise, and whether they wanted to receive praise privately or publicly. Findings suggested that

91% of the students desired praise. Only 9% reported never wanting praise. Students preferred

receiving praise for effort rather than intellectual ability. Data indicated that students' need for

praise increased between the ages of eight and 10 and decreased by age 12. It seems there are

phases in a child's development when learners look for recognition from teachers.

The majority of students that participated in the study preferred private, individual praise.

In fact, some of the students found public praise embarrassing and even punitive (Burnett, 2001).

This could be particularly true if other students teased or bullied the learner after class for

receiving praise. Yet the results of Burnett's study supported the view that elementary students

do indeed desire praise from teachers in one form or another.

In a more recent study, Burnett and Mandel (2010) addressed again the question of

students' praise preferences. Researchers interviewed students and teachers as well as conducted

classroom observations to measure use of praise and feedback. 57 students in grades one to six

were randomly selected from a single school in rural Australia. 29 students participated in one-

on-one interviews and 27 students participated in group interviews of four to five students. The

method of employing two different models to interview students, individual and group, is called

into question. Student responses may have been influenced by peers. Five teachers took part in

the interviews as well as classroom observations.

Burnett and Mandel's (2010) study revealed that younger students preferred ability

feedback and older students preferred feedback related to effort. Overall, 57% of the participants

preferred effort over ability feedback. Quantitative data collected from classroom observations

indicated that the majority of feedback was categorized as general praise that targeted neither

ability nor effort. Although coveted by students, teachers gave ability and effort feedback less than 12% of the time.

Student responses to praise.

Lee and Silver (2007) contended that academic success is often connected to how students respond to feedback. In their study, Lee and Silver attempted to answer this question: Does a teacher's written feedback motivate students to exert effort and revise their academic work? The study investigated how three types of teacher feedback: advice, criticism, and praise influenced the revision process for students in English language classes in Singapore. Researchers also employed a questionnaire to examine students' feedback preferences. Questionnaire results indicated the majority of students preferred praise over academic advice.

Academic achievement was also measured by obtaining data from students' corrected writings. The subjects for the study were 33 elementary-aged students. Each student wrote two narrative compositions during class. The classroom teacher provided written feedback for each first draft. All 66 compositions received at least one example of each feedback type: praise, advice, and criticism. Researchers then examined the 66 compositions with their corresponding revisions. Curiously, less than half of the teacher feedback examples resulted in revision. Findings confirmed that advice feedback, or targeted academic feedback, encouraged the majority of revisions. Rather than assuming praise is effective teachers should assess how individual students are motivated and how they respond academically.

Effective praise.

Most students enjoy receiving genuine praise and most teachers enjoy praising. However, is praise academically effective? Certainly praise can provide encouragement and support. Praise can also be informative when it focuses students' attention on progress or accomplishment

Effective praise has the following qualities: specificity, credibility, and infrequency. In addition, effective praise attributes success to students' effort and ability and informs students about their competence (Brophy, 1981; McMillan, 2014). Feedback about progress is essential to students' academic success. Yet do students need to receive statements of evaluative praise to make academic gains? How can teachers maximize the effectiveness of feedback given? Current research contends that targeted academic feedback resolves this issue. This review will now examine the literature regarding targeted academic feedback.

Targeted Academic Feedback

How does targeted academic feedback differ from praise? Targeted feedback is specific and establishes where learners are academically, where they are going next, and how to get there (Hattie & Timperley, 2007). In contrast, praise statements are generally related to student ability or effort (Burnett & Mandel, 2010; Wiggins, 2012). Academic feedback refers to procedures teachers use to provide learners with information on the accuracy of their oral or written responses to academic questions. The goal of academic feedback is to increase student knowledge, understanding, and skills in an area of content (Shute, 2008). However, is targeted academic feedback effective?

