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Effect of Goal-setting and Self-generated Feedback on Student Speechmaking

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For nearly half a century, video has been utilized in the introductory course as an instructional technological tool to aid students in skill development. Video documentation easily allows for a preserved and accurate rendering of a performance for the recipient. The feedback recipient is essential to any communicative message, in that she or he selects, interprets, and responds to the feedback (Ashford & Cummings, 1983; Fedor, 1991; Herold & Fedor, 1998; Ilgen, Fisher, & Taylor, 1979; Kluger & DeNisi, 1996; Taylor, Fisher, & Ilgen, 1984). Video feedback is intended to improve student-speaking performance for subsequent speaking occasions. However, the integration of video technologies for the purpose of performance improvement in public speaking appears to have been premature or, at least, not clearly understood in its application. A recent meta-analytic review (Kluger & DeNisi, 1996), outside the discipline of communication, of the extensive literature on feedback demonstrates inconsistent associations with improved performance. Within the communication education literature, feedback is commonly referenced as an essential component of the communication process, but receives little attention and remains underdeveloped (Quigly & Nyquist, 1992; Smith & King, 2004). Communication goals also remain relatively unexplored in the communication education literature, especially as to
how goals and feedback interrelate and affect performance improvement. Realization of how feedback and goals interact could provide valuable insight into how video feedback is used in the introductory course.

Despite the lack of attention, video feedback has become a permanent feature among instructional strategies of the introductory course (Bourhis & Allen, 1998). Verbal and nonverbal elements of the lived experience are easily captured on video. While the purpose of video feedback is clear to the instructor, the value of student-speakers’ use of video technology as a feedback mechanism is unclear (Book, 1985; Ogilvie & Haslett, 1985). Research does not indicate how students process video feedback, how student goals impact the interpretation of video feedback, or how video feedback impacts subsequent public speaking performances. Instructors assume video feedback will improve speaking performance; unfortunately, a lack of research means instructors’ assumptions may be unfounded. Additionally, the investment made in these costly video technologies may be economically unwise for communication departments. This study has applicability for instructors, basic course directors, and administrators in terms of developing introductory course programs that make purposeful and effective use of video feedback.

The current study uses an analysis of variance to examine the grade improvement between students in differing treatment conditions using goal setting and video feedback. The purpose of this research is to investigate how feedback and goals interact to play a critical role in speaking skill development for students enrolled in the introductory course.
The first technology, audio recordings, preceded the use of video technology in the introductory course. Nystrom and Leaf (1939), in their foundational study, found that merely listening to one’s audio recording effected no improvement in subsequent speaking performance. As technology advanced, the accessibility to technology feedback systems followed suit. Videotaping was the next logical extension of audiotape recordings for student self-assessment. Use of video in the introductory course became prominent in the 1970s and continued into the 1980s. Research examined video’s impact on student perception and skill development (Bradley, 1970; Dieker, Crane, & Brown, 1971; Miles, 1981; Mulac, 1974) and effective uses of video records of student speeches (Hirshfeld, 1968; McCroskey & Lashbrook, 1970; Porter & King, 1972). Eventually, Bourhis and Allen (1998) conducted a meta-analysis of these and other related studies concluding “the use of videotaped feedback results in greater skill acquisition” (p. 259). Unfortunately, this video research has primarily focused on the technological impact toward students, including student affect for technology, use of multiple mediums of technology to provide feedback, and technology’s impact on speech anxiety. During the same year as the Bourhis and Allen (1998) meta-analysis, Hinton and Kramer (1998) conducted research examining the impact of self-directed videotape feedback on student’s self-reported levels of communication competence and apprehension. The study concluded that students’ self-directed viewing of videotapes had a small, significant impact on students’ self-perceptions of their speaking
performances. Further, students responded favorably toward the use of video feedback. Over 75% of students indicated that they believed video helped them see potential areas for improvement in their speaking presentations. The focus of these studies on technology is important but overlooks how students interpret feedback video to impact task performance.

Currently, video-recordings of student speeches continue to play a critical role in the introductory course for evaluation purposes and/or student self-observation (Morreale et al., 2006). Student self-observation allows for an observer perspective for the student and is assumed to provide a “valuable perspective from which to recognize their individual skills and to work on skill development” (Quigley & Nyquist, 1992, p. 326). Therefore, instructors of the introductory course report they “record one to three of their graded assignments for student playback” (Morreale et al., 2006, p. 432). This form of delayed unstructured video feedback has not resulted in student performance improvement on subsequent speaking occasions (see Hung & Rosenthal, 1981; Quigley & Nyquist, 1992; Rothstein & Arnold, 1976; Waggoner & Scheid, 1989). Perhaps, even more importantly, research has not extensively examined how students interpret video feedback of their speaking performance and if the feedback self-generated by an individual is accurate and helpful for improved future speech presentations. Therefore, the following hypothesis is proposed:

Hypothesis 1A: Students who use any form of video to produce self-generated feedback or implement a goal setting exercise or a combination of these activities will demonstrate greater grade improve-
ment on their second speech than those students who use unstructured video replay.

**FEEDBACK**

Feedback is a process consisting of deliberate communicative comments containing both descriptive and evaluative information intended to inform the recipient regarding established performance criteria (Behnke & King, 1984; Book, 1985; Booth-Butterfield, 1989; Clement & Frandsen, 1976; Mory, 2003; Smith & King, 2004). In a broader sense, feedback allows for a comparison of actual performance with some set standard of performance (Johnson & Johnson, 1993). The discrepancies between student performance and the set-standard are called *feedback standard gaps* (Kluger & DeNisi, 1996).

Feedback standard gaps form a divergence of perception between what occurred in reality and what the speaker believes occurred during the speaking performance. Simply, people are not good at reporting about their own communication behavior (Bernard, Killworth, & Sailer, 1979; Sypher & Sypher, 1984). Perceptual convergence of communicative behavior in a public speaking context is important for both student understanding and skill development. In essence, for a student to become a self-regulated learner it is essential he or she become aware of his or her behavior. Video feedback has the potential to function as a tool to minimize and/or eliminate discrepancies between perceived and actual behavior.
Video Feedback

Video documentation. Video of student speaking performance in the classroom is raw footage. These raw footage documents are “video records of practice” (see LeFevre, 2004). Video records of practice consist of authentic footage of student-speakers in actual classroom settings performing their speaking presentations. It is authentic from the perspective that the presentation is filmed as it naturally occurs (LeFevre, 2004). Authentic perspectives captured by camera and converted to video provide the student an opportunity to view oneself in action, thus making one’s own practice accessible to oneself (Rosebery & Warren, 1998).

“Video” in this study refers to digital footage allowing for rapid access, which can be viewed by computer (see Marx, Blumenfeld, & Krajcik, 1988; van den Berg, 2001). Digital video and videotapes provide virtually the same content (Dupagne, Stacks, & Giroux, 2007); however, digital video can be controlled from a personal computer and displayed on a computer monitor from nearly any location and allows for multiple viewings from any point of the recording by simply clicking on the desired temporal section of the timeframe reference. Furthermore, the video can be stored and retrieved, played and replayed, and is not susceptible to time-lapse (Lemke, 2007). This type of video documentation, as an instructional technological tool, has remained relatively unexplored in the communication discipline to date.

The potential of video feedback. Video has the potential to capture real time data, both visual and aural, which is thick, rich, and detailed in description and representation (Eckart & Gibson, 1993; Farber & Nira, 1990; Tochon, 2007; Wetzel, Radtke, & Stern,
Both aural and visual senses are simultaneously stimulated by video. Video functions as a pictorial witness—similar to that of a mirror (Tochon, 2007). Nonverbal communication captured by the camera’s lens is made available for viewing and analysis. This combination of sensory information allows video to be more effective than either verbal or written feedback.

Video feedback can prompt mental processes for evaluating information, comparing actions, and formatting or rebuilding of actions for the future (Brandl, 1995). Therefore, video feedback is helpful for student identification of incongruities in perceived self-efficacy (Scherer, Chang, Meredith, & Battistella, 2003). Perceived self-efficacy is the discrepancy between the behavior a student thinks he or she is performing and the behavior that he or she actually performs (i.e., feedback standard gaps) (Gage & Polatajko, 1994). Furthermore, feedback provided by video is characteristic and attribute neutral, and relatively factual and incontrovertible (Kopelman, 1986), so source credibility is not an issue. Video concurrently portrays the nuances and the complexities of a speechmaking presentation.

Self-observation

Self-observation refers to how an individual deliberately focuses his or her attention to a specific aspect(s) of behavior (Mace, Belfiore, & Shea, 1989). Bandura (1986) attests that self-observation serves an important self-regulatory function by providing information to people about what they do and how they are doing it, which is then used for goal-setting and evaluative progress. Self-observation is most effective when addressing specific situations where the communicative behav-
ior occurs (Schunk, 1991). The self-observed information has the potential to function as an agent for adaptation of incongruities or reinforcement of congruent behaviors. The process of self-observation is aided, as Mace, Belfiore, and Shea (1989) maintain, by the use of video because without video one’s recollections of the performance may not accurately reflect what actually occurred. Therefore, video provides a platform for self-observation that must be interpreted through self-assessment and self-judgment based on the standards of performance to generate feedback by the observer.