A meta-analysis of more than three thousand research reports on the effects of feedback revealed that only 131 studies were scientifically rigorous. In 50 of the studies researchers found that feedback impacted performance negatively. In these instances feedback amounted to praise because it focused attention on an individual learner's characteristics rather than the quality of work produced. Feedback was most effective when participants received information about how to make needed improvements (Kluger & DeNisi, 1996; Wiliam, 2007).

Many teachers fail to communicate in writing or verbally what students need to work on. Effective feedback requires pointing out academic strengths and giving specific guidance for improvement. Chappuis (2012) also examined the data from Kluger & DeNisi's (1996) meta-analysis of feedback research. Upon further examination of the 131 studies Chappuis concluded that only one third of those examined that feedback improved learning. What accounts for this dismal outcome? In and of itself feedback does not cause learning gains. Rather acting on feedback determines how much students learn and achieve. Students frequently believe the goal is simply finishing an assigned task. Educators must emphasize that learning is the goal. Otherwise students may not bother to act on the specific academic feedback provided. Student motivation and academic feedback go hand in hand (Chappuis, 2012).

As mentioned previously, Hattie and Timperley (2007) proposed that academic feedback has a powerful influence on both learning and achievement. The authors' arguments were drawn from an extensive review of current research and by measuring the effect sizes from 12 meta-analyses assessing feedback. The data provided a useful framework from which to discuss effective academic feedback. To truly be effective, feedback must provide an academic roadmap for students by answering the following three questions: Where am I going? How am I going? Where to next?

Essentially effective academic feedback has five major components. Again, effective feedback points out strengths and offers students specific information regarding ways to improve. In addition, effective feedback occurs during learning, addresses partial understanding, avoids doing the thinking for students, and limits corrective information to an amount the student can realistically act on (Chappuis, 2012; Wiggins, 2012). Even if feedback is specific and accurate it is of very little value if students find it overwhelming. Another component of

providing targeted academic feedback is ensuring that students understand achievement goals. Consequently, teachers should present expectations in student-friendly language and provide examples of exemplary student work (Stiggins, 2007).

Questions are one of the major vehicles for academic feedback. One critical aspect of questioning is responding to correct and incorrect answers with a range of feedback strategies to prevent errors, maintain instructional momentum, and protect student dignity. One of the most difficult aspects of giving feedback is creating a classroom environment where errors are simply part of the learning process. Direct and honest academic feedback is imperative to student learning.

Academic feedback focuses on modifying lesson plans to deepen student understanding of the learning objectives. A student's successes and struggles provide information regarding which topics teachers need to review and reemphasize (Herman, Wardrip, Hall, & Chimino, 2012). The goal is to provide effective feedback in an effort to close the gap between students' current understanding and desired levels of achievement (Yin et al., 2008). One means for providing feedback is for teachers to circulate throughout the classroom. In this context teachers give verbal feedback to individual learners in an effort to ignite thinking and to engage students in learning tasks. Academic feedback is provided not only in verbal but also in written form (TEAM, 2014).

Verbal feedback is provided most often by teachers. Yet do students also need specific written feedback from teachers to achieve academically? According to Siewert (2011), written feedback is an integral part of student achievement. The author argued that all forms of feedback, especially written, have decreased due to teachers' increased responsibilities. In comparison verbal feedback is used more frequently because it is immediate and makes few

demands on a teacher's time or attention. For six weeks Siewert gave 22 fifth graders five sentences to rewrite using correct punctuation and capitalization. Student papers were graded within 24 hours and included written feedback from the teacher. An analysis of anecdotal evidence, student surveys, and academic achievement data revealed that written feedback supported student progress.

More literature focuses on formative assessment compared to academic feedback. However, academic feedback is an important component of formative assessment. Yin et al. (2008) pointed out that formative assessment has rarely been examined experimentally in regular education settings. Yin's study examined whether formative assessment improved student motivation and achievement. Researchers conducted a small randomized experiment. Twelve teachers and their students were randomly assigned to either the experimental or control group. Students were pretested on science achievement as well as motivation. Both groups of teachers then taught identical curricular units. Teachers in the experimental group were also provided embedded formative assessments. The conflicting results of this study indicated that formative assessments and in effect, academic feedback, did not have a significant influence on either student motivation or achievement.