**Self-generated Feedback**

Once the presentation has been captured on video the student views the presentation individually outside the classroom. This form of individual speaking performance assessment is called *self-generated feedback*. Self-generated feedback is created when individuals view video of their own communication event(s) and are “able to judge their own performance and therefore serve as their own source of feedback” (Ilgen, Fisher, & Taylor, 1979, p. 351). Feedback needs direction for effect, and goals (grades) provide that direction.

**GOALS**

A goal is an objective, aim, purpose, and intention (Locke & Latham, 1990) that an individual is trying to accomplish (Locke, Shaw, Saari, & Latham, 1981). Goals direct human behavior toward desired objectives (Locke et al., 1981), to attain a desired outcome. An outcome is “something that follows as a result or consequence of an activity” (Bandura, 1989, p. 25). An out-
come differs from performance. A performance is the
evaluation of an action toward a desired goal outcome. In
an academic setting, letter grades of A, B, C, D, and F
are considered performance level criteria, which create
benchmarks for students to achieve (Bandura, 1989).
Students who strive to achieve an A on a particular ex-
ercise have set a goal expectation or what has been
termed a grade goal (Locke & Bryan, 1968; Wood &
Locke, 1987). Grade goals serve as benchmarks for a
student’s standard of personal success for a given as-
ignment or the overall course. Due to the nature of the
introductory course, where students learn the principles
and acquire skills incrementally, grade goals aid stu-
dents in monitoring and adapting speaking behaviors to
achieve academic objectives in the course. By setting
grade goals students learn how to respond to goal
achievement and failure (see Boekaerts, Pintrich, &
Zeider, 2000; Schutz & Davis, 2000), which allows for
self-judgment and adjustment of goal setting. The fol-
lowing two hypotheses are propositioned:

Hypothesis 1B: Students who use video to produce self-
generated feedback or use any combination of
these activities, to produce self-generated feed-
back and implement a goal setting exercise, will
demonstrate greater grade improvement on their
second speech than those students who use only
goal setting strategies.

Hypothesis 1C: Students who use any combination of
these activities to produce self-generated feed-
back and implement a goal setting exercise, will
demonstrate greater grade improvement on their
second speech than those students who use only video to produce self-generated feedback.

**Methods for Goal Setting**

Goal setting is grossly understudied within the discipline of communication. However, research (see Locke & Latham, 1990) examining the manner of setting a goal, outside the discipline of communication, has identified four distinct methods: (1) assigned, (2) participative, (3) self-set, and (4) selected self-set. Someone other than the performer determines *assigned goals*. In the classroom, assigned goals are dictated by the instructor to the student. *Participative goals* allow an individual to interact in the goal setting process. For instance, the instructor and students enrolled in an introductory course could interact with each other to decide the appropriate length for a speech. Instructor and students decide collaboratively how long the speech should be and what the consequences will be for falling short or going too long. With participative goal setting, an individual’s commitment is said to increase due to involvement in the goal setting process. Studies (i.e., Dossett, Latham, & Mitchell, 1979; Latham & Marshall, 1982; Latham & Mitchell, 1976; Latham, Mitchell, & Dossett, 1978; Latham & Saari, 1979; Latham, Steele, & Saari, 1982; Latham & Yukl, 1976) have found no significant difference in outcomes when comparing assigned and participative goal setting.

The individual performing the task creates *self-set goals*. This form of goal setting allows the student to determine how long the speech should be and what he or she will do if it is too short or long on the time limits. The instructor would then evaluate each student differ-
ently, depending upon the self-set goals set by each student. These self-set goals function as standards toward which efforts will be aimed (Mone & Baker, 1992). Erez and Kanfer (1983) maintain goal commitment is positively affected when an individual is allowed a choice in goal setting; however, a number of other studies (i.e., Barling, 1980; Dickerson & Creedon, 1981; Latham & Marshall, 1982; Ward & Carnes, 2002) have not found self-set goals to be consistent in relation to increasing performance from other methods such as assigned or participative.

The final method identified for goal setting is selected self-set goals. This method of goal setting was suggested by Mone and Baker (1992); however, a few studies (i.e., Klein, 1991; Locke & Bryan, 1968) utilized selected self-set goals but did not identify the process explicitly as selected self-set goal setting. The process of selected self-set goals involves asking participants to identify their desired goal outcome from a number of desired levels of performance standards. For example, in an academic setting students’ are asked to determine their grade goals for an assignment or the course. The levels would be A, A-, B+, B, B-, etc. In essence, the selected self-set goal is a multi-item measure regarding the standard of performance. Therefore, the student need only select the grade goal based on the specificity and difficulty described in the evaluation and/or rubric.

**Goal Striving and Monitoring**

As stated above, a goal identifies an individual’s destination, intention, or objective. How the goal is established impacts the intention of the individual and how the individual self-regulates behavior. When students
attain a goal, they experience a sense of empowerment (Schunk, 1989). Formation of goals can be either (1) anticipatory or (2) self-reactive (Bandura, 1986). Anticipatory goals are determined prior to the performance of an activity, when one is striving to accomplish an outcome. Self-reactive goals are developed through self-evaluation following the performance, when one is monitoring the accomplishment of an outcome.

Anticipatory goals regulate behavior through foresight (Bandura, 1986). Goals driven by anticipatory intentions require an individual to determine prospective goals and plans for attaining those goals. Bandura (1986) attests that “one can gain access indirectly to people’s [anticipatory goals] by having them report beforehand what they intend to do at specified times” (p. 468).

Self-reactive goals are formed by a comparative process, which allows for evaluation of a performance against a standard. This form of goal setting relies on self-evaluative reactions to one’s own behavior (Bandura, 1986). How satisfied or dissatisfied an individual is following comparison to the standard will influence goal adjustment and/or motivation. Feedback is essential for self-reactive goal setting.

Research Question 1: Does any difference in grade improvement exist between students using self-reactive goal setting and video to produce self-generated feedback and students using anticipatory goal setting and video to produce self-generated feedback?
FEEDBACK AND GOAL THEORIES

People use feedback to evaluate their performance or set goals prior to performance for comparison to their goals (Kluger & DeNisi, 1996; Locke & Latham, 1990). Either feedback precedes the goal or the goal precedes the feedback. In any case the interaction of feedback and goals regulate performance. As goal theory posits, goals mediate the relationship between feedback and performance, and feedback moderates the goal-performance relationship (Locke & Latham, 1990). Goals people have and the feedback they receive influence the task performance; goals and feedback work in tandem, but how each functions with each other differs theoretically.

Feedback Intervention Theory

Kluger and DeNisi (1996) proposed a preliminary theoretical model for identifying conditions under which feedback is most effective, Feedback Intervention Theory (FIT). Following their meta-analysis of nearly 300 feedback intervention studies, Kluger and DeNisi (1996) defined feedback interventions as “actions taken by an external change agent to provide information regarding some aspect of one’s task performance” (p. 255). In the case of classroom situations, the instructor might act as the change agent while the student would be the one whose task performance is being evaluated. Their research and this definition excluded self-generated forms of feedback; however, the central assumption and fundamental assertions of FIT still function appropriately when applied to self-generated feedback.

The central assumption of FIT is that “interventions change the locus of attention among three levels of con-
trol: task learning, task motivation, and meta-task processes” (Smith & King, 2004, p. 205). This assumption is supported by five fundamental assertions: (1) goals are benchmarks that behavior is measured against after feedback is received; (2) goals are ranked in order of importance; (3) attention directs behavior adaptation toward certain goals to eliminate feedback standard gaps; (4) attention is targeted for behavior modification toward moderate level goals; and (5) behavior is affected when feedback interventions result in change of goal focus (Kluger & DeNisi, 1996).

Two major claims resulted from Kluger and DeNisi’s (1996) feedback research. First, feedback directing attention to the task level (i.e., learning) augments task performance, while feedback directing attention to meta-task processes (e.g., praise and blame) attenuate task performance (King & Behnke, 1999; Smith & King, 2004). Second, feedback intervention effectiveness is moderated by the nature of the learning task (e.g., degree of difficulty—simple or complex). This second conclusion has not received much attention in the research literature, but recent findings support its position (viz., King, Young, & Behnke, 2000). Individuals assessing their own performance may observe unique characteristics of their behavior otherwise unknown to them depending on intent and focus. The type and form of feedback becomes highly significant to subsequent task-learning processes. Overall, FIT’s re-examination of feedback processes postulates that certain forms of feedback may be more effective for improved learning.
Goal Setting Theory

The concepts of feedback and goals do not differ in Locke and Latham’s (1990) Goal Setting Theory (GST); however, goals are the primary mechanism through which feedback is interpreted because goals regulate human action (Locke et al., 1981). Locke (1968) maintains there is no one-to-one relationship between goals and action because people make mistakes or do not possess the capabilities to attain a standard. Goals mobilize the behaviors to complete a task.