After conducting their study, Eyers and Hill (2004) suggested that New Zealand's teachers generally praised students and gave unspecific information about academic tasks. Students' perception of themselves as learners is impacted by the quality of feedback they receive. Feedback, learner motivation, and self-esteem are interconnected. It stands to reason that a student's elementary school years are critical in forming self-perceptions. Based on research findings students also know that their learning can improve if they receive effective

feedback. Students are keenly aware when their work is given a cursory glance by teachers. Indeed many students welcome and anticipate teachers' academic feedback (Eyers & Hill, 2004).

Of particular interest is Chappuis' (2012) view of over-feedback. The author asserted that when teachers provide too much guidance students do not have to think for themselves. As a result learning is not enhanced. Are teachers inadvertently promoting learned helplessness when they offer frequent and specific feedback? Striking a balance between feedback specificity and providing student opportunities to engage in independent thinking would seem an important goal for educators. After all, one important focus of education is students' academic achievement.

Academic Achievement

Academic achievement continues to increase in importance. In a global economy education is more important than ever to an individual's future success. Earning a living wage necessitates obtaining a college education. The United States aspires to be the best-educated, most-competitive workforce in the world but our country still lags behind. On a positive note fourth and eighth graders' reading and math scores have risen. However, high school students are still behind their peers in top-performing nations (Duncan, 2014). National assessment data may cause one to conclude that academic achievement remains out of reach for many students.

Yet schools today are less focused on identifying students as either high or low achievers. Educators are increasingly focused on helping all students succeed (Stiggins, 2007). In addition, most elementary school teachers consider multiple factors when determining student grades. For example, student effort and participation are frequently considered. Nonetheless students' overall academic achievement is measured by teacher-made and standardized tests. Academic achievement is defined as the status of subject-matter knowledge, understanding, and skills at one point in time (National Board for Professional Teaching Standards, n.d.). Many factors

interact to influence students' academic achievement. According to the research one of those factors is teacher feedback.

Imagine trying to learn something new and achieve success without receiving any feedback. Feedback depends on three things: the student needs it, the student receives it in time to use it, and the student is able and willing to use it (Shute, 2008). Students all along the continuum, struggling and successful, are frequently left pondering this fundamental question: I earned this grade; what do I do next? The challenge is expressing to students the "what next" while simultaneously encouraging self-motivation so learners will take the next step toward academic growth and achievement. For a learner to remain motivated and engaged really depends upon matching academic goals with a student's belief that the goals are attainable. Self-efficacy, a student's belief they can be successful, is a critical component of motivation. Learners must also believe academic achievement is important (Petrides & Frederickson, 2011). As students experience and understand their own improvement over time they begin to sense that personal success and academic achievement is within reach if effort is given.

Conclusion

The goal of this review was to analyze and synthesize research findings related to feedback. Targeted academic feedback is generally regarded as critical to improving knowledge and skill acquisition. Based on this review of the literature it seems that feedback, both academic and general, are viewed as powerful yet infrequently given. Feedback is also misunderstood. There is a large body of feedback research yet the findings are often conflicting and lack consistency. Researchers who have performed meta-analyses on feedback data describe findings as inconsistent, contradictory, and highly variable (Shute, 2008).

In our country, student growth, achievement, and high-stakes testing are emphasized more than ever. Consequently, targeted academic feedback and general feedback are educational practices worthy of additional research. Review of the literature still begs unanswered questions. Are students motivated by feedback that provides specific academic directives or by general feedback characterized by evaluative praise? If targeted academic feedback motivates learners why is it rarely provided effectively by teachers? By the same token if students are motivated by praise focused on effort why is this type of feedback lacking in the classroom? Based on the literature what is viewed as best practice seems disconnected from what actually occurs on a daily basis in classrooms.

Chapter 3

Methodology and Procedures

Teacher feedback is viewed as an essential component of student learning and achievement. Investigations of general and targeted academic feedback have been conducted at the elementary school level. Yet studies measuring the effect of various types of feedback on student achievement have frequently resulted in conflicting and inconsistent data. In addition, studies comparing the effects of general versus targeted academic feedback are lacking. With our country's focus on student achievement and high-stakes testing, targeted academic feedback and general feedback are educational practices worthy of quantitative and comparative study. The purpose of this study was to determine the effects of general feedback and targeted academic feedback on student achievement.

Population

The school selected for this study was a Title I elementary school in Northeast Tennessee enrolling 389 students in kindergarten through fourth grade. At the time of this study the student demographics of the school were three percent African American, two percent Asian/Pacific Islander, 19% Hispanic, and 76% White. 199 or 51% of the students were female and 190 or 49% were male. The Tennessee state report card for 2013 indicated that 66.6% of third through fourth graders at the school were identified as either proficient or advanced in Math. 56.6% of 2013's third and fourth graders were proficient or advanced in Reading/Language Arts. 65% of the school population was economically disadvantaged, qualifying for either free or reduced lunch.

Sample

Participating in this study were 67 students from three fourth grade English Language Arts classrooms. The classes were composed of 38 females and 29 males. Five of the students were African American, nine Hispanic, and 53 White. Nine students in the class were served by the school's Response to Intervention Reading program. In addition four students received Special Education services and three were served by the speech department. One student was identified as gifted. Four students received English Second Language services. Based on the 2014 TCAP Reading/Language Arts scores, six students were identified as Advanced, 26 Proficient, 25 Basic, and 10 Below Basic. Students were neither randomly selected nor randomly assigned for this study. The 67 fourth graders in the classroom described participated in the study.

Data Collection Instruments

Data were collected for this study using four teacher-made tests. Four teacher-made tests were developed from two similar units of study taught in a fourth grade English Language Arts classroom. The content covered and assessed was English grammar and language. Each English Language Arts unit was divided in half for purposes of the study. Each half was similar in level of comprehension and difficulty. During the first half of the first unit students were given targeted academic feedback while the second half students were given general feedback. A test was given after each half unit was taught. The order was reversed for the second unit. Scores from both units of study were then compared to determine the effects of targeted academic feedback and general feedback on student achievement.

Procedures

Before beginning the research study, approval was obtained from the school principal, fourth grade English Language Arts teacher, and Milligan's Institutional Review Board (IRB). After receiving consent from the school principal, fourth grade English Arts teacher, IRB, and parents of students the study was carried out. The study took place during the normal course of daily fourth grade English Language Arts instruction. 67 fourth grade students from three English Language Arts classroom participated in the study. The class was composed of 38 females and 29 males. Five of the students were African American, nine Hispanic, and 53 White. Nine students in the class were served by the school's Response to Intervention Reading program. In addition four students received Special Education services and three were served by the speech department. One student was identified as gifted. Four students received English Second Language services. Based on the 2014 TCAP Reading/Language Arts scores, six students were identified as Advanced, 26 Proficient, 25 Basic, and 10 Below Basic.

Two divided units of English Language Arts instruction were taught. Each unit was similar in level of comprehension and difficulty. During the first half of unit one the teacher only provided students verbal and written targeted academic feedback. The teacher-made test covering the first half of unit one was then administered to students and assessment results recorded. The second half of unit one was taught and during instruction the teacher employed both verbal and written general feedback (ability, effort, or praise), but not targeted academic feedback. The teacher-made test covering the second half of unit one was administered to students and assessment results recorded.

During the first half of unit two the teacher only gave students verbal and written general feedback (ability, effort, or praise). The teacher-made test covering the first half of unit two was

then administered to students and assessment results recorded. The second half of unit two was taught and during instruction the teacher only used verbal and written targeted academic feedback. The teacher-made test covering the second half of unit two was then administered to students and assessment results recorded.

Quantitative data obtained from student assessments were then analyzed. Data were used to measure the effects of targeted academic feedback and general feedback on student achievement.