The central assumption of GST is that people are motivated to achieve their goals. Therefore, goals affect performance in three ways: (1) goals direct attention and effort toward goal-relevant activities; (2) goals produce increased effort; and (3) goals increase persistence (Locke & Latham, 1990). In GST, goals are destinations and feedback allows people to gauge their proximity to the desired outcome.

Technologies that provide feedback in unique and immediate forms, such as video, can sometimes be so attractive they are incorporated into instructional practices without fully understanding how they should be applied and what their intended impact is on students. To date no clear relationship has been established between video feedback and improved speaking performance or how goals mediate the relationship between video feedback and speaking performance. Yet, the role of video feedback has been utilized and continues to be almost universally incorporated into the introductory course.
**METHODS**

**Sample and Participant Selection**

Participants in this study were 140 undergraduate students enrolled across ten sections of the introductory course at a large metropolitan university. Each section was conveniently sampled. Instructors were asked to have their course section(s) voluntarily participate in the study. Students in those sections were asked to volunteer to participate in the study and placed into one of the five conditions. Two of the ten experimental class sections served as the control group (n = 28) and the other eight sections were distributed equally per each experimental condition (n = 28) (i.e., two class sections per each treatment condition). Participants across all sections totaled (N = 140) consisting of males (N = 61) and females (N = 79) (44% male, 56% female), which is consistent with the demographics of the university. The average age of participants was 20.5 years, with the range from 18 to 47. The ethnic breakdown of participants consisted of 8% Arabic, 5% Asian Pacific Islander, 21% Black, 4% Hispanic, 4% Multi-Racial, and 59% White, Non-Hispanic.

**Conditions, Design, and Procedures**

This study consisted of five conditions: (1) unstructured video replay, (2) goal-setting, (3) self-generated feedback from video self-observation, (4) self-reactive goal setting with self-generated feedback from video self-observation, and (5) anticipatory goal setting with self-generated feedback from video self-observation. See Figure 1 for a temporal depiction of each of the five conditions. All students presented an informative speech,
then two weeks later a *persuasive speech*. Each condition is described below.

**Condition 1: Unstructured video replay.** Students were provided the video of their informative speech and allowed to watch the video of their speech. No goals and/or self-assessment exercises accompanied the video self-observation.

**Condition 2: Goal setting.** Students in this condition completed a goal setting exercise prior to the informative and persuasive speeches (i.e., anticipatory goals). This form was made available to students two weeks prior to the informative speech and was completed and submitted to the instructor a week prior to the speaking event. Instructions for the goal setting exercise were as follows: (1) identify the course letter grade you would like to achieve at the conclusion of the
course; (2) identify the points totals you intend to earn for each section of the rubric of assessment; and (3) total the score for your overall grade score for the first (informative) speech.

Students also completed a goal-setting exercise prior to the persuasive speech. Instructions for the second goal setting exercise were as follows: (1) reiterate the course letter grade you would like to achieve at the conclusion of the course (some students identified a different overall course letter grade); (2) compute the difference between the predicted score on the first speech (informative) and what was achieved; (3) identify the point totals he/she intends to earn for each section of the rubric of assessment for the second speech (persuasive); (4) identify what aspects of your speaking performance may have been overestimated (students were not asked to identify underestimated goals) in your initial goal setting exercise and discuss why and how you plan to make adjustments to meet the desired goal for this speech; and (5) total the score for your overall grade score for the first (informative) speech.

**Condition 3: Self-generated feedback.** Students in this condition completed a self-assessment form after watching the video of their speech. Following the informative speechmaking presentation the video recording of the student’s speech was immediately made available to the student in digital form. Instructions for the self-assessment document were placed on the course’s course management system. The self-assessment exercise was part of the grade for the course.

The self-assessment form consists of three questions: What was the best thing(s) you saw yourself do during your presentation? What did you see that you would like...
to change or do differently? How do you plan to make improvements for your next presentation? The first question asks students to generate feedback for two specific aspects of their performance—delivery and structural development. The second question asks students to “Analyze your presentation considering all aspects (i.e., delivery, organization, room arrangement, dynamism, etc.). Utilizing the criteria from the evaluation form and described in the rubric, what do you think should be changed for your next speech?” These first questions asked students to generate a minimum of five to seven sentences for each area. The final question asks students to “Describe how you plan to strategically adjust your method(s) of speechmaking to improve your presentation to be more effective and/or successful.”