Research Questions and Related Hypotheses

- **Research question 1:** Is there a difference between students' scores when they are given targeted academic feedback and when they are given general feedback during instruction?

- **Research hypothesis 1:** There is a difference between students' scores when they are given targeted academic feedback and when they are given general feedback during instruction.

- **Null hypothesis 1:** There is no difference between students' scores when they are given targeted academic feedback and when they are given general feedback during instruction.

- **Research question 2:** Is there a difference between boys' and girls' scores when they are given targeted academic feedback during instruction?

- **Research hypothesis 2:** There is a difference between boys' and girls' scores when they are given targeted academic feedback during instruction.

- **Null hypothesis 2:** There is no difference between boys' and girls' scores when they are given targeted academic feedback during instruction.

- **Research question 3:** Is there a difference between boys' and girls' scores when they are given general feedback during instruction?

- **Research hypothesis 3:** There is a difference between boys' and girls' scores when they are given general feedback during instruction.

- **Null hypothesis 3:** There is no difference between boys' and girls' scores when they are given general feedback during instruction.

Chapter 4

Data Analysis

Providing students with targeted academic feedback is viewed as best practice and as one component of effective teaching. However, the majority of feedback given to students is non-specific and general rather than targeted. The purpose of this research was to investigate the effects of targeted academic feedback and general feedback on student achievement. To test the effects of feedback on student achievement fourth-grade students in three English Language Arts classrooms received either targeted or general feedback during instruction and were then assessed.

Collection of Data

Data were collected using four teacher-made tests. Each test was developed from two similar units on English grammar taught in fourth grade. Each English Language Arts unit was divided in half and was similar in level of comprehension and difficulty. During the first half of unit one, students were given targeted academic feedback during instruction. Throughout the second half of unit one the teacher provided general feedback during instruction. A test was given after each half of unit one was taught. During the first half of unit two students were given general feedback during instruction. Throughout the second half of unit two the teacher provided targeted academic feedback during instruction. A test was given after each half of unit two was taught. Each of the four teacher-made tests consisted of 20 multiple choice questions and students' final scores were based on a 100-point scale.

A demographic profile for the sample is displayed in Table 1.

Table 1

Demographic Profile of Participants

Group	Frequency	Percentage (%)
Male	29	43.00
Female	<u>38</u>	<u>57.00</u>
Total	67	100.00

Research Questions and Related Hypotheses

The study was guided by three research questions with accompanying research hypotheses and research null hypotheses. All data were analyzed using a 0.05 level of significance.

Research Question 1

Is there a difference between students' scores when they are given targeted academic feedback and when they are given general feedback during instruction?

In response to Research Question 1, mean scores for students when given targeted academic feedback and when given general feedback were calculated. The mean score for targeted academic feedback was 81.81 and the mean score for general feedback was 79.21. Research question 1 was associated with research hypothesis 1.

Research Hypothesis 1

There is a difference between students' scores when they are given targeted academic feedback and when they are given general feedback during instruction.

Null Hypothesis

There is no difference between students' scores when they are given targeted academic feedback and when they are given general feedback during instruction.

To determine whether there was a significant difference between students' scores who are given targeted academic feedback and who are given general feedback during instruction, a paired samples t-test was conducted. The results indicated a significant difference between the two types of feedback, targeted academic feedback and general feedback t (66) = 2.358, p < 0.05. Further, Cohen's effect size value (d=0.288) suggested small effect size. Therefore, the null hypothesis was rejected. The results are shown in Table 2.

Table 2

Paired samples t-test for targeted academic feedback and general feedback test scores

Condition	M	SD	df	t	Sig. (2 tailed)	ES
Targeted Academic Feedback	81.81	12.341	66	2.358	.021	0.3
General Feedback	79.21	15.55				

Note. p < 0.05

Research Question 2

Is there a difference between boys' and girls' scores when they are given targeted academic feedback during instruction?