Students submitted self-generated feedback forms to the instructor prior to receiving the instructor’s evaluations and before performing their second speech.

**Condition 4: Self-reactive goals—Feedback intervention.** Students in this condition used only the second goal setting exercise and the video for self-assessment purposes to self-generate feedback. This condition is designed to match the conditions described by Kluger and DeNisi (1996).

**Condition 5: Anticipatory goals—Goal setting and self-generated feedback.** Students in this condition used both the goal setting exercises and the video for self-assessment purposes to self-generate feedback.

**Coding Procedures for Evaluation of Student Speech Performances**

**Development of coding scheme and description.** The coding scheme used by the coders consisted of two
documents: (1) rubric of assessment and (2) speech evaluation form. Both documents were made available to all students across each course section for the course via Blackboard.

**Coder training sessions.** Two coders (an undergraduate and graduate student) were trained for coding tasks. Neither coder had knowledge of the purpose of the study. First, each coder was provided with a copy of the same assessment rubric and evaluation forms provided to the students in the study. Next, coders practiced using the coding scheme on student speeches outside the sample in this study. Cohen’s *kappa* test was used to evaluate the agreement between coders on the training coding scheme. Finally, coders discussed their codes and resolved differences before coding the sample in this study. Coder assessment scores were converted from their numerical form to a letter grade. Letter grades were determined as follows: A = 4.00, A- = 3.67, B+ = 3.33, B = 3.00, B- = 2.67, C+ = 2.33, C = 2.00, C- = 1.67, D+ = 1.33, D = 1.00, D- = 0.67, and F = 0.00.

**Interrater reliability.** Interrater reliability was assessed using *kappa* to test reliability of nominal data based on qualitative judgments. The overall reliability for coding between coders produced a *kappa* coefficient of 0.84. This reliability on the level of feedback, according to Landis and Koch (1977), can be considered almost perfect.

**Coding Procedures for Grade Achievement on Student Speeches**

Change in grade or grade improvement was calculated by subtracting the informative (first) speech grade point average from the persuasive (second) speech grade point average.
point average. Letter grades were determined as follows: A = 4.00, A- = 3.67, B+ = 3.33, B = 3.00, B- = 2.67, C+ = 2.33, C = 2.00, C- = 1.67, D+ = 1.33, D = 1.00, D- = 0.67, and F = 0.00.

DATA ANALYSIS

Analyses evaluated the effect of unstructured video replay, goal setting, video use to self-generate feedback, self-reactive goal setting and video to self-generate feedback, and anticipatory goal setting and video to self-generate feedback on student speechmaking. Specifically, improvement in grade point average, between conditions was compared. The first one-way ANOVA tested the grade improvement for each condition against the control group (i.e., unstructured video replay), then planned comparisons between the other conditions were tested. The purpose of comparing these conditions to each other was to determine which conditions demonstrated greater improved speaking performance.

RESULTS

From the initial screening of the data it was concluded that no significant differences existed between conditions in the experimental and control groups. Therefore, an ANOVA was conducted to examine the effect of experimental groups compared to the dependent variable of grade improvement. Findings are described below.
HYPOTHESES AND RESEARCH QUESTION

There was a significant effect for students who use video to produce self-generated feedback or implement a goal setting exercise or a combination of these activities on grade improvement, $F(4,135) = 4.25, p < .01, \omega = .32$. The following conditions demonstrated significant grade improvement.

Hypothesis 1A

Planned contrasts revealed that students who use video to produce self-generated feedback or implement a goal setting exercise or a combination of these activities significantly demonstrated greater grade improvement on their second speech than those students who used unstructured video replay, $t(135) = 1.76, p < .05$ (one-tailed), $r = .15$.

Hypothesis 1B

Planned contrasts revealed that students who use video to produce self-generated feedback or use a combination of video and goal setting exercises demonstrated significantly greater grade improvement on their second speech than those students who used only goal setting strategies, $t(135) = 2.55, p < .01$ (one-tailed), $r = .21$.

Hypothesis 1C

Planned contrasts revealed that students who use video to produce self-generated feedback and implement a goal setting exercise did not demonstrate significantly greater grade improvement on their second speech than those students who used only video to produce self-generated feedback.
Goal-setting and Self-generated Feedback

Planned contrasts revealed that students who use anticipatory goal setting and video to produce self-generated feedback demonstrated significantly greater grade improvement on their second speech than those students who used self-reactive goal setting and video to produce self-generated feedback, $t(135) = 2.52$, $p < .05$ (two-tailed), $r = .22$.

Research Question 1

Planned contrasts revealed that students who use anticipatory goal setting and video to produce self-generated feedback demonstrated significantly greater grade improvement on their second speech than those students who used self-reactive goal setting and video to produce self-generated feedback, $t(135) = -1.59$, $p > .05$ (one-tailed), $r = .22$.

DISCUSSION

Findings

This investigation confirmed a significant causal relationship between students using a combination of video to produce self-generated feedback and anticipatory goal setting exercises and grade improvement. Unstructured video replay, only goal setting strategies, and self-reactive goal setting with video to produce self-generated feedback were found to significantly differ when comparing student grade improvement to students who used video to produce self-generated feedback or the combination of anticipatory goal setting and video to produce self-generated feedback. These findings suggest student grade improvement is related to how students use video to self-generate feedback and how students use a combination of anticipatory goal setting strategies and self-generated feedback, rather than if students use unstructured video replay or only goal setting strategies.
Further exploration of the data suggests that students who use both anticipatory goal setting and video to produce self-generated feedback average a .89 increase in grade point average—nearly three grade levels of improvement (e.g., if a student scored a B- on her first speech she could increase her grade to B+/A- if she used anticipatory goal setting and video to self-generate feedback); whereas, students who use self-reactive goal setting and video to produce self-generated feedback average only .14 increase in grade point average, which would essentially be the same letter grade. As for students who use only video to produce self-generated feed-

Figure 2. Change in Grade Point Average across Experimental and Control Conditions.
back the average is slightly higher, .37 (a move of one letter grade, D- to D). See Figure 2.

**Implication of Findings**

These findings indicate when students combine anticipatory goal setting with self-generated feedback from video, speaking performance dramatically improves for the subsequent speech, which translates into students receiving higher grades. Students who set goals prior to speaking and viewing their video performance appear to visualize the objectives for what they would like to accomplish during the speaking occasion without the constraints of knowing their actual communication limitations. Following video feedback students can compare the actual performance to what occurred (i.e., feedback standard gaps) and determine what courses of action need to be taken to minimize or eliminate these discrepancies. By asking students to use anticipatory goals and view video to self-generate feedback students are allotted the opportunity to self-discover areas of communication in which they are not yet competent and seek assistance from their instructors about why and how these aspects of their communication can be improved. Students adjusting their communication strategies to be more competent communicators are learning a skill that will transcend the introductory course.

Theoretically it seems goals accentuate the feedback provided by video and should be outlined prior to a speaking occasion by the student-speaker. Goal Setting Theory (GST) demonstrated a significant or, at least, meaningful difference when compared to each of the other conditions in the study. Feedback Intervention Theory (FIT) did not demonstrate the effectiveness of
GST. It seems knowing the objective prior to performing the task is critical for self-assessment and adaptation of goals when attempting the next speechmaking event. When standards of achievement are the primary focus, grade improvement is significantly greater. Goals are the motivating factor for student achievement when viewing video feedback. Moreover, goals directed attention and effort toward goal-relevant activities and goals produce increased effort and persistence for introductory public speaking students, which was demonstrated in skill development by increased grade performance.

**Pedagogical Implications**

This study provides practical implications regarding instructional use of video for introductory courses. Findings suggest that the interdependence of goals and feedback is central to speaking performance improvement. Current structures of the introductory course that support only unstructured video replay or self-generated feedback from video are not providing students with the most efficient means to grade improvement or the enhancement of competent communication behaviors. By emphasizing anticipatory goal setting with self-generated feedback from video students have the ability to assess the associations between what was planned for the performance and what actually happened during the performance. Goals drive behavior and allow students to redirect communication, following video self-observation, to be more effective in the future. The benefit of pursuing this pedagogical learning outcome is that students not only become more competent communicators but they also become more competent evaluators of communication. Rubrics assist students in identifying
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communication targets and then following self-observation determine how to exceed the feedback standard gaps or continue to persist with current communication behaviors. Moreover, throughout the process of goal setting students learn how to identify paths for achievement, recognize shortcomings, and develop avenues for improvement to reach their communication goals. This practice has the potential to empower our students to become self-monitors and self-regulators of their own communication. The development of decoding skills and abilities when communicating is essential to the introductory course, and the development of such skills parallels the encoding processes of transactional communication. A student’s ability to decode a message for accuracy and effectiveness goes to the foundation of the introductory course. The developing of communication goals, encoding our communication messages, being our own receiver through video technology, accurately and critically decoding our own messages, and providing formative and summative feedback that improves communication are the ultimate learning outcomes for the introductory course.