In response to Research Question 2, an independent t-test was conducted to compare overall score means between the two groups. The boys' mean score after receiving targeted academic feedback was 78.86. The girls' mean score after receiving targeted academic feedback was 83.89. The mean difference was 4.826.

Research Hypothesis 2

There is a difference between boys' and girls' scores when they are given targeted academic feedback during instruction.

Null Hypothesis 2

There is no difference between boys' and girls' scores when they are given targeted academic feedback during instruction.

To determine whether there is a difference between boys' and girls' scores when given targeted academic feedback during instruction, an independent t-test was conducted. The significance of the F value for the Levine's test for Equality of Variances was .379, which is more than the limit of 0.05; therefore, the variances were assumed equal. At the 95% confidence level, the results indicated there was no significant difference at t (65) = 1.605, p > 0.05. Therefore, the null hypothesis was retained. The results are displayed in Table 3.

Table 3

Independent t-test for gender and scores on targeted academic feedback

Targeted Academic Feedback	M	SD	df	t	Sig. (2-tailed)
Males	79.07	12.92	65	1.605	.113
Females	83.89	11.62			

Research Question 3

Is there a difference between boys' and girls' scores when they are given general feedback during instruction?

In response to Research Question 3, an independent t-test was conducted to compare overall score means between the two groups. The boys' mean score after receiving general feedback was 77.07. The girls' mean score after receiving general feedback was 80.84. The mean difference was 3.773.

Research Hypothesis 3

There is a difference between boys' and girls' scores when they are given general feedback during instruction.

Null Hypothesis 3

There is no difference between boys' and girls' scores when they are given general feedback during instruction.

To determine whether there is a difference between boys' and girls' scores when given general feedback during instruction, an independent t-test was conducted. The significance of the F value for the Levine's test for Equality of Variances was .582, which is more than 0.05; therefore, the variances were assumed equal. At the 95% confidence level, the results indicated there was no significant difference at $t(65) = .984$; $p > 0.05$. Therefore, the null hypothesis was retained. The results are shown in Table 4.

Table 4

Independent t-test for gender and scores on general feedback

General Feedback	M	SD	df	t	Sig. (2-tailed)
Males	77.07	16.053	65	.984	.329
Females	80.84	15.174			

Chapter 5

Findings, Recommendations, and Implications

This chapter includes a summary of findings, conclusions, recommendations, and implications for the research conducted to determine the effects of targeted academic feedback and general feedback on fourth grade students' achievement in English Language Arts.

Summary of Findings

In response to Research Question 1, is there a difference between students' scores when they are given targeted academic feedback and when they are given general feedback during instruction?, a paired samples t-test revealed a significant difference between fourth graders' scores who received targeted academic feedback and general feedback during instruction $t(66) = 2.358$, $p < 0.05$, $ES = .30$. Therefore, the null hypothesis was rejected.

These results suggest that targeted academic feedback was superior then general feedback during instruction when students were given targeted academic feedback that consisted of specific strengths and weaknesses and recommendations for improvement. The students appeared to exhibit increased participation in discussion and on-task behaviors when targeted academic feedback was given. In addition, students appeared to exhibit sustained interest in their independent practice papers when written targeted academic feedback was given. Students shared the targeted academic feedback received with their peers and also discussed question answers. After receiving written targeted academic feedback students made verbal comments to the teacher or responded to the teacher in writing on their independent practice. In this researcher's opinion, written targeted academic feedback provided a way for learners to engage in a discussion with their teacher about needed areas of improvement as well as strengths in a way that was risk-free and individualized.

When students were given general feedback they tended to exhibit less on-task behaviors and participation in discussion decreased. After receiving papers with general feedback, students typically showed their papers to a neighboring peer. Written general feedback consisted of a grade, a positive word (e.g. awesome, outstanding, excellent) and a smiley face. In this researcher's opinion the words of praise increased sharing of independent practice papers. This research finding supports the results of Burnett's (2001) study of 747 elementary-aged students that suggested 91% of learners enjoyed receiving praise.