Academic programs and departments dedicate and invest resources to provide video feedback for students enrolled in introductory courses. Such programs and departments should ensure their student populations are effectively using these technologies. Simply providing video feedback of a single speech or unstructured video replay of a single or multiple speeches throughout a course is not sufficient justification for purchase, training, and incorporation of these technologies within the classroom. Without the accompaniment of anticipatory goal setting strategies and video feedback assessed with
the use of rubrics, video is superficial and misleading for students engaged in learning more competent communication behaviors. Also, it would seem that more programs are moving to more efficient methods (i.e., video streaming) for recording student speeches. These forms of video allow for greater accessibility for students, but if ineffective instructional methods are used with the technology the learners, teachers, and employers are not going to benefit. Video must provide a clear learning impact based on its economic investment, which is only possible by combining the technology with other instructional methods for the learner prior to the video feedback and while watching the performance captured on video. Anything short of these teaching practices combined with video feedback should be reconsidered to fully maximize the benefit of video technologies for assisting students to be the most effective communicators and as successful as possible to scholastically achieve in the introductory course.

**Limitations**

One limitation was the sample size \( (N = 140) \). The sample was appropriate for conducting the study, but limits its generalizability. Also, the study should be conducted in a variety of introductory courses at a range of other higher education institutions.

Another limitation may have resulted from different instructors participating in different conditions of the study. The introductory course was standardized across all sections; however, different instructors use different instructional strategies, vary in levels of immediacy, and/or present the content of the course with more or less clarity for student comprehension. Differing in-
structor styles could affect results found in each condition.

Also, the quality of student work put forth on the self-assessment forms and goal-setting exercises could be a limiting factor in the study. It is likely that some students spent more time and exerted greater effort when completing these tasks than others.

Additionally, all instructors used each of the exercises as part of student grades in each condition; however, some instructors weighted the self-assessment and/or goal setting exercise greater than others. Students may have seen these points as trivial and exerted little to no effort in completing the activities.

Finally, a limitation was access to instructor grades for both the informative and persuasive speech due to the internal review board for human investigation. Coder grades are the only source of student performance assessment used in this study; instructor grades for each condition were not examined as part of this study. If students are told by their instructors that what was exhibited during the speechmaking presentation was appropriate students would have little incentive to improve their performance, which could influence how students attempt future speaking occasions.

Future Research

In the future, research should investigate feedback types, noncorrective and corrective, self-generated by students. Examining the self-generated feedback produced following self-observation of video could provide insights into what forms of feedback contribute to student performance improvement. Additionally, it would be of interest to investigate how male and female stu-
students produce feedback types to determine if self-generated feedback types differ based on gender.

Also, future studies should examine students’ selected self-set grade goals for a speaking occasion. Research, beyond the discipline of communication, has found specific and difficult goals can lead to higher productivity than “do your best,” easy, or no goals. Pursuing this line of research could provide valuable insight into the relationship between student speech outcomes and students’ selection of difficult goals for a speaking occasion. Another avenue of research would be to examine if video assists students to more accurately assess their speaking performance and if their assessments correlate with their instructor’s assessment. Following the trends of student self-grading and instructor grading throughout the semester for each speech to determine if student-teacher perceptions converge or diverge would provide important information about the student self-assessment accuracy and if accurate self-observation improves throughout the semester.

Instructors play a critical role in the student learning experience. Future research should examine how teacher immediacy and affinity may associate with or influence how students select self-set goals and self-assess their video. Findings may indicate that teachers who exhibit higher forms of immediate behavior have students who produce higher quality goals and more accurate self-assessments of speaking performance.

Finally, future research should attempt to replicate the conditions of this study in a single class section, which would aid in controlling instructor variability across different course sections. Students could be ran-
domly placed into differing conditions, yet experience the same instructor and lessons of the course.

**CONCLUSION**

Video has the potential to be a powerful instructional technological tool for students’ speechmaking skill development in the introductory course when used with anticipatory goal setting and self-assessment strategies. Instructors of the introductory course should ensure their students view video feedback purposefully by providing methods of instruction that assist students to identify their goals prior to receiving video feedback and assess their performance to meet those goals. During self-assessment students should be encouraged to review their grade goals as related to the dimensions communicated on the rubric to assist in accurate identification of strengths and limitations demonstrated in the presentation. Selection of the methods that accompany video technology is critical for maximizing student learning when incorporating video feedback into the introductory course.

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