Overall, the research findings are consistent with the literature review that indicated student achievement is higher when learners are given targeted feedback (Hattie & Timperley, 2007). In addition, findings support Dweck's (2007) study that suggested learners who receive targeted academic feedback increase their academic effort.

In response to Research Question 2, is there a difference between boys' and girls' scores when they are given targeted academic feedback during instruction? The results of an independent t-test indicated no significant difference between boys' and girls' scores t (65) = 1.605, p > 0.05. Therefore the null hypothesis was retained. In response to Research Question 3, is there a difference between boys' and girls' scores when they are given general feedback during instruction? The results of an independent t-test indicated no significant difference between boys' and girls' scores t (65) = .984, p > 0.05. Therefore the null hypothesis was retained. Consequently, this suggests that gender did not significantly affect scores. Rather in this study targeted academic feedback and general feedback affected student achievement. Results also indicate that both male and female test scores were higher after receiving targeted academic feedback compared to general feedback. For males, the mean test score after receiving targeted academic feedback was 79.07 compared to 77.07 after receiving general feedback. For

females, the mean test score after receiving targeted academic feedback was 83.89 compared to 80.84 after receiving general feedback. Research findings suggest that both male and female test scores are impacted more positively by targeted academic feedback compared to general feedback.

The overall findings of this study indicate that there is a difference between students' scores when they are given targeted academic feedback and when they are given general feedback during instruction.

Conclusions

The purpose of this study was to determine the effects of targeted academic feedback and general feedback on student achievement. A paired samples t-test was conducted. The results of the paired samples t-test indicated a significant difference between students' scores when they are given targeted academic feedback and when they are given general feedback during instruction. Additionally two independent t-tests were conducted to determine if there is a difference between boys' and girls' scores when they are given targeted academic feedback or general feedback during instruction. The results of the independent t-tests indicated no significant difference between genders. Therefore, the inference can be made that both written and verbal targeted academic feedback and general feedback during instruction does affect student achievement.

Recommendations

1. This study should be repeated with a larger sample population, researching more schools within the district and/or more school districts to validate results.

2. This study should be repeated to determine the effects of targeted academic feedback and general feedback on the achievement of students receiving special services. Of the 67

participants in the study, 22 students were served by ESL, Speech, Special Education, or the Response to Intervention program. The mean scores of students receiving special services after receiving targeted academic feedback during instruction was 72.59. The means scores of students receiving special services after receiving general feedback during instruction was 62.91. The mean difference was 9.68. This study should be repeated and a paired samples t-test conducted.

3. Further research should be conducted using true experimental design with an experimental and control group.

4. Based on the positive finding of this study, the research should be expanded to include additional content areas and grade levels.

5. This study should be repeated to determine the effects of targeted academic feedback and general feedback on students ranked as advanced, proficient, basic, and below basic based on the prior year's Tennessee Comprehensive Assessment Program scores.

Implications

Targeted academic feedback is an essential component of both student learning and achievement. In fact, Tennessee's educator evaluation rubric includes targeted academic feedback as one of its twelve indicators of effective instruction. The following implications of this research are as follows:

1. Although providing written targeted academic feedback is time consuming for educators, it is worth consideration because written feedback improves achievement and students' feelings of competence.

2. Because targeted academic feedback affects student achievement districts should offer more professional development opportunities to better equip educators to provide frequent, high quality, and targeted academic feedback to learners.

3. Teacher knowledge of students is imperative. Targeted academic feedback is not an instructional "silver bullet" nor is it "one-size-fits-all." To differentiate instruction educators must know their students well and understand what motivates individual learners. Both verbal and written targeted academic feedback and general feedback should be offered to students. In addition, teachers should determine whether individual students respond more positively to public or private feedback.

4. Parents may benefit from information about targeted academic feedback and general feedback during conferences, IEP meetings, meetings with guidance counselors, and parenting classes. Learning about targeted academic feedback and general feedback may better equip parents to assist with schoolwork as well as foster feelings of student competence related to non-academic activities outside of school (e.g. chores, sports, interpersonal relationships).

